

To: BMP CHALLENGE Project Team and Advisors
From: Maggie Westaby BMP CHALLENGE Program Assistant, Agflex, Inc.
Re: Eighth Quarterly Report: BMP CHALLENGE and Water Quality Trading

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Executive Summary

Our project is designed to meet water resource quality goals by promoting and supporting innovative strategies including the BMP CHALLENGE net returns guarantee and water quality credit trading. We will build broad awareness of these tools and competence in their use by developing and distributing a curriculum and support tools, and training in-state trainers to support conservation district, crop advisory professionals and others who work with farmers. We will manage the BMP CHALLENGE for corn farmers reducing nutrient use and tillage in DE, IA, ID, IL, IN, MD, MI, MN, MO, NC, NE, OH, PA, VA, WI. Water quality credit trading objectives will focus on MN and PA. Pennsylvania trading activities are limited to preparation of a trading template by Kieser and Associates, due by end of 2008. The document will be used to document credits created by BMP CHALLENGE participants.

Since our September 2008 quarterly report, we have:

- Completed an up-to-date contact list including CCA, individuals from USDA-NRCS and SWCD for a total of 10,498 contacts.
- Updated and circulated the BMP CHALLENGE brochure to 8,416 of the contacts. With 4,209 receiving a cover letter directed towards agricultural professionals.
- Collected 2008 BMP CHALLENGE results.
- Initiated expansion of BMP CHALLENGE to California.
- Completed two monthly project team conference calls as well as bi-weekly BMP CHALLENGE team conference calls.
- Set the next quarterly advisory committee call date as December 11, 2008.

Over the next quarter we will:

- Circulate updated BMP CHALLENGE brochure to remaining 2,083 contacts with cover letter.
- Analyze 2008 BMP CHALLENGE results.
- Update BMP forms for 2009 application, check strip form and net returns assessment.
- Revise and reprint the MN Water Quality Credit Trading brochure.
- Complete a second mailing to MN point sources.
- Continue recruiting 2009 acres including follow up with previous participants, new leads generated by mailing and email newsletter.
- Plan workshop for point sources in Minnesota for July 2009.
- Plan/hold annual advisory meeting.
- Publish BMP CHALLENGE email newsletter edition, circulate to approximately 8400 contacts.
- Continue to interact with Minnesota state agencies and other interested parties on water quality credit trading rule development, and pursue additional funding to meet our match requirement.

This project is funded by USDA NRCS with matching funds from the Minnesota River Board for Minnesota activities, Bush Foundation for trading development in Minnesota and PA DEP for activities in Pennsylvania, .

I. Deliverables Update

<p>1. WQ trading and BMP CHALLENGE curriculum delivered to MN state agency, conservation districts, crop advisors and others to equip them to offer these opportunities to their producer clientele.</p>	<p>a. Calendar of industry and extension meetings has been created and continually modified with contact information for meeting organizers.</p> <p>b. Tom Green, Brian Brandt and Maggie Westaby updated the BMP CHALLENGE brochure and composed a cover letter directed towards agricultural professionals. Brochures were circulated to 8,416 contacts.</p>
<p>2. Support package of existing tools for trainers, subset to be used as handout for seminars and available online.</p>	<p>a. Trainer curriculum and support materials package currently includes 2008 BMP CHALLENGE enrollment and implementation forms, presentation PowerPoint files and print-outs, curriculum outline with notes, water quality trading references, BMP CHALLENGE FAQ sheets and additional BMP information (i.e. alternative credit generating BMPs and management information). These materials were reviewed at a MN Trainer meeting in November 2007.</p> <p>b. Website updated regularly, with current documents and information. Recent updates include the addition of the brochure on Water Quality Credit Trading in Minnesota.</p>
<p>3. Preparing three MN public agency/NGO trainers to train others on BMP CHALLENGE and WQ credit trading.</p>	<p>a. Three trainers have been identified for Minnesota: -Shannon Fisher, MN River Board and Water Resources Center -Ed Hohenstein, Seven Mile Creek Watershed Project - Russ Derickson, MN Dept of Agriculture In addition to these three, a number of other collaborators including several professionals on our advisory committee are gaining competency in addressing water quality trading and the BMP CHALLENGE with others.</p> <p>b. Upcoming winter/spring Minnesota meetings: - Work is being done to obtain invitations to present at existing meetings. - One or two dedicated workshops may be planned for the winter, spring of 2009.</p>
<p>4. Inventory of potential point and non-point source traders, trades, values, credits, rates, forms, implementation and verification procedures.</p>	<p>The draft MN State rules for water quality trading are now available.</p>
<p>5. 95,000 brochures, 1,000-1,500 farmer inquiries generated to state agencies, crop advisors, watershed groups on BMP CHALLENGE and WQ credit trading.</p>	<p>a. 60,000 BMP CHALLENGE brochures were printed with approx. 47,500 distributed to date.</p> <p>b. Per the 2008 Outreach plan, a brochure and electronic newsletter schedule with designated dates of dispersal and topic outlines has been developed. Potential future E-newsletter topics include: Update on the Farm Bill, EPA Non-point Source Outreach Toolbox, implications of the EPA CO₂ regulation mandate for BMP CHALLENGE, a highlight on a main contact for a particular region, fall applications/tillage info, and updates on upcoming workshops, enrollment procedures, etc.</p>

