



Integration of Watershed Planning and the Agricultural Policy Framework for the Provision of Ecological Goods and Services: A Pilot Watershed Approach for Wetland Restoration and Retention

April 2008

Stakeholder Meetings and South Tobacco Creek Tour

Researchers and stakeholders involved in Ducks Unlimited Canada's (DUC's) wetland retention and restoration pilot project came together for a series of meetings and a South Tobacco Creek (STC) field tour from August 13–17, 2007. South Tobacco Creek stakeholders met early in the week to discuss current and potential research initiatives led by the University of Guelph, DUC, the International Institute for Sustainable Development and the Deerwood Soil and Water Management Association. The discussion focused on areas of research overlap and alignment to ensure that research duplication does not occur. Following the meeting, Dr. Wanhong Yang, the lead researcher for the integrated modelling component of this research, and his associates toured the STC watershed to develop an in-depth understanding of the watershed characteristics. They also met with local landowners to discuss land use practices and a potential wetland restoration program.

Mid-week, the project's researchers met in Winnipeg with federal and provincial government staff to discuss the implications of the research results and to get feedback on the importance of the information for related policy initiatives. At the end of the week, the researchers conducted a focus group meeting with local producers to discuss producer attitudes about the economics of a wetland BMP program and to ensure that the economic surveys being developed are appropriate based on local producer knowledge.

Research Update - Integrated Modelling

The integrated modelling research is progressing as planned. Dr. Wanhong Yang, the lead researcher for this activity, is conducting a literature review on integrated modelling for wetland restoration and retention. He has hired a postdoctoral fellow who is setting up the Soil and Water Assessment Tool (SWAT), the hydrologic model that will be used to simulate water quality impacts of wetland restoration and retention scenarios. Using information from the field work that was conducted in August 2007, the postdoctoral fellow and a research associate are working to identify depressions within the South Tobacco Creek (STC) watershed that are suitable for wetland restoration. Relevant characteristics of the restored wetlands such as potential wetland area, depth, area-volume and depth-volume relationships are being prepared with high resolution DEM data and literature values.

The setup of SWAT for watershed base conditions and the wetland module will be completed between January and March, 2008. Wetland restoration scenarios will be simulated in April and May of 2008 and the results will be sent to Dr. Peter Boxall at the University of Alberta, who is responsible for the market uptake and satisfaction and non-market valuation components of this research.

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The integrated modelling research will provide initial simulation results on economic costs and water quality benefits of wetland restoration and retention, which Dr. Boxall will use to examine market uptake and satisfaction, and non-market valuation. Dr. Boxall's research will also provide feedback on the design of wetland restoration and retention scenarios for the integrated modelling to further examine corresponding economic and water quality tradeoffs.

Research Update - Market Uptake and Satisfaction and Non-Market Valuation

Planning is underway for work on the beneficial management practice (BMP) uptake component of the wetland restoration and retention research. Research on estimating producer costs for adopting various BMPs for water quality improvement is underway and this work is being done such that it can be ported almost directly into the wetland BMP framework. The goal is to relate this cost side research with the spatial modelling components in order to understand how incentives could be provided to producers to enable them to adopt wetland restoration and retention activities. One of the ways this will be done is through the use of economic experiments in order to estimate BMP adoption levels and costs.

The second component in this project is the understanding of the benefit side of the wetland BMP adoption. This work will be assisted by a graduate student as well as a research associate, both of which have been identified. By understanding the costs of uptake (which are generally borne by producers) and the benefits (mostly enjoyed by society) an overall economic picture of these wetland BMPs will be better understood.

Next Stakeholder Meeting

The project's next stakeholder meeting will be held in May 2008 in order to review the project progress to date. More details on the meeting will be sent in the near future via email.