



Farmers Drought Resilience Program

Amanda E. Beal
Commissioner

Craig Lapine
Director

18 Elkins Lane
Augusta, ME 04333

(207) 287-3200
www.maine.gov/dacf



STRATEGY E

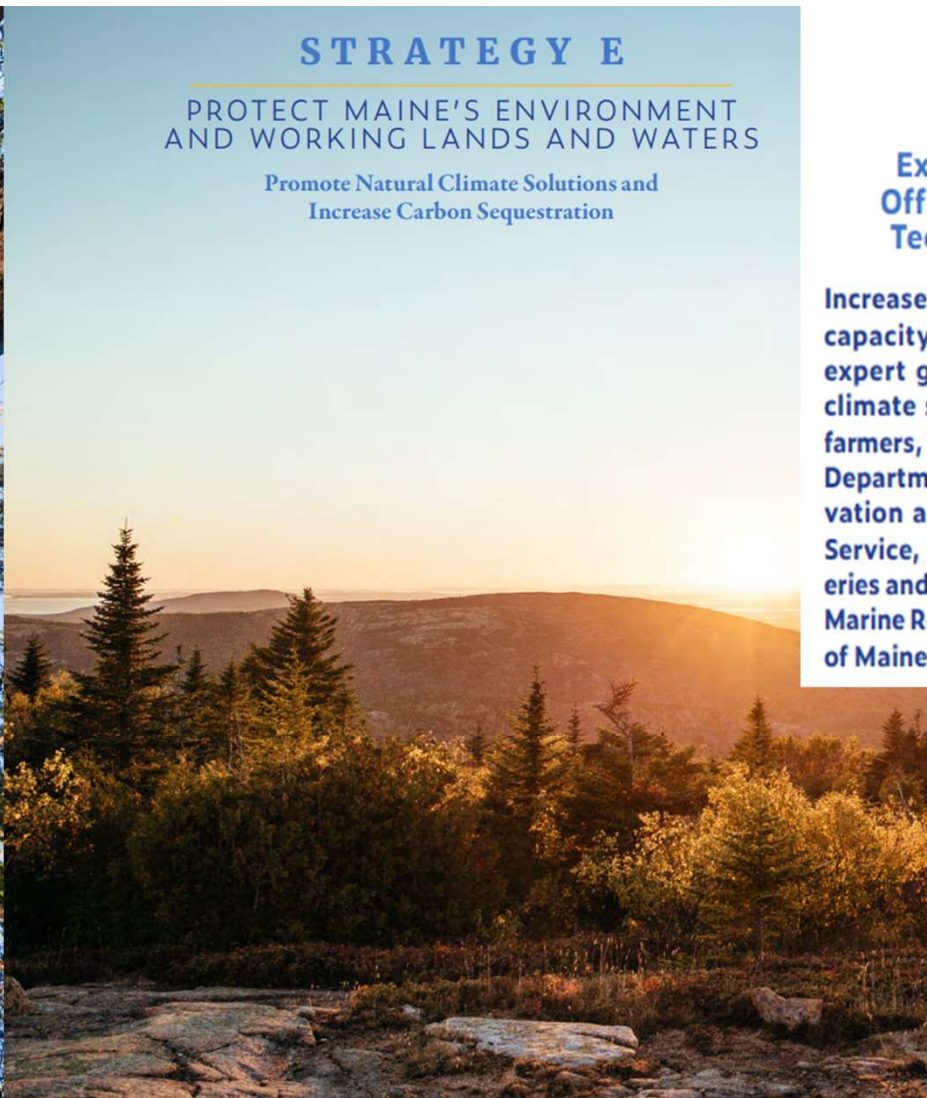
PROTECT MAINE'S ENVIRONMENT AND WORKING LANDS AND WATERS

Promote Natural Climate Solutions and
Increase Carbon Sequestration

3

Expand Outreach to Offer Information and Technical Assistance

Increase technical service provider capacity by 2024 to deliver data, expert guidance, and support for climate solutions to communities, farmers, loggers, and foresters at the Department of Agriculture, Conservation and Forestry, Maine Forest Service, Department of Inland Fisheries and Wildlife, the Department of Marine Resources, and the University of Maine.



Key Points

Maine is a water-rich state

- 24 trillion gallons of precipitation - 12 trillion gallons of runoff - 7-10 trillion gallons of evapotranspiration

In agriculture, timing is everything

~ 155 growing days from mid-May through September

typical water need: 1 inch per acre per week

crops may be most drought-sensitive 2-3 weeks prior to harvest and at harvest

Severe droughts have impacted Maine farms

2001-2002 (\$32 M crop loss)

2016

2020-2022

2025-2026

85 percent of Maine cropland is not irrigated

Statutory Authority: Chapter 729, Public Laws of 2022 (L.D. 1998)

7 MRSA c. 8-A, sub-c. 4 §220-A. Farmers Drought Relief Resilience Grant Program

2. Eligibility. A farmer in the State may apply for a grant under the program if the farmer needs to establish a **source for irrigation water** to alleviate the risk of **crop losses** due to drought. The source for irrigation water must be **sustainable, environmentally sound and affordable.**

\$ 1 million one-time nonlapsing fund

\$ 300,000 annual appropriation





Water Source Development Grants **90% of costs with a 10-percent match for:**

- Dug well (up to \$ 15,000)
- **Drilled bedrock well (up to \$ 25,000)**
- **Water storage pond (up to \$ 50,000)**
- Gravel-packed well (up to \$ 50,000)

