

4-2013

2013 Pesticide Safety - Zone II, Bogs & More

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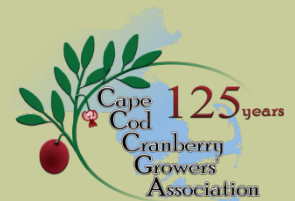
Zone II, BOGS & More

Brian Wick
Director, Regulatory Services
Cape Cod Cranberry Growers' Association



Groundwater Protection Regulations

Intended to prevent contamination of public drinking water supply wells through regulating the application of pesticide products on the Groundwater Protection List within primary recharge areas.

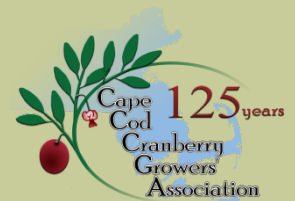




In Other Words...

Certain Ag chemicals have more potential to leach through soil.

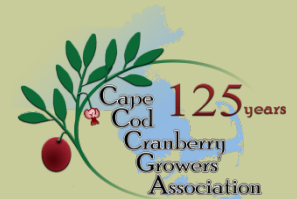
These chemicals could be picked up by high-pumping volume wells.





Definition: Primary Recharge Area

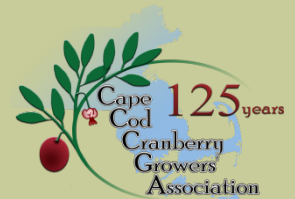
- Interim Wellhead Protection Area (IWPA)
- Zone II





Definition: Primary Recharge Area

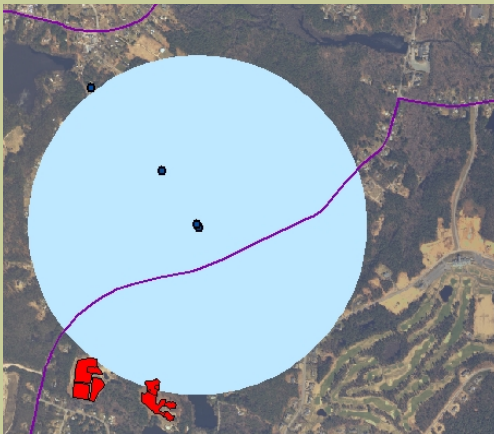
- For simplicity,
Primary Recharge Area is a Zone II.
- Zone II's are updated yearly by the state
- Regulations ONLY apply to public drinking water wells permitted to pump greater than 100,000 gallons of water per day.





Definition: IWPA

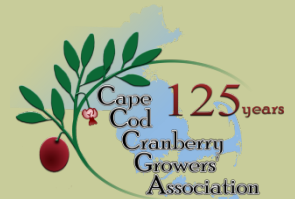
- Temporary protection prior to approved Zone II
- Protected area around a well
- 1/2 mile radius
- Eventually become a Zone II





Definition: Zone II

- Groundwater movement model
- Area surrounding a well that supplies water during drought conditions
- Bounded by groundwater divides and bedrock, till, etc.
- Various shapes
- Can change over time





Are You Subject to the Regulations?

**Step 1: Determine if your
cranberry bog is in a Zone II
area**

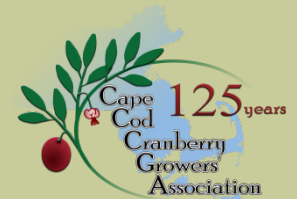




Wellhead Protection List 2013

Cranberry Growing Region:

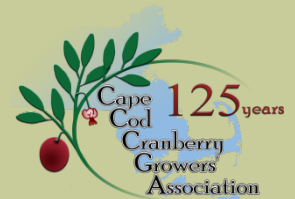
All cranberry towns contain Zone II areas within their boundaries.





Zone II Determinations Available At:

- CCCGA Office
- USDA/NRCS Wareham Field Office
- MassDEP
- MassGIS Web Site <http://maps.massgis.state.ma.us/images/dep/omv/wspviewer.htm>



