

**SOCIAL NORMS AND WETLAND DRAINAGE ON FARMLAND IN WESTERN CANADA: A
LITERATURE REVIEW AND RESEARCH PROSPECTUS**

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Introduction

Through current efforts to promote wetland conservation on farmland, there is growing recognition of social norms as a key factor in understanding individual and group behaviour. Social norms are often discussed in general terms as a set of rules or expectations for appropriate behaviours, attitudes or beliefs, but a more detailed analysis of norms is complicated by diverse conceptual definitions and real problems in undertaking empirical research that can link different kinds of norms with different kinds of behaviours such as wetland conservation.

This report offers some initial steps towards a conceptual framework and set of field research tools that can be used to study social norms in the context of wetland conservation. In particular, we make a distinction between two types of norms, *individual norms* versus *collective norms* as important categories for empirical research. Understanding different types of social norms and comparing the utility of different field research methods are key objectives in this report. The report offers a detailed literature review and a research prospectus that can be taken up as a pilot study or integrated into larger studies among scholars who are interested in the linkages between social norms and environmental best practices.

Social norms and environmental conservation

Willingness to participate in conservation initiatives

The willingness and ability of agricultural producers to accept and participate in conservation initiatives has been studied to various extents in a range of countries, however much of the information available is based on studies initiated outside of Canada. The results of these investigations revealed that agricultural producers evaluate their potential participation based on the complex integration of context specific cultural, social, psychological, geographic, ecological and economic factors (Schoon & TeGrotenhuis, 2000; Siebert, Toogood & Knierim, 2006). And although economic incentives have been cited as important motivators in many analyses, more recent studies on the role of social norms and their influence on agricultural producers' decisions to adopt environmentally sustainable agricultural practices, either through voluntary or regulated environmental or land use policies, indicated that social norms are prominent in their decision to participate and maintain involvement in conservation initiatives (Spash, Urama, Burton, Kenyon, Shannon, & Hill, 2006; Toogood, Gilbert & Rientjes, 2004; Chen, Lupi, He & Liu, 2009). This exploratory literature review is intended to provide an overview of recent social norm theory development and information relevant to the interaction of social norms with farmers' decisions to participate in ecological conservation programs.

Defining social norms

The terminology and definitions of social norms varies among researchers and there is much debate in the literature as to the appropriate application of social norm theory and modeling in practice, however, there is significant evidence to suggest that social norms are effective in

activating and steering social behaviours (Schultz, Nolan, Cialdini, Goldstein, Griskevicius, 2007). Paluck (2009) defined social norms as socially shared beliefs prescribing or proscribing social behaviours, whereas Ehrlich and Levin (2005) described them not only as rules, but also as typical behavioural patterns within social groups. There is, nonetheless, general consensus that these norms, either as beliefs, rules or behaviours, are communicated to individuals through shared interaction by the use of positive or negative sanctions (Detel, 2008; Paluck, 2009; Ehrlich & Levin, 2005; Biel & Thogerson, 2007) and through messaging transmitted via media and other forms of communication (Schultz et al, 2007).

The enforcement of sanctions works to minimize deviance and regulate social life such that individuals behave in ways that other members of their social group believe they *ought to* (Biel & Thogerson, 2007; Ehrlich & Levin, 2005; Lapinski & Rimal, 2005) and commonly influence social behaviours and lead to conformity among individuals (Lapinski & Rimal, 2005; Ehrlich & Levin, 2005). And since the satisfaction of individual needs is often closely linked to cooperation with other members of society, individuals tend to adjust their behaviours accordingly to ensure that others will evaluate them favourably (Lapinski & Rimal, 2005). These collective behaviours and group formations evolve over time and represent conduct that typically promotes the survival and well-being of individuals or social groups and as such, adherence to normative behaviour is generally in the best interest of the individual (Lapinski & Rimal, 2005).