<p>6. Ten point sources in MN prepared to trade, list of trades completed, acres, practices, credits, estimated resource improvements.</p>	<p>a. Keiser & Associates have contacted and identified ethanol plants in the MN River watershed, which are currently willing to use the point-point trading permit system, but are not at this time committed to using the more desirable point-nonpoint trading system. The new 2008 CIG was funded to work with several watersheds to implement trades.</p> <p>b. James Klang, PE, and Brian Brandt have released a white-paper to help clarify how point and non-point perspectives view trading by interviewing potential buyers and sellers. The white paper was released in May 2008.</p> <p>c. Educational efforts have initiated conversations with numerous water quality trading participants. Possible work with ADM in Redwood falls and entities within the Sauk River that are waiting for TMDL approval for 2009.</p>
<p>7. Inventory of BMP CHALLENGE guarantees implemented, acres, practices, improvements.</p>	<p>a. Nutrient BMP guarantees have been implemented on approximately 100 farmer fields, resulting in an average 22.5% reduction in nitrogen fertilizer use.</p> <p>b. Reduced tillage was implemented in 2006 and since then 36 fields have been enrolled.</p> <p>c. With the goal of expanding the Enhanced Nutrient option, which, refers to an additional 15% reduction in BMP rates for nitrogen fertilizer use. In 2008 approximately 960 acres were enrolled with the hopes of expanding to over 1,000 acres in 2009.</p> <p>d. All results are recorded in a database.</p> <p>e. From 2000-2008, 4626.28 acres, 1905.8 acres and 4660.6 acres were enrolled in the Nutrient BMP, Reduced Tillage BMP and Enhanced Nutrient BMP respectively.</p>
<p>8. Reductions of 760K lbs of N use, 40K lbs. P loading; 30K tons sediment loading; 25 K lbs. NO₂; 5K tons CO₂ from nutrient and tillage reduction on approximately 34K acres in MN and PA.</p>	<p>a. See tracking, attached.</p>
<p>9. Funding development including \$759,464 in matching non-federal funding, \$170,500 in program income and \$944,400 in-kind. Additional funding for program expansion.</p>	<p>a. Current grants amounting to \$1,998,000:</p> <ul style="list-style-type: none"> - 2006 Conservation Innovation Grant to Agflex, NRCS, \$683,000 - 2007 Bush Foundation Grant to AFT, \$75,000 - 2007 Pennsylvania Dept. of Environmental Protection (to IPM Institute, \$225,000 - 2007 Pennsylvania State Conservation Commission to IPM Institute, \$20,000 - 2007 Chesapeake Bay Commission to IPM Institute, \$25,000 - 2008 Pennsylvania Dept. of Environmental Protection to IPM Institute, \$50,000 - 2008 Bush Foundation Grant to AFT, \$270,000 - 2008 Conservation Innovation Grant to AFT, \$650,000 - 2008 Conservation Innovation Grant to Minnesota River Board, 999,993.60. Accomplished 1,000,006.21 match funds (accommodation of in kind and match).

<p>10. Quarterly and final progress reports including conference call and advisory meeting minutes.</p>	<p>a. Advisory conference calls and meetings scheduled for Dec, Jan and Mar through Aug 2009, including one in-person meeting per year.</p> <p>b. BMP CHALLENGE Project team (Brandt, Green, Westaby, and contractors) meets at least twice monthly by conference call to manage BMP CHALLENGE acreage recruitment and implementation.</p> <p>c. MN BMP CHALLENGE and WQ Credit Trading team (Fisher, Green, Kieser & Associates, and Westaby) meets monthly by conference call, second Thursday of each month at 8:30am CST. Advisors welcome to participate. Call agenda and post-call notes circulated to project team and advisors.</p>
<p>11. Other</p>	<p>a. CA expansion is in progress. Alan Forkey with NRCS will be sending a letter of review to make it eligible. Planning on having up to 10 farmers and 1,000 acres using conservation tillage for 2009.</p>

