Maine Agricultural Water Management Board

Biennial Report

2007-2008

January, 2009
Printed under appropriation 010-01A-5610-01

Agricultural Water Management Board Members

Potato Producer

Greg Smith
Smiths Farm Inc.
99 Fort Fairfield Rd. Suite 1
Presque Isle, Maine 04769.
greg@smithsfarm.com
1-800-393-9898

Wild Blueberry Producer

Darin Hammond
Jasper Wyman and Son
P.O. Box 100
Milbridge, ME 04658-0100
dhammond@wymans.com
207-546-2311

Small Fruit/Vegetable Producer

Rick Belanger
R. Belanger and Sons Farms
3072 Cotton Road
Lewiston, ME 04240
VeggieFarmerinME@aol.com
Cell 207-576-5845

Ornamental Producer

Dale Pierson
Pierson Nurseries, Inc.
24 Buzzell Rd
Biddeford, ME 04005
dpierson@piersonnurseries.com
207-499-2994
Cell 229-3178

Livestock Producer

Travis Fogler
Stonyvale Farm, Inc
226 Fogler Rd
Exeter, ME 04435
stonyval@tdstelme.net
379-2963

Person with Engineering and Water Efficiency Experience

John Simon
Balanced Engineering
8 Horseshoe Lane
Hampden, ME 04444
balnengr@midmaine.com
207-862-6396

Person with Federal Wetland's Permitting Experience

William Taylor
Pierce Atwood LLP
1 Monument Sq.
Portland, ME 04101
wtaylor@pierceatwood.com
207-791-1100

Public At Large

Robert J. Tardy, Chair
236 Madawaska Road
Palmyra, ME 04965
tardy@roadrunner.com
207-341-0343

Maine Department of Environmental Protection

Dave Littell, Commissioner
State House Station 17
Augusta, ME 04333

Staff to the Board

John Harker
Agricultural Resource Management Coordinator
Maine Department of Agriculture

Stephen Belyea
Potato Storage Consultant
Maine Department of Agriculture

TABLE OF CONTENTS

Introduction

The Agricultural Water Management Board (AWMB) is a board of the Maine Department of Agriculture, authorized by 7 MRSA Chapter 13. The Board became active in April, 2007.

The Board is comprised of representatives from the major agricultural commodity groups engaged in irrigation, a person who understands federal wetlands permitting, an agricultural engineer, a public member and the Commissioner of the Department of Environmental Protection.

The Agricultural Water Management Board responsibilities include:

1. Oversee the bond funds for water source development. The Board is responsible for developing a model for a water use management plan. Producers will need to prepare a water use management plan in order to receive financing through the Sustainable Water Source Development Grant Program.
2. Make recommendations for improvements to federal and state permitting processes for development of water sources.
3. Work to secure more funds for water source development.
4. Prioritize watersheds for targeted financial assistance to farmers for new water sources.
5. Gather data on farms who wish to use, or are using, a surface water body and make requests of DEP for doing site visits to have DEP establish site specific flow standards.
6. Work with DEP to implement the flow standards once the rules are in place. Duties will include making recommendations to DEP to grant extensions for compliance and examining violators and making recommendations to DEP on compliance.

The Board is required to submit a biennial report on the sustainable agricultural water source program to the joint standing committees on agriculture and natural resources, by January 30, 2009.

Brief History Of Water Source Development For Agriculture

The issue of water use by agriculture for irrigation has been around since droughts in the 1960's led to research on how to irrigate, followed by pond development cost sharing by USDA in the 60's and 70's, followed by a large Army Corps of Engineers study for Northern Maine Potato Farmers in the early 1990's.

The Aroostook Water and Soil Management Board was formed in 1991 to study irrigation in Aroostook County. The Aroostook Board was responsible for managing the federal funds from the Army Corps of Engineers for an irrigation research study for potatoes. The Board also funded the USGS low flow study and authored the Low Flow Dispute Resolution Policy. The Board worked with NRCS to develop water management planning documents.