Among many social norm theories, the focus theory of normative conduct (Cialdini, Kallgren & Reno, 1991) indicates that normative behaviour can lead to *fixed-action patterns*. That is, benefits for an individual are increased through *fixed-action patterns*, which work to alleviate the need for the individual to undertake a decision-making process and formulate a desired course of action for each decision to be made (Lapinski & Rimal, 2005). And in her book *The Grammar of Society: The Nature and Dynamics of Social Norms* (2006), Bicchieri referred to a constructivist theory of social norms that “explains norms in terms of the expectations and preferences of those who follow them” (p.2) in particular contexts and also stresses the “automatic component” of compliance to normative behaviours rather than the “deliberational route” that many other researchers identify (i.e. the systematic assessment of a situation and rational evaluation of consequences).

Types of social norms

Bicchieri (2006) also discussed the importance of distinguishing between various norms to gain a better understanding of deviance in normative behaviour as a result of the complex contextual interaction norms.

Some of the distinctions among societal norm definitions propose that *collective norms* are those enforced through sanctions by others and are thought to arise and become rules of behaviour as a result of how they are conveyed and interpreted socially, whereas *perceived or subjective norms* exist at the individual level and are based on an individual’s interpretation of collective norms (Lapinski & Rimal, 2005).

Perceived norms are thus the “perceived social pressure to perform a specific behaviour” (Spash et al., 2006) and are enforced through personal emotions such as shame, guilt or pride (Biel & Thogerson, 2007). It is the enforcement of norms that distinguishes them from moral considerations (Kallbekken, Westskog & Mideksa, In Press). Norms are also distinct from attitudes and values in that an “attitude is an overall positive or negative evaluation of behaviour” (White, Smith, Terry, Greenslade, & McKimmie, 2009), and values are “concepts or beliefs that act as standards of what is most desirable when evaluating events, behaviours or persons” extending beyond one particular situation (Lonnqvist, Walkowitz, Wichardt, Lindeman, & Verkasalo, 2009). Because behaviour is often determined by social forces external to the individual, values are not always used to guide behaviour and norms become more central in the decision-making process (Lonnqvist et al., 2009). There is, therefore, potential for an individual to have a positive attitude toward a particular behaviour or practice, but external social forces from significant others may reduce the likelihood of expressing this attitude through behaviours (Burton, 2004). Moreover, an individual may conform to normative behaviour in public situations for fear of social disapproval yet not alter corresponding private behaviours because the norm is not internalized as a moral obligation (Lonnqvist et al., 2009).

Biel and Thogerson (2007) and Lapinski and Rimal (2005) also distinguish between *injunctive* and *descriptive norms*, respectively, as those that represent an individual’s interpretation of behaviours that *ought to be* followed and that same individual’s interpretation of behaviours that *are* being followed by the majority. The significance of this distinction is that the perceived existence of sanctions for nonconformity will have an enhanced effect on an individual’s decision to cooperate with normative behaviour if there is also a perception that the majority of others conform to that norm (Biel & Thogerson, 2007). This plays an important role in the informational transmission of normative behaviours that are present within a population and in promoting the emergence of particular norms (Biel & Thogerson, 2007) through normative messaging (Schultz et al., 2007). Schultz et al. (2007) found that in normative messaging, it is important to consider both the *descriptive norm* and the *injunctive norm* to ensure that individuals are receiving information on both how prevalent a particular behaviour is and the social sanctions associated with deviant behaviour. Individuals typically view themselves as being deviant if their behaviour is perceived as being inconsistent with the majority, either exceeding or falling short of normative standards. As such, communicating information regarding only the *descriptive norm* can lead to the boomerang effect, wherein individuals whose behaviour falls above the norm in activities such as those related to conservation or environmental sustainability may result in a reduction in that beneficial behaviour if they receive messages that others are doing less. There is, therefore, a need to include messaging on potential normative sanctions associated with *injunctive norms* that could counter the boomerang effect and influence the continuation of desired behaviours. For individuals who fall below the normative standard of behaviour, *descriptive norm* messaging may be sufficient to produce a change in behaviour toward the average.