MassDEP Online Map Viewer



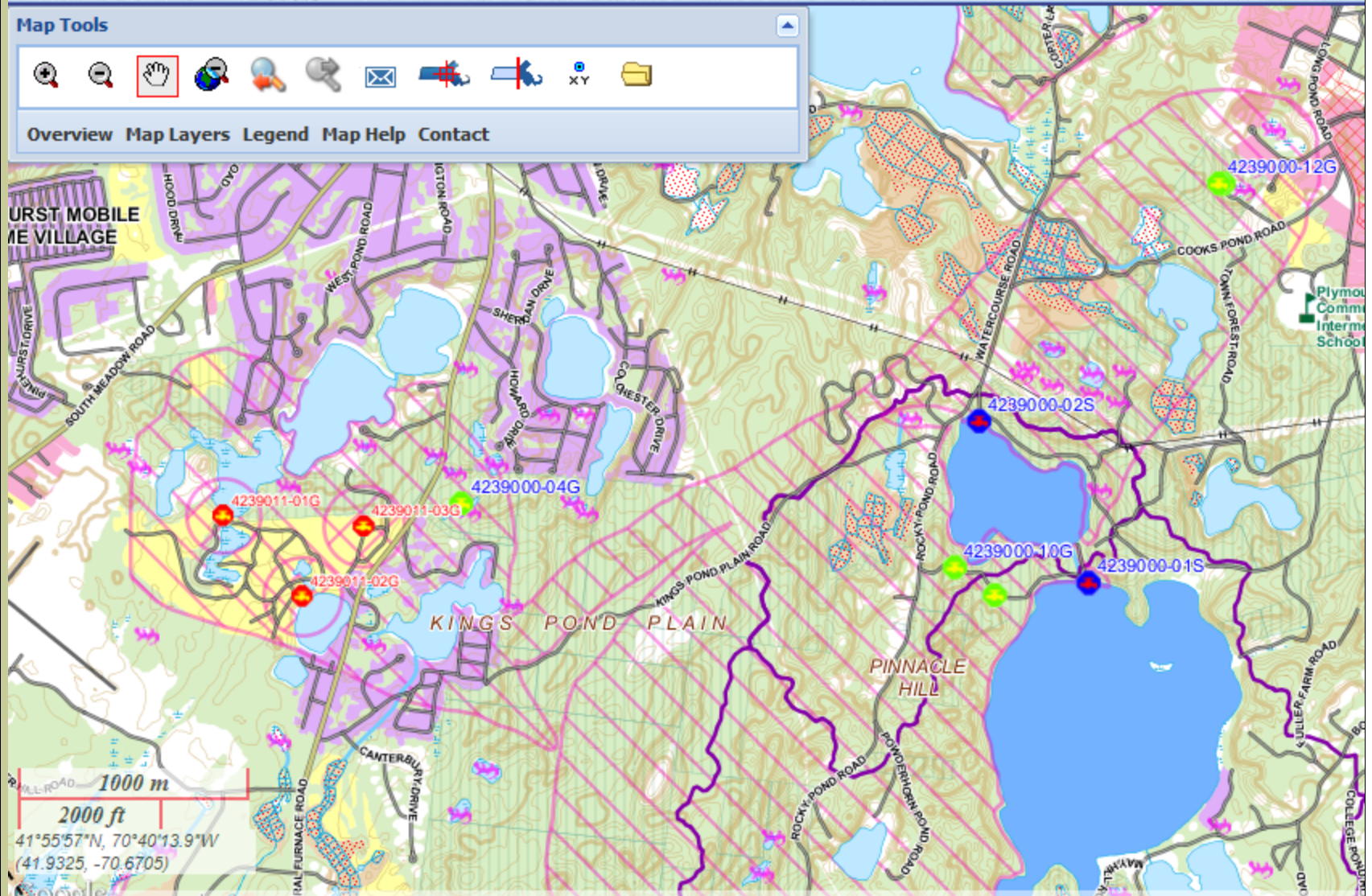
MassDEP Online Map Viewer

Water Supply Protection Areas Map

Map Tools



[Overview](#) [Map Layers](#) [Legend](#) [Map Help](#) [Contact](#)

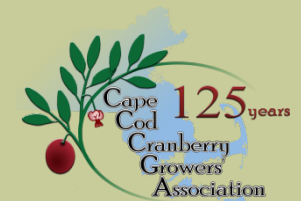


MassDEP Online Map Viewer

The screenshot displays the MassDEP Online Map Viewer interface. At the top left is a logo of a green leaf. The main title is "Water Supply Protection Areas Map". Below the title is a "Map Tools" toolbar with icons for zooming, panning, and other map functions. A secondary navigation bar includes links for "Overview", "Map Layers", "Legend", "Map Help", and "Contact". The central map area shows a topographic map with various colored overlays representing protection areas. To the right is a "Map Layers" panel with the following options:

- Operational Layers
 - Water Supply Protection Areas Map
- Base Maps
 - Google Street Map
 - Google Hybrid Imagery
 - Google Aerial Imagery
 - Google Terrain Map
 - Bing Hybrid Imagery
 - Bing Aerial Imagery

At the bottom of the Map Layers panel is an "About Map Layers" link.