During the mid 1990's the Federal Government proposed to list the Atlantic salmon as endangered in seven Rivers in Maine. The State decided to develop an Atlantic Salmon Conservation Plan to be used to meet the federal requirements to manage Atlantic salmon return. At the beginning agriculture was not thought to be a problem, but the farmers and state agencies put a plan together for removing irrigation systems directly from streams. The Downeast Salmon Rivers Water Use Management Plan resulted in a development of a hierarchy of water sources to be used for agricultural irrigation. Well development was considered to be the best option, tapping sand and gravel aquifers in the region. The federal government has funded, through the National Fish and Wildlife Foundation,. water management planning for Downeast farmers to assist them with complying with the ESA listing,

In the 1999 and 2000 crop years a severe drought hit the State. At that time Governor Angus King initiated a bond program to assist farmers in building ponds and drilling wells to improve irrigation and minimize drought. This led to the development of the State Agricultural Water Management Strategic Plan that identified over 15 million dollars of need for new water sources throughout the state. The Maine State Department of Agriculture has been managing the bond funds and providing technical assistance to farmers for water management plans and siting new ponds.

In 2002 the state established a water withdrawal reporting program in order to assist the state in understanding the extent of surface water use. In 2007 the Maine DEP established the Chapter 587 In-stream flow and water level standards. The Agricultural Water Management Board was formed in 2007 to assist farmers in complying with DEP standards and oversees the continued development of new water sources for agriculture.

Agricultural Water Management Board

Summary Of Activities

Development Of Water Management Plan Templates

The AWMB first responsibility was to develop a template for farmers to follow in establishing a water management plan for their farms. A water management plan is required in order to access funds to build or develop new water sources. The Aroostook Water and Soil Management Board had already been working with the USDA Natural Resource Conservation Service and had established a template for potato farmers. In addition the Washington County Soil and Water Conservation District had been assisting farmers with developing water management plans in Downeast Maine since 2001. They have also been assisting farmers in developing water sources to meet the requirements of getting irrigation pumps out of Atlantic salmon rivers. The Maine Potato Board and the Maine Department of Agriculture have also been involved in assisting farmers to develop water management plans. The AWMB decided to utilize the USDA model template and the template is now available through the Maine Department of Agriculture Website. The NRCS Water Management Template link can be found here:

http://www.me.nrcs.usda.gov/technical/IrrigationInfo.html

A water management plan can cost between $3,000 to 5,000 dollars, The Department of Agriculture staff is providing technical assistance to farmers to write a plan. The Maine Potato Board and the Washington County Soil and Water Conservation district are also still assisting farmers in plan development.

Overseeing The Sustainable Water Source Development Grant Program

Authority

The Maine Department of Agriculture, Food and Rural Resources, pursuant to Private and Special Law PL 2005, Chapter 462, and subsequent Special Laws established a cost share program for development of environmentally sound water sources to help avoid drought damage to agricultural crops in Maine. Most recently the legislature established the Agricultural Water Management and Irrigation Fund (http://janus.state.me.us/legis/statutes/7/title7sec351.html), administered by the Department. The Agricultural Water Management Board has been authorized to assist producers in applying for the grant program (http://janus.state.me.us/legis/statutes/7/title7sec353.html).

Purpose

The current cost share program was created to assist farmers to mitigate drought risk while minimizing the potential impacts on Maine's environment. The goal is the long-term maintenance of profitable farms. This goal will be achieved through the development of alternative water sources which include dug ponds, drilled wells and impoundments in compliance with environmentally sound construction practices.

Eligibility

Any Maine farm business, large or small, that needs to develop environmentally sound water sources to irrigate crops and minimize drought damage is eligible to apply to the program. A farm business is a business that buys and sells agricultural crops and livestock, with a minimum of over $5,000 in gross receipts in any one year. Groups of farmers who will be sourcing water from the same constructed source may apply separately. Only one project per farm will be eligible for funding in any one cycle. If the dollar value of all grants received exceeds the funds available, priority will be given to applicants who have not received a grant in the past through this program.

Program Benefits And Use Of Funds

The program provides up to 75% of the cost of construction of a new or expanded water source or up to $80,000 per project, whichever is less. Funds can be used for building ponds, drilling or digging wells in association with construction of the structures. The cost of the pump for wells can be included as part of the project cost. Funds may also be used to provide hydrants and the distribution pipe from the source to the hydrants so long as the distribution pipe will allow the farm to expand to new acreage to be irrigated.
Restrictions on Use of Funds: Funds cannot be used for irrigation delivery equipment and supplies, or solely for costs of permitting and engineering design. The costs for permitting and engineering design may be included as a part of the applicant's share of the total cost of the project. Funds may not be used for test wells. However, the costs of test wells may be included as part of the applicant's share of the total cost of the project.