Linking norms and behaviours

However, studies by Henrich and Boyd (2001) investigated the relationship between imitative behaviours to emulate the majority, which they term “conformist transmission”, and “pay-off

transmission” aimed at imitating the behaviours of the most successful individuals within a social group. The study showed that interaction of the two mechanisms results in the development of successful and cooperative social groups with like-minded individuals and the eventual emergence, preservation and stability of norms based on “homophilous imitation” and not necessarily on sanctions (Henrich & Boyd, 2001). There is thus potential for perpetuation of a particular cooperative behaviour as groups with individuals exhibiting that normative behaviour emerge and individuals move into it from other social groups in which their behaviour is deviant from the normative standard. In this respect, multiple groups with dissimilar beliefs can form and produce changes in normative behaviour among larger populations through *cultural group selection* (Henrich & Boyd, 2001). This is also supported in the work of Durrett and Levin and Ehrlich and Levin as described by Vincent (2006), who indicated “that imitation alone can lead to the formation of stable social groups whose members abide by shared norms of behavior.”

In assessing the potential success of particular conservation initiatives as it relates to the emergence of normative behaviours and cooperation within social groups, it is thus valuable to consider both “pay-off” and “conformist transmission” of normative behaviours in addition to (1) actual and perceived sanctions associated with non-conformity; (2) individuals’ perceptions of the popularity of particular behaviours; and (3) contextual behavioural constraints. This is conceptually supported in Lapinski and Rimal (2005) who stated that individuals may decide not to adhere to normative standards despite sanctions because “the power of normative influences has to be understood in the context of individuals’ own judgments and behavioral constraints. Humans do not act solely on the basis of the popularity of a behavior.” Considerations of “outcome expectations”, “group identity” and “ego-involvement” will affect adherence to normative behaviours. Furthermore, some studies have shown that different norms are elicited in business versus policy contexts. Specifically, Biel and Thøgersen’s (2007) paper on the activation of social norms in social dilemmas, found in several investigations into the contextual activation of norms that in economic-based circumstances individuals were more likely to behave competitively due to self-interest, however if the context involved more ethical concerns, such as conservation, individuals were more likely to cooperate. As such, defection from the collective norm is more likely when an economic context, and therefore personal needs and desires, are included in the decision-making process.

Exploring the utility of economic incentives

With respect to environmentally-guided norms (see also Ostrom’s 1990 work on common-pool resources and numerous recent publications), Vincent (2006) commented of the work of Levin (2006) that discusses links between ecological and socioeconomic factors in natural resource management, stating that in order “to meet environmental challenges, humanity must develop social norms that enhance cooperative responses” and “economic incentives are especially important if rapid and large changes in human behavior are desired”. In contrast, in an extensive European study by Toogood et al. (2004), findings indicated that using monetary valuations of environmental ecosystems as the basis for policies or programs related to environmental change can limit their effectiveness. Researchers stated that economic incentives for participation are necessary, however, understanding the multiple and complex

motives behind farmers' participation in these programs, especially with respect to social norms and wider cultural influences, can identify social contexts that encourage or discourage participation. Specifically, "public opinion or the opinion of peer groups can influence farmers towards participation". Spash et al. (2006) noted that "assessing environmental values for policy purposes requires understanding the importance of motives behind values, including ethical positions, environmental attitudes and social norms." These authors go further in stating that "these multiple motives can be seen as offering greater insight into how individuals perceive the environment and as a result how policy should be designed". In fact, Ryan, Erickson and DeYoung (2003) determined that among considerations such as soil conservation, visual aesthetics, and concern for land and neighbours, economic incentives were placed lowest in rank as a reason for engaging in conservation practices.

This highlights the complexity in including economic incentives and market-based instruments in conservation initiatives designed to promote environmental stewardship and certainly corroborates the incorporation of social norm theory in their development. Toogood et al. (2004) cited two categories of instruments that should be combined to promote participation: (1) regulations that makes participation compulsory; and (2) social pressures and communication campaigns to encourage voluntary participation, stating specifically,

This is to enable a match between the variety of factors impacting upon the farmer's decision and the context within which the factors are being considered. There are strong indications that the more cooperation-oriented the policy design, including voluntary participation and the recognition of farmers' knowledge and competencies, the better policy acceptance and uptake. Furthermore, the BIOFACT research has also shown that the use of compulsory instruments for biodiversity protection frequently causes reactance, protest and resistance (Toogood et al. 2004: 13).