II. Results Table

2000-2007 RESULTS	Nutrient BMP	Reduced Tillage	Enhanced Nutrient Management
Total acres, 2000-2007	3,582 acres	1,139 acres	3,700 acres
BMP yield, average and range	156.3 bu/acre 15.4 - 220	153.8 bu/acre 72-192	123.4 bu/acre 9-217
Check-strip yield, average and range	162.7 bu/acre 16.7-230	165.6 bu/acre 110-210	131.6 bu/acre 10-238
Farmer net returns after fertilizer or tillage savings	(\$3.15) (\$53.03) - \$81.25	(18.25) (\$157) - \$130	(\$20.75) (\$111) - \$105
Total N use reduction	145,712 lbs N	-	99,479 lbs N
Estimated sediment reduction	-	1709 tons	-
Estimated P load reduction	-	2,278 lbs	-
Estimated N ₂ O reduction	4,793 lbs	-	3,272 lbs
Estimated CO ₂ reduction	1,791 tons	570 tons	1,850

II. Project Team, Advisors and Trainers – As of 01/17/2008

Brian Brandt

Director
Agricultural Conservation Innovation Center
50 W. Broad St, Suite 3250
Columbus OH 43215
614-221-8610 x 201
Fax : 614-221-8620
bbrandt@farmland.org
<http://www.farmland.org/resources/innovation/default.asp>

Dr. Shannon Fisher

Executive Director
Minnesota River Board and MSU Water
Resources Center
184 Trafton Science Center S
Mankato MN 56001
507-389-5492
Fax: 507-389-5493
shannon.fisher@mnsu.edu

Thomas Green

President
CIG Project Manager
IPM Institute of North America and Agflex
4510 Regent St.
Madison WI 53705
608-232-1425
Fax: 608-232-1440
Cell: 608-209-8298
tom.green@bmpchallenge.org

Deana Hoeg

Business Manager
CIG Project Financial Reporting
Agren Inc.
1238 Heires Ave.
Carroll IA 51401-3328
712-792-6248
Fax: 712-792-6175
deana.hoeg@bmpchallenge.org
<http://www.agren-inc.com>

Mark Kieser

Senior Scientist
Kieser & Associates, LLC
536 East Michigan Avenue, Suite 300
Kalamazoo MI 49007
269-344-7117
Fax : 269-344-2493
mkieser@kieser-associates.com
<http://www.kieser-associates.com/>

James Klang, PE

Senior Project Engineer
Kieser & Associates, LLC
7162 Mill Road
Centerville, MN 55038
651-407-0256
Fax: 269-344-2493
jklang@kieser-associates.com

Laurence Picq

Project Scientist
Kieser & Associates, LLC
536 East Michigan Avenue, Suite 300
Kalamazoo MI 49007
269-344-7117
Fax: 269-344-2493
lpicq@kieser-associates.com
www.kieser-associates.com

Maggie Westaby

Project Assistant
BMP CHALLENGE
Agflex, Inc.
4510 Regent St.
Madison WI 53705
608-232-4510
Fax: 608-232-1440
mwestaby@bmpchallenge.org
www.bmpchalleng.org

CIG Contacts

David Buland

Technical Contact
USDA-NRCS, Central NTSC
501 W Felix St, Bldg 23
Fortworth TX 76115
817-509-3577
david.buland@ftw.usda.gov

Gregorio Cruz

CIG and Conservation Partnership Initiative
Manager
USDA-NRCS
Financial Assistance Programs Division
14th and Independence Ave SW
Room 5241-S
Washington DC 20250
202-720-2335
gregorio.cruz@wdc.usda.gov

Advisory Group

Participation is invited on monthly conference calls and requested for quarterly conference calls and one in-person meetings per year. Role includes reviewing plans and progress, responding to requests for information/assistance from project team.

George Boody

Executive Director
Land Stewardship Project
2200 4th Street
St. Paul, MN 55110-3011
651-653-0618
Fax: 651-653-0589
gboody@landstewardshipproject.org

Mark Bredehoeft

Southern Minnesota Beet Sugar Cooperative
PO Box 500
East Highway 212
Renville, MN 56284
320- 329-4129
Mark_Bredehoeft@smbcsc.com

Dennis Fuchs

Stearns County SWCD
110 Second Street South, Suite 128
Waite Park, MN 56387
320-251-7800 x 132
Fax: 320-251-9171
dennis.fuchs@mn.nacdnet.net
www.soilandwater.co.stearns.mn.us

Jeremy Geske

Local Issues Specialist
Minnesota Farm Bureau
PO Box 64370
St. Paul, MN 55164
651- 905-2107
jgeske@fbmn.org

Marco Graziani

Minnesota Pollution Control Agency
Wastewater Section – Watershed Planning
Southwest Regional, Municipal Wastewater
520 Lafayette Road, St. Paul, MN 55155-4194
651-296-8632
marco.graziani@pca.state.mn.us

David Mulla

Professor
University of Minnesota
439 Borlaug Hall
1991 Upper Buford Circle
St. Paul MN 55108
612- 625-6721
Fax: 612- 625-2208
mulla003@umn.edu