Current Summary Of Fund Disbursements

Through 2007 the state has funded 117 projects totaling $5.1 million dollars of capital investment, with $3.1 million dollars of state investment. Of those projects 58 have been to reduce or eliminate the use of streams or natural ponds. The total value of crops protected has been $21 million dollars. In 2008 the State passed an additional $1.5 million dollar bond for water source development. With those funds the AWMB has approved 34 projects totally $1.383 million dollars.

Assisting Farmers To Comply With DEP Low Flow Standards

The passing of the Low Flow Standards in 2007 has provided regulations that will help farmers comply with water withdrawal limits for existing natural water bodies. The AWMB has been working with farmers and the Departments' of Agriculture and Environmental Protection to comply with the new regulations. The key provisions of the rules are as follows:

1. The critical date for compliance is 5 years after the low flow standards are in place.
2. Grandfathering for five years is available to farmers, under certain conditions.
3. Farmers still need to file a water report regardless of the size of the water withdrawal if they can show how they have previously used the water source.
4. Each farmer will have to have a water management plan for each pumping site.

The Board received a briefing from the USGS, the Maine Geologic Service, Brad Caswell, a private hydrogeologist, and the Maine DEP on the methods to calculate low flow limits and establish that limit in the field. USGS has been involved with determining low flows in scientific investigations over the past 10 years. Currently low flow equations for median flow limits have been done for large watersheds, and for smaller watersheds in Northern and Downeast Maine. A current low flow study is being conducted in Southern Maine.

The USGS has long term records at various gauging stations around the state. When farmers have to comply with the low flow standards and want to establish a limit for their streams, they will need to record flows for 10 years, or else for lesser years and develop a relationship with the existing USGS gauges. The Board was cautioned that when assisting farmers, they should encourage site specific determinations, as the USGS equations are not conclusive for all streams. Most of the low flow equations to be used in DEP rules have a large degree of error, so caution must be taken.

The ability to determine a flow will be based on having a fixed point to measure from, and knowing when the low flow periods are taking place. Culverts and V-Notch weirs are the best ways to develop a low flow measure. Once a low flow rate is determined, a gauging stake can be used so long as it is referenced to a permanent reference height off the stream each year. DEP is developing a quicker method to evaluate the hydrology and habitat coverage that they hope will be used to determine the low flow limits. DEP calls it the 75% wetted perimeter method that staff say, in most cases, can be done in one day.

The AWMB initiated a field workshop in 2007 to clarify the procedures farmers will use to assess their irrigation withdrawals for compliance. The DEP and Dept of Agriculture personnel have established a procedure to work with the farmers to assess the water source, assist with development of water budgets, and providing assistance in evaluating alternatives to current withdrawals.

To date the AWMB has received 12 requests for assistance in establishing a low flow limit for a particular water withdrawal site. The Maine DEP provides a map and calculations of the estimated low flow limit. The Maine Department of Agriculture staff provides

assistance to farmer develop a water budget for the farm operation. This information has helped farmers in completing water management plans.

The AWMB will continue to assist farmers with this service going forward.

Finding Funds For Water Source Development

The AWMB has been actively engaged in seeking other funds for the water source development program. At a recent meeting with the USDA-NRCS the AWMB received a briefing on the three federal programs that could help support irrigation and water source protection. The Board heard that the Environmental Quality Incentive Program (EQIP) has not been available in the past but does cost share projects in other States. The program is geared to water conservation and irrigation efficiency. The Board met with USDA-NRCS and the congressional delegation staff to review the needs of farmers and encouraged USDA to reestablish the EQIP cost share practices for irrigation in Maine.

USDA has also just established the AG WATER ENHANCEMENT PROGRAM (AWEP) in the new 2007 Farm Bill. This program will allow for area wide proposals for water quality, conservation and irrigation system improvements.

The AWMB will be working with local partners to apply for the AG WATER ENHANCEMENT PROGRAM once rules are established in early 2009.

Making Recommendations On Improving State And Federal Regulations

State Groundwater Committee And Targeting At Risk Watersheds

The AWMB has spent some time discussing the issues surrounding the use of groundwater. The Board has received briefings from the Maine Geological Survey (MGS) and has participated in the State Groundwater Committee meetings.