In addition, this research cites the important interactions between farmers' motivational factors, knowledge construction and social networks in both the development of initiatives and decisions to participate. Siebert et al. (2006) also found that "the local farm community, neighbouring farmers and social networks in the local farm community play a significant role" in farmers' decisions to participate in such initiatives, yet few studies exist that integrate the role of social norms into the decision-making process. However, one particularly insightful and recent study by Chen et al. (2009) in China on payment for ecosystem services (PES) combined information on economic incentives with a quantification of the effects of social norms at the neighbourhood level as it relates to program participation. Using a stated-choice method, the findings of the study showed that re-enrollment in PES programs was significantly dependent on whether or not neighbours also re-enrolled. Thus, individuals showed signs of conforming to the majority and researchers concluded that including considerations of normative social behaviour into the implementation of PES programs can lead to increased participation. Moreover, this method of investigation provided an opportunity for farmers to put forward their opinions on payment amounts, which allowed for the evaluation of the effects of social norms on specific conservation payments. There remains, however, a gap in the literature on

the interaction of contextual social and conservation behaviours within Canadian agricultural landscapes.

Social norms and sociological theory

To explore the context of social norms within a broader sociological framework, we propose the work of Pierre Bourdieu (1977) and his concepts of *field* and *habitus*. These concepts are useful to link broader social structures and processes (*field*) with individual experience and interpretations of social norms (*habitus*). Bourdieu's concept of socially constructed knowledge as "an embodied and embedded practice" (Carolan, 2006) will be relevant in analyzing empirical information on social norms. In Raedeke, Green, Hodge, and Valdiva (2003), Bourdieu's theory is described using the analogy of a game. A field is thus described as "a network, or a configuration, of objective relations between positions," defining social relations. The field "represents the set of relations maintained between players as they anticipate and react to the moves of the other players occupying various positions", that is, it is the game itself. Due to the interconnectedness of various social fields, "power relations within one field may affect an actor's position in another." Habitus constitutes the shared meanings and actions of individuals that permit individuals to actor, work creatively and innovate as a way to navigate and vie for position within the field and gain access to constrained resources (economic and social capital), thereby affecting the structure of the field and the adapting habitus of the players. In the context of a game, habitus thus represents the feel or sense of the game. Through the identification and evaluation of field and habitus, one can begin to understand a social group and its operating logic.

It is important to note that the field of farming can consist of a variety of embedded and overlapping fields that could include organic farming and conventional farming, which are then interconnected with other fields such as those of environmental conservation and recreation (Raedeke et al., 2003; Carolan 2005). Examining the concepts of habitus and field in relation to farming "provides a means to identify the social relations that are critical to the practice of farming and the potential changes that would need to take place to introduce alternatives" (Raedeke et al., 2003: 64)). Some of the norms or cultural influences associated with agriculture in Raedeke et al. and Carolan's findings include: farmers viewing themselves as stewards of the land, possessing knowledge that experts in other fields do not have; weed-free fields and tidiness (Ryan et al., 2003) mean good farming; being a good productivist farmer is important; and long-established farming practices and traditions exist and have worked well in the past.

Summary

Literature on social norms specifically related to agricultural production is extremely limited and much of the existing research has been conducted outside of Canada. It would thus be prudent to undertake a study of social norms regarding wetland drainage on agricultural land and how these norms affect conservation behaviours. With findings such as those by Ryan et al. (2003) that showed that American farmers in the Midwest with an "attachment to their land" were more likely to participate in conservation initiatives regardless of economic incentives, an examination of these types of motivations will provide a means to better understand the motives behind farmers' willingness to participate in wetland conservation initiatives and may

contribute to contextual knowledge that could influence the use of various instruments available to policy-makers and conservation organizations in either policy or program development. As Bicchieri (2009) states, “We need social norms in all those situations in which there is conflict of interest but also a potential for joint gain.”