Mark Scharf

Financial Services Officer
AgStar Financial Services
1921 Premier Drive
P.O. Box 4249
Mankato MN 56002
888 -259-5738
Fax: 507-344-5089
mark.scharf@agstar.com

Jason Portner

United Farmers Cooperative
840 Pioneer Avenue
PO Box 4
Lafayette, MN 56054
507-228-8224
Fax: 507-228-8766
Jason.portner@ufcmn.com

John Schueller

Minnesota River Board
29157 250th Street
Wabasso, MN 56293
507- 342-5621

Jeff St. Ores

USDA-NRCS
375 Jackson St. Suite 600
St. Paul MN 55101
651- 602-7869
jeff.st.ores@mn.usda.gov

Scott Thaden

Anez Consulting, Ltd.
1025 19th Avenue SW
Willmar, MN 56201
320 -235-1970
Fax: 320-235-1986

Trainers

Three Minnesota and three Pennsylvania public agencies or NGO professionals who will be trained to offer the BMP CHALLENGE and WQ Credit Trading curriculum developed as part of this project. Goal is to identify individuals whose current role would be enhanced by this capacity. ***Pennsylvania Trainers yet to be determined.***

Minnesota Trainers

Russ Derickson

Agriculture Advisor
Minnesota Department of Agriculture
Agronomy & Plant Protection Division
90 West Plato Blvd.
Saint Paul, MN 55107-2094
507-752-7992
Fax: 651-296-7386
dericksr@rrcnet.org

Dr. Shannon Fisher

Executive Director
Minnesota River Board and MSU Water
Resources Center
184 Trafton Science Center S
Mankato MN 56001
507-389-549
Fax 507-389-5493
shannon.fisher@mnsu.edu

Ed Hohenstein

Program Manager
Seven Mile Creek Watershed Project
322 South Minnesota Avenue
St. Peter, MN 56082
507- 934-4140
hohenbnc@hickorytech.net

III. Project Summary from Original Proposal to NRCS CIG

Our project will build capacity by creating broad awareness and teaching in-state personnel to support CD, crop advisory professionals and others who work with farmers to meet conservation goals using new, innovative strategies. We will highlight, teach and implement BMP performance guarantees for corn farmers reducing both nutrient use and tillage in DE, IA, IL, IN, MD, MI, MN, NC, NE, OH, PA, VA, WI and point-nonpoint water quality credit trading in MN and PA.

BMP performance guarantees will focus on 51 million acres of corn in these 13 states. Our *BMP Challenge* has delivered a 24% nutrient use reduction in seven states over the past four years. We provide a financial safety net for farmers who reduce nutrient and sediment pollution using practices developed and recommended by land-grant scientists and state agencies. These practices save farmers money over time, but in any one year may result in lower yields and income. The program uses a side-by-side comparison in the farmer's field of his or her conventional practice on a "check" strip vs. reduced nutrient or tillage practice on the balance of the field. We compensate the farmer if net income declines as a result. Our 2005 survey indicates that 42% of corn farmers would try these new practices if guarantees were available.

Water quality credit trading is a new opportunity in the Susquehanna and Potomac River Watersheds in PA and the Minnesota River Watershed in MN. Point sources such as wastewater treatment facilities have greatly reduced nutrient emissions over the past 30 years and face very high costs for incremental gains. These funds can be more efficiently invested in improvements by farmers. Adequate controls are needed to ensure water quality goals are met. Accurate and effective education, training and technical support are needed to implement trading effectively.

Our experienced and nationally recognized team will work with state agencies and others to develop and implement a training curriculum, support tools and outreach for these innovative approaches, and work with conservation districts, crop consultants and other key influencers to equip them to competently offer and manage these opportunities with their client farmers. Support tools will include both new and existing materials and trained in-state technical support to help these professionals efficiently identify the best opportunities, calculate economic benefits to farmers and estimate water quality improvements, and verify and report implementation of conservation practices. Outreach will focus on CDs, crop consultants, Extension, ag organizations and other key influencers to drive farmer interest and inquiries to trained CD staff and crop consultants.

We will ease farmer recruiting to trading using our proven model of enlisting crop consultants, Extension and CD staff as recruiters, on-site BMP overseers and/or third-party verifiers for our guarantee program; assure farmers with yield/income guarantees so that they can put a comfortable value on their participation in trades, e.g., farmers are reluctant to trade nutrient use reductions for cash because they can't predict the yield impacts; verify/document credit production by farmers and so provide point-sources/regulators with the assurance they need; discover and institutionalize locally-acceptable credit estimation tools to provide certainty for participants; track multiple environmental benefits/environmental services; aggregate credits from multiple farmers to create a reserve pool such that if any one farmer cannot deliver promised credits for any reason, other credits are available to fill in; and offer this model as a turn key service solution to trading projects in other states as they begin to get ready for trading.