The AWMB received a briefing on groundwater from MGS. MGS showed that groundwater is not mined, as plenty of water usually exists in aquifers, and most irrigation wells only drawdown a cone of depression for short periods of time, and then the groundwater table quickly returns to normal. Most sand and gravel aquifers for high yield wells for irrigation can be found in Southern and Downeast Maine. It will be problematic in Northern Maine. Well development requires exploratory wells be drilled, and those wells can yield significant information about the aquifers. Large municipal well developments have been engineered to hydraulically connect to surface water bodies to maximize use of both groundwater and surface water. In the future, with the low flow standards, this will become problematic.

The Board also heard from Gene Bergoffen in a teleconference about the situation in Fryeburg regarding the evaluation of groundwater sources. The main issue is whether multiple users will go beyond the sustainable yield of the aquifer. The town would like some state agency to regulate and require the study of the aquifer to determine safe yield. The Board was unsure of it's jurisdiction in this situation. Further study was deemed necessary and current legislation might clear up the matter.

Finally, the Board has provided information to the Maine Geological Survey on the extent of large agricultural water users. This information is being used by MGS to target at risk watersheds. At this time no agricultural users are in "at risk" watersheds. In the future the Board may look at the Prestile Stream watershed in Aroostook County or watersheds in the Downeast Area.

Groundwater Issues And The Atlantic Salmon Endangered Species Federal Listing

The Board also got involved in the controversy concerning the potential impact of a Downeast farm well on the Pleasant River. Federal officials were concerned that calculated drawdown's of 1/100's of a foot from a groundwater well within 500 feet of the river was considered a "take" under the Endangered Species Act. The Board met with State and Federal officials concerning this matter. The Board did not believe it is practical for growers to be able to determine differences in flows of that size and that the Federal Agencies did not provide enough scientific evidence that flows of that minor magnitude would impact Atlantic salmon habitat. The matter was being studied and the farm was working with State and Federal officials to establish and operate a plan to augment the river during irrigation with water pumped from the well. The Board has yet to hear the results for the 2008 season but will continue to follow this issue into 2009.

In addition, the Board also received a briefing by the Federal agencies involved in proposing to expand the ESA listing of Atlantic salmon to more rivers in Maine, as well as to establish critical habitat rules. The Board provided comments to the Governor's office on the fact that agriculture is not a source of impact on Atlantic Salmon in these additional watersheds and that some farms will be impacted if riparian buffer zones are established that do not allow for agricultural practices. This process will also be followed by the Board into 2009.

Mitigation For Wetland Alteration – Current State And Federal Status

The Board was provided a briefing from a representative of Pierce Atwood concerning the need for eliminating mitigation for farm pond development since a number of pond sites might involve the alteration of wetlands. Mitigation for wetland alteration can be quite time consuming and expensive. The Governor's office has spent considerable time on this issue in the past. Changes in regulatory oversight between EPA, Army Corps of Engineers and the USDA have further hampered resolution. The Maine Potato Board has been finding it hard to get some projects established in Aroostook County due to mitigation requirements and other regulatory uncertainties.

The Board staff has met with Federal officials, but no resolution of this situation has been accomplished to date. Further discussions with USDA will be made in 2009.

Future Work Of The Board

In the next Biennium the AWMB will continue to work on the following issues:

- Federal funding for water source development;
- Conduct a needs assessment survey to find out how many more farmers need assistance;
- Try resolve the mitigation issue;
- Follow and respond to the expanded ESA listing of the Atlantic salmon rivers and critical habitat designation.

Appendix

Websites of Interest to the Agricultural Water Management Board

The AWMB has established a number of websites for the farmers and public. The following sites will help to further the efforts of the Board.

- New Ag Water Management Board Website

  http://www.maine.gov/agriculture/water/

- Low Flow Regulations

  http://www.maine.gov/dep/blwq/topic/flow/index.htm

- Groundwater Information and Regulations

  http://www.maine.gov/doc/nrimc/mgs/explore/water/regs/withdraw.htm

  http://www.mainelegislature.org/legis/bills/chapters/PUBLIC399.asp

- NRCS Water Management Template

  http://www.me.nrcs.usda.gov/technical/IrrigationInfo.html

- NRCS/CORPS permitting process

  http://www.me.nrcs.usda.gov/technical/IrrigationPondPermitApplicationProcess.html