Research Prospectus

Wetland drainage continues to be a problem in many parts of the country, despite regulation. Current attempts to address this problem involve the development of market-based instruments and a policy framework to enhance environmental stewardship. However, recent research highlights many factors related to farmers’ willingness to participate in conservation initiatives – economic instruments being only one. In a general sense, there is an understanding that social, cultural and geographic influences (and social norms in particular) are involved in decisions to participate. Therefore the identification and evaluation of these influences is necessary.

Since wetland conservation requires a collective effort, attention to social norms that are not well defined (and may be inconsistent with current conservation efforts) will provide an understanding of linkages between the influences of norms on behaviour and possibilities for enhanced cooperative response.

Research Objectives

- I. Describe the social norms that are associated with wetland drainage on farms within a particular region¹.
 - Much of the published literature on this topic comes from research outside of Canada. Therefore it is important to establish basic descriptive information regarding social norms and how these norms impact the possibilities for cooperative efforts to conserve wetlands on agricultural land.
- II. Identify the differences between *collective norms* and *perceived norms* regarding wetland drainage.
 - There are distinct types of social norms that are identified in the published literature. In particular, it will be important begin identifying these important distinction between *collective norms* (norms that are enforced through sanctions by others) and *perceived norms* (norms that are enforced through personal volition). These distinctions have implications for social marketing efforts and public policy development.

¹ Although the research prospectus is written in general language, there is an understanding that regional information, for instance, for Alberta or southern Alberta more specifically, will be necessary.

Methods

The distinctions between different types of social norms and the stated research objective above call for a mixed research methods approach. In-depth face-to-face interviews will be required to identify a set of perceived norms amongst actors within a region. In addition, a group-based data gathering process (such as focus groups) will be required to identify a set of collective norms, as these norms are at play through sanctions by others. In this sense, data gathering methods must fit with the types of norms that are being explored.

Saukko (2003: 19) states that “research is both enabled and constrained by a host of intertwined cultural/political/economic / ecological processes, and we need to understand those processes if we are to intervene in them.” Thus, through discourse and contextual analysis of the interview data, an examination of farmers’ constructed meanings of the value of wetlands (and agricultural conservation practices in general) and the social networks at play in their decisions of whether or not to adopt particular conservation practices will help to frame an analysis within the multiple social perspectives of the research participants. This approach will also aid in establishing the contextual validity of the research through a “sensitivity to social context” and an “awareness of historicity” (Saukko, 2003: 20).

This research activity will gather:

- (1) participant demographic information to situate the study contextually;
- (2) historical and current information regarding customary land and wetland management to gain an understanding of the development of farming practices;
- (3) information on networks employed by farmers in the decision-making process; and
- (4) constructed social knowledge of current conservation and wetland management initiatives.

Interviews with individual farmers will be developed in a semi-structured format. This will serve to reveal *perceived* social norms (i.e. an individual’s perception of social sanctioning) associated with wetland drainage. Of particular analytic interest will be the farmers’ perceptions of the value of wetlands and conservation initiatives and how the opinions of significant others in a farmer’s social network influence decisions to participate in these initiatives. In general, semi-structured interviews ensure that generated data is topical, but allows for the use of open-ended questions that will provide for more detailed assessment of the language being used by participants and their constructed knowledge on the themes being discussed (Gibson & Brown, 2009). A draft interview guide is attached as Appendix 1.

Similar interview questions will be employed in a focus group setting with the aim of developing a more nuanced perspective about collective social norms. This will be based on both the discourse used in the responses to particular questions as well as the interactions among the participants. Focus groups involve interactive group discussions on particular topics and analysis of the data generated can yield insight into “people’s different perspectives as they operate within a social network” and more specifically, “how points of view are constructed

and expressed” (Barbour & Kitzinger, 1999). Maintaining a semi-structured format will keep discussion relevant to the topic at hand and the responses and dialogue that may develop among participants will elicit *collective norms* (i.e. social sanctioning by others) surrounding wetland conservation. Since collective norms are not the aggregate of perceived norms (Lapinski & Rimal, 2005), the focus group setting will not only help to explore issues that emerge in the discussion, but more importantly will distinguish between the collective norm data generated therein and the perceived norm data generated in the individual interviews. In addition to gaining initial descriptive information about social norms, this pilot research will also allow us to test differences between perceived and collective norms and determine the significance of individual versus group research methods for an expanded study.