MassDEP Online Map Viewer



MassDEP Online Map Viewer
Water Supply Protection Areas Map

Map Tools

-
-
-
-
-
-
-
-
-

[Overview](#) [Map Layers](#) [Legend](#) [Map Help](#) [Contact](#)

Map Layers

- Operational Layers
 - Water Supply Protection Areas Map
- Base Maps
 - Google Street Map
 - Google Hybrid Imagery
 - Google Aerial Imagery
 - Google Terrain Map
 - Bing Hybrid Imagery
 - Bing Aerial Imagery

[About Map Layers](#)

1000 m
2000 ft
1°53'53.8"N, 70°38'20.2"W
41.8983, -70.6389

MassDEP Online Map Viewer



Map Tools

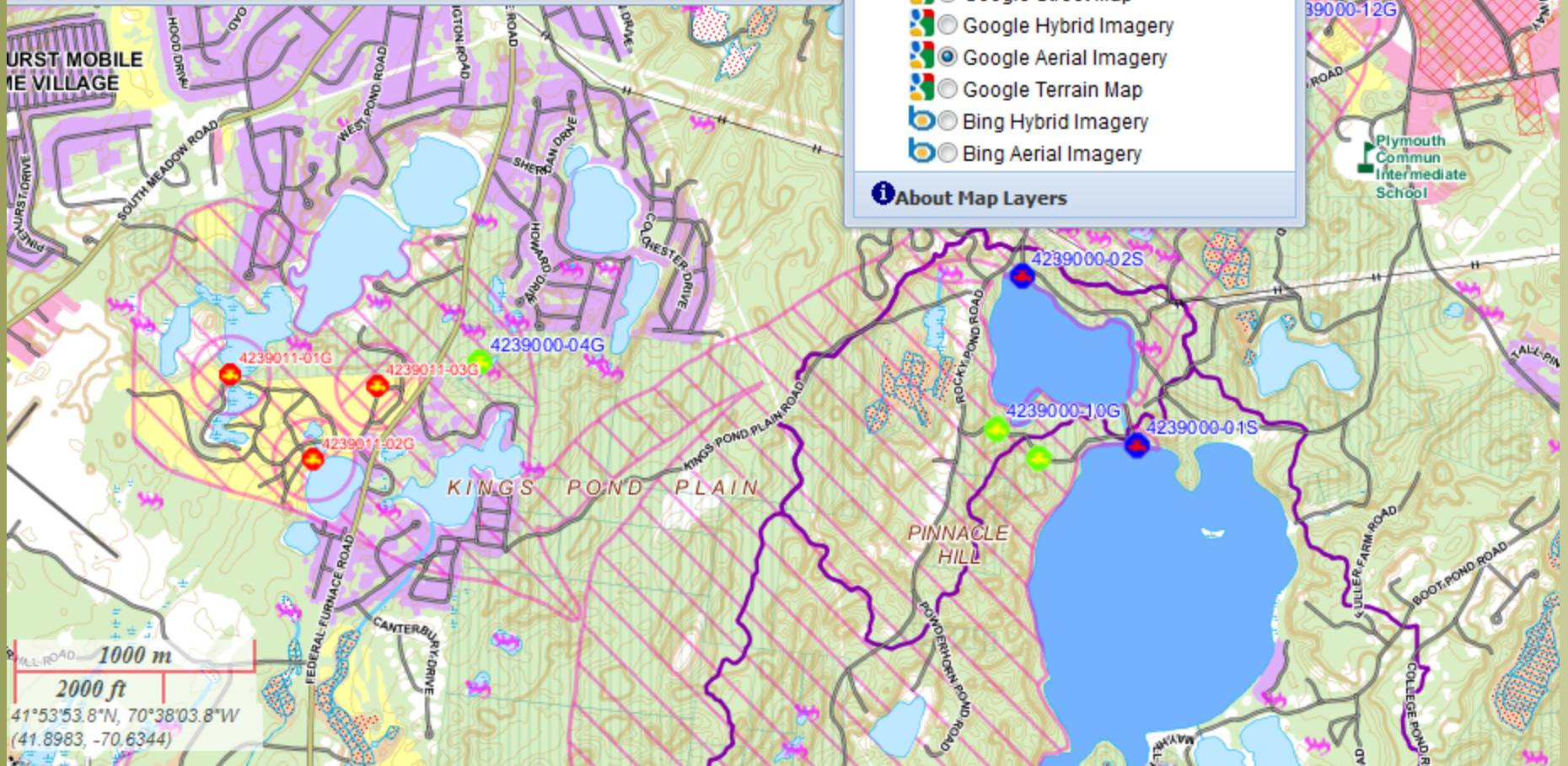


Overview Map Layers Legend Map Help Contact

Map Layers

- Operational Layers
 - Water Supply Protection Areas Map
- Base Maps
 - Google Street Map
 - Google Hybrid Imagery
 - Google Aerial Imagery
 - Google Terrain Map
 - Bing Hybrid Imagery
 - Bing Aerial Imagery