Agricultural Water Management Plans

- Soil & Water Conservation District planning contracts (up to \$ 7,500)

Farmers Drought Resilience Grants

2025: **\$ 300,000**

11 drilled wells

3 water storage ponds

10 water management plans

2026: **\$ 765,000**

11 drilled wells, 1 gravel-packed well

8 water storage ponds

2 combined well and pond systems

8 water management plans

**Tabbutt & Daughters Blueberries
(Clarence Tabbutt Estate)
Jonesboro, Washington County**

46 acres wild blueberries

**BEFORE: hauled water by truck
from nearby stream**

**The drought damage consisted of
small, shriveled blueberries and
early leaf drop due to lack of
consistent rain.**

**AFTER: project has provided
access to approximately
1,079,589 gallons of water.**



**Thomas Farms
Corinth, Penobscot County**

250 acres – mixed vegetables

“We are requesting help for a drilled well to drip irrigate 6 acres of peppers and tomatoes on plastic mulch as they do not absorb water well from a center pivot, plus we can only cover a small portion of area proposed.”

“At 380 feet, the well yield exceeded our expectations and will cover areas our pivots can’t effectively reach.”



**Fitzpatrick Family Farm
Houlton, Aroostook County**

1,100 acres potatoes

“I have seen up to a 50 hundredweight loss resulting in a \$750 per acre reduction in value. This does not take into account that rotation crops like soybeans or oats will be non-irrigated because the potatoes are a higher value crop and all water resources are put into the potato crop.

“Snow melt holding ponds hold a limited amount of water, and I have to make the management decisions on when to irrigate if I should hold the water until the heavy bulking stage of potatoes where they need it, or to use it to make sure the set is adequate.”

“With a Drought Relief Fund grant for a well, we went down to 400 feet and achieved 15 GPM [gallons per minute] which we were very happy with.”



Lessons from the past:

Severe drought in 1999-2003

Estimated crop losses of \$ 32 million

Voters approved 4 bonds for \$ 5.3 million in irrigation funding

State-funded irrigation projects on approximately 179 farms in 2003 -2011

An estimated 85 percent of funded farms are still in operation in 2026





2024

Maine Irrigation Guide

Information on
Water-Source
Development and
Irrigation Practices

Updated By: Cumberland County
Soil & Water Conservation District

Contents

SECTION 1 - Introduction

- 1.1 Why Irrigation is Needed
- 1.2 Maine's Irrigation Challenges
- 1.3 History of Irrigation in Maine
- 1.4 Future of Irrigation Maine
- 1.5 PFAS and Climate Change
- 1.6 The Decision to Irrigate

SECTION 2 - Irrigation Benefits for Specific Crops

- 2.1 Fruit Crops
- 2.2 Vegetable Crops
- 2.3 Nursery Stock
- 2.4 Sod

SECTION 3 - Water Use Management Planning

- 3.1 Elements of a Water Use Management Plan
- 3.2 Uses for Irrigation Water
- 3.3 Irrigation Water Budget
- 3.4 Water Source Consideration
- 3.5 Considering PFAS and Legacy Pollutants
- 3.6 Natural Flowing Water Sources
- 3.7 Natural Storages
- 3.8 Man-made Storages
- 3.9 Groundwater Sources
- 3.10 Water Source Quantity Assessment Considerations
- 3.11 Water Source Quality Assessment Considerations
- 3.12 Components of Assessing Irrigation Water Needs

SECTION 4 - Irrigation Application Systems

- 4.1 Irrigation System Components
- 4.2 Application Hardware
- 4.3 Fixed or Portable Systems
- 4.4 Selecting an Irrigation System
- 4.5 Noise Control for Irrigation Systems

SECTION 5 - Conservation Practices and Irrigation Scheduling

- 5.1 Conservation Practices
- 5.2 Estimating Water Needs & When to Irrigate
- 5.3 Irrigation Scheduling

SECTION 6 - Irrigation Water Source Permitting in Maine

- 6.1 Abbreviations
- 6.2 Interactive CD
- 6.3 Step 1: Management Plan
- 6.4 Step 2: Site Visit
- 6.5 Step 3: Permits - Well
- 6.6 Step 3: Permits - Pond
- 6.7 Step 3: Permits - Direct Withdrawal
- 6.8 Other Regulations
- 6.9 PFAS and Legacy Pollutant Considerations
- 6.10 Contacts

SECTION 7 - Introduction to Irrigation Costs & Returns

- 7.1 Wild Blueberry Irrigation
- 7.2 Potato Irrigation

APPENDIX

- A.1 Abbreviations
- A.2 Water use Management Plan and Map
- A.3 USFW New England Stream Flow Recommendations
- A.4 AWSMB Low Flow
- A.5 Source List
- A.6 Maine Soils



DEPARTMENT OF
Agriculture, Conservation & Forestry

AGRICULTURAL WATER MANAGEMENT WORKSHOP

Monday April 29th, 2024
8:30am - 4:00pm

Wells Conference Center
University of Maine, Orono

TOPICS INCLUDE:

- Climate change and water management in Maine
- NRCS water management plans
- Water source development (ponds, wells)
- Calculating crop water needs
- Farmer panel on irrigation approaches
- Dealing with drainage
- Funding for water resource management

SCAN TO REGISTER



or visit <https://bit.ly/main-eagwater>

Registration \$35 (lunch and coffee provided) OR register for free online



Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE



The Agroecology Lab

DEPARTMENT OF
Agriculture Conservation & Forestry



Tom Gordon

Tom.Gordon@Maine.gov

207-592-3584