Other research consideration

Research of this nature will require careful attention to the selection of research participants. Depending on the size of the region where social norms are in question (e.g., a provincial jurisdiction or a sub-provincial jurisdiction), individual interviews with at least 8 to 10 farmers will be required. In addition, purposive sampling procedures will be required to recruit focus group participants. Focus groups consist of about 10 individuals that spend three or four hours together, discussing questions related to the project and providing a collective sense of the norms that are associated with wetland drainage.

References

- Barbour, R. & Kitzinger, J. (1999). In "The Challenge and Promise of Focus Groups" (p. 1-20). In *Developing Focus Group Research*. London: SAGE
- Bicchieri, C. (2006). *The Grammar of Society: The Nature and Dynamics of Social Norms*. New York: Cambridge University Press
- Biel, A. & Thøgersen, J. (2007). Activation of social norms in social dilemmas: A review of the evidence and reflections on the implications for environmental behaviour. *Journal of Economic Psychology*. 28: 93-112
- Bourdieu, P. (1977). *Outline of a Theory of Practice*. Cambridge, UK: Cambridge University Press
- Burton, R.J.F. (2004). Reconceptualising the 'behavioural approach' in the agricultural studies: a socio-psychological perspective. *Journal of Rural Studies*. 20: 359–371.
- Carolan, M. (2005). Barriers to the adoption of sustainable agriculture on rented land: An examination of contesting social fields. *Rural Sociology*. 70(3): 387–413
- Carolan, M. (2006). Do you see what I see? Examining the epistemic barriers to sustainable agriculture. *Rural Sociology*. 71(2): 232–260
- Cialdini, R., Kallgren, C., & Reno, R. (1991). A focus theory of normative conduct. *Advances in Experimental Social Psychology*. 24: 201-234
- Chen, X., Lupi, F., He, G., & Liu, J. (2009). Linking social norms to efficient conservation investment in payments for ecosystem services. *Proceedings of the National Academy of Sciences*. 106(28): 111812-111817
- Detel, W. (2008) On the concept of basic social norms. *Analyse & Kritik*. 30: 469-482
- Erhlich, P. & Levin, S. (2005). The evolution of norms. *PLoS Biol*. 3(6): 943-948
- Gibson, W. & Brown, A. (2009) in "Research Design" and "Generating Data Through Questions and Observations" (p.47-64 and 84-108) in *Working with Qualitative Data*. Los Angeles: SAGE
- Henrich, J. & Boyd, R. (2001). Why people punish defectors: Weak conformist transmission can stabilize costly enforcement of norms in cooperative dilemmas. *Journal of Theoretical Biology*. 208: 79-89
- Kallbekken, S., Westskog, H., Mideksa, T.K. (Article in Press). Appeals to social norms as policy instruments to address consumption externalities. *Journal of Socio-Economics*.

Lapinski, M. & Rimal, R. (2005). An explication of social norms. *Communication Theory*. 15(2): 127-147.

Levin, S. (2007). Learning to live in a global commons: socioeconomic challenges for a sustainable environment. *Ecological Research*. 21: 328–333

Lonnqvist, J., Walkowitz, G., Wichardt, P., Lindeman, M. & Verkasalo, M. (2009). The moderating effect of conformism values on the relations between other personal values, social norms, moral obligation, and single altruistic behaviours. *British Journal of Social Psychology*. 48: 525-546

Ostrom E (1990). *Governing the Commons*. Cambridge, UK. Cambridge University Press,

Paluck, E., (2009). What's in a norm? Sources and processes of norm change. *Journal of Personality and Social Psychology*. 96(3): 594–600

Raedeke, A., Green, J., Hodge, S., & Valdiva, C. (2003). Farmers, the practice of farming and the future of agroforestry: An application of Bourdieu's concepts of field and habitus. *Rural Sociology*. 68(1): 64-68