About Map Layers



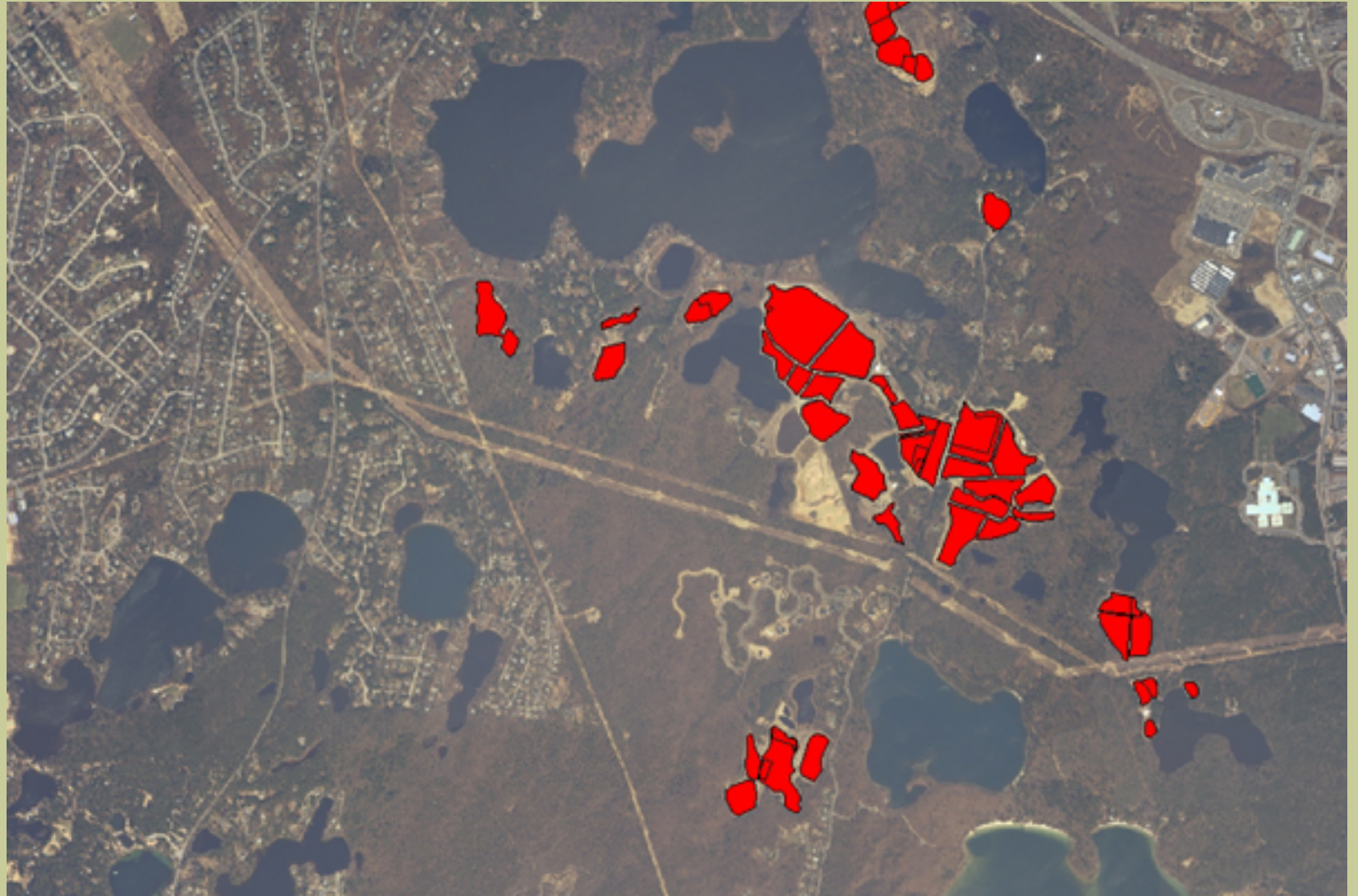


Southeastern MA





Cranberry Bogs