Ryan, R.L., Erickson, D.L., & De Young, R. (2003). Farmers' motivations for adopting conservation practices along riparian zones in a Mid-western agricultural watershed. *Journal of Environmental Planning and Management*. 46: 19–37

Saukko, P. (2003) "Combining Methodologies in Cultural Studies." (p.19-22) in *Doing Research in Cultural Studies: an Introduction to Classical and new Methodological Approaches*. London: SAGE

Schoon, B. & TeGrotenhuis, R. (2000). Values of farmers, sustainability and agricultural policy. *Journal of Agricultural and Environmental Ethics*. 12: 17–27

Schultz, P., Nolan, J., Cialdini, R., Goldstein, N., & Griskevicius, V. (2007). The constructive, deconstructive and reconstructive power of social norms. *Psychological Science*. 18(5): 429-434

Siebert, R., Toogood, M., & Knierim, A. (2006). Factors Affecting European Farmers' Participation in Biodiversity Policies. *Sociologia Ruralis*. 46(4): 318-340

Spash, C.L., Urama, K., Burton, R., Kenyon, W., Shannon, P., Hill, G. (2006). Motives behind willingness to pay for improving biodiversity in a water ecosystem: Economics, ethics and social psychology. *Ecological Economics*. 68: 955-964

Toogood, M., Gilbert, K., Rientjes, S. (2004). Farmers and the environment: Assessing the factors that affect farmers' willingness and ability to cooperate with biodiversity policies.

Biofact, European Centre for Nature Conservation, Wageningen, the Netherlands.

Vincent, J. (2007). Spatial dynamics, social norms, and the opportunity of the commons. *Ecological Research*. 22: 3–7

White, K., Smith, J.R., Terry, D.J., Greenslade, J.H. & McKimmie, B.M. (2009). Social influence in the theory of planned behaviour: The role of descriptive, injunctive, and in-group norms. *British Journal of Social Psychology*. 48: 135-158

APPENDIX 1

Sample questions for interview and focus group activities

In the spirit of semi-structured interviews, the following list of questions is intended to provide direction for the research participant, while affording opportunities to expand and move the discussion into areas that are unanticipated.

This appendix contains more questions than can be covered within a single interview or focus group. Depending on local context, these question will need to be reduced and modified to meet local needs.

Demographic Information

Age, gender, educational background, relationship / involvement in local community, involvement in community organizations, years and type of farming, off-farm activities

Agricultural Production

Number of hectares of farm land (owned and rented), crops grown, livestock

History

NOTE: historical data on general farming and wetland practices will be elicited through the remainder of the guide.

- *Implementing general conservation practices on farmland is an important factor in the conservation of ecological resources for future agricultural production: (environmental attitudes)*

Do you believe that farmers who do not use chemicals and fertilizers are not producing as much as they could be from their farmland?

Probes

Do you use chemicals and fertilizers on your farm to increase agricultural production?

Do your geographic neighbours use chemicals and fertilizers on their farms?

According to information you have acquired, do most farmers use chemicals and fertilizers? (i.e. in your region, Canada)

Can you discuss your reasons for implementing any conservation/alternative agricultural practices in the past? (i.e. reduced chemical or fertilizer use, reduced tillage, wetland conservation, maintenance of shelterbelts, etc.)

Probes

Do you believe that conservation/alternative practices are an important factor in the conservation of ecological resources for future agricultural production?

*Are conservation/alternative practices viable for your farm?
How do specific practices that you currently use promote conservation?
What type of incentives would increase the likelihood of your implementing
conservation/alternative practices on your farm?*

What were some of the reasons that your geographic neighbours had for implementing conservation/alternative practices?

Probes

*Are conservation/alternative practices viable for their farms?
How do specific practices that they currently use promote conservation?
Which incentives are likely to induce other farmers to implement
conservation/alternative practices?*

According to information you have acquired, do most farmers implement conservation/alternative practices that are suitable for their farms? (i.e. in your region, Canada)

Probes

*What types of conservation practices?
How do these practices promote conservation?*

If the majority of your neighbours implemented conservation/alternative practices regardless of incentives, how would that influence your decision to implement such practices?

Do you believe that most members of your community agree with your land use practices?

Probes

*Have any members of the community expressed their views directly to you?
To others in the community?*

Do you agree with the land use practices of your geographic neighbours?

Probes

Have you had discussions with your neighbours or others regarding specific practices?

Does social pressure within the geographic community to use certain land use/conservation practices exist and how influential is it? Within your region? Canada?

Probes

*Where does the social pressure come from – neighbours, publications, media in general,
local government, local community networks...?*

Do agricultural publications or networks provide useful/valuable information on conservation/alternative practices?

Probes

*To which forms of information do you turn when necessary?
Can you name any specific publications or networks that you use?*

- **Wetlands are a productive ecosystem**

Can you tell me about any wetland systems on your farmland?

Probes

Did they previously exist?

If yes, how many years ago were the wetland systems drained?

If drainage systems were constructed on your farmland, were they present when you obtained the land or did you construct them yourself?

Have surrounding landowners expressed reactions to drainage systems on your land?

Probes

Did they discuss these views with you or with others?

What was your response to the expression of these views?

What are your reactions and those of surrounding landowners been to the drainage systems on your neighbours' lands?

Probes

Did they discuss these views with you or with others?

What was your response to the expression of these views?

How do you perceive the benefits of wetlands in the local ecosystem?

Probes

Are there benefits to soil/water, etc. if wetlands exist?

Do your geographic neighbours perceive wetlands as beneficial ecosystems?

Probes

Do your geographic neighbours promote either the conservation or the drainage of wetlands?

Are there benefits to soil/water, etc. if wetlands exist?

What type of ecological impacts have you noticed since a wetland was drained on your or your neighbour's farmland? Do you view them as significant?

Probes

Has there been a reduction in wildlife?

Effects on water/soil, etc.?

What has been the focus of discussion regarding wetland conservation and/or drainage with your geographic neighbours?

Probes

Can you give me an example of a particular conversation you've had regarding wetland drainage or conservation?

Have there been community meetings or public events to discuss these issues?

Do local groups or associations promote either the conservation or the drainage of wetlands?

What are your impressions of wetland conservation from media/publications?

• **Wetlands on agricultural land reflect negatively on the producer:**

When you notice a wetland on agricultural land, what does that indicate to you about the landowner's agricultural practices?

How do your geographic neighbours perceive farmers that allow wetlands to remain on agricultural land?

• **Wetland drainage on farm land should be the decision of the landowner because it does not affect geographic neighbours:**

What were your main reasons for constructing a wetland drainage system on your land?

Probes

Have the results of the drainage been positive?

How has the drainage affected your farmland?

Affected surrounding lands? How?

Have your geographic neighbours constructed drainage systems and if so, what do you think their main reason for constructing them were?

Probes

As far as you know, have the results been positive for them?

How have these drainage systems affected your farmland?

Affected surrounding lands? How?

Do you believe that decisions such as those to preserve or drain a wetland affect only the land on which the wetland is situated?

Do your geographic neighbours also agree?

• **Wetland conservation programs are worthwhile endeavours: (i.e. willingness to participate)**

Can you tell me about any wetland conservation initiatives that have been or are currently being promoted in your area?

Probes

Who is sponsoring them?

How are they structured?

Has the rate of participation in these initiatives been high?

Can you cite reasons for low/high participation?

(NOTE: the norm of *local initiatives are more worthwhile than regional program* can be examined in this section by asking more specific questions about the structure of past or

current programs and how the farmer would like to see new programs developed, for example, with questions on whether or not local knowledge of land is required for successful programs, what types of programs might be more successful, etc.)

Would you consider participating in a wetland conservation program? For what reasons?

Probes

How do you perceive these initiatives? (i.e. positively, negatively, etc.)

What type of incentives would increase your willingness to participate?

Would your geographic neighbours participate in a wetland conservation program?

Probes

How do your geographic neighbours perceive these initiatives?

What type of incentives might increase their willingness to participate?

If the majority of your neighbours participated in a wetland conservation program regardless of incentives, would that influence your decision to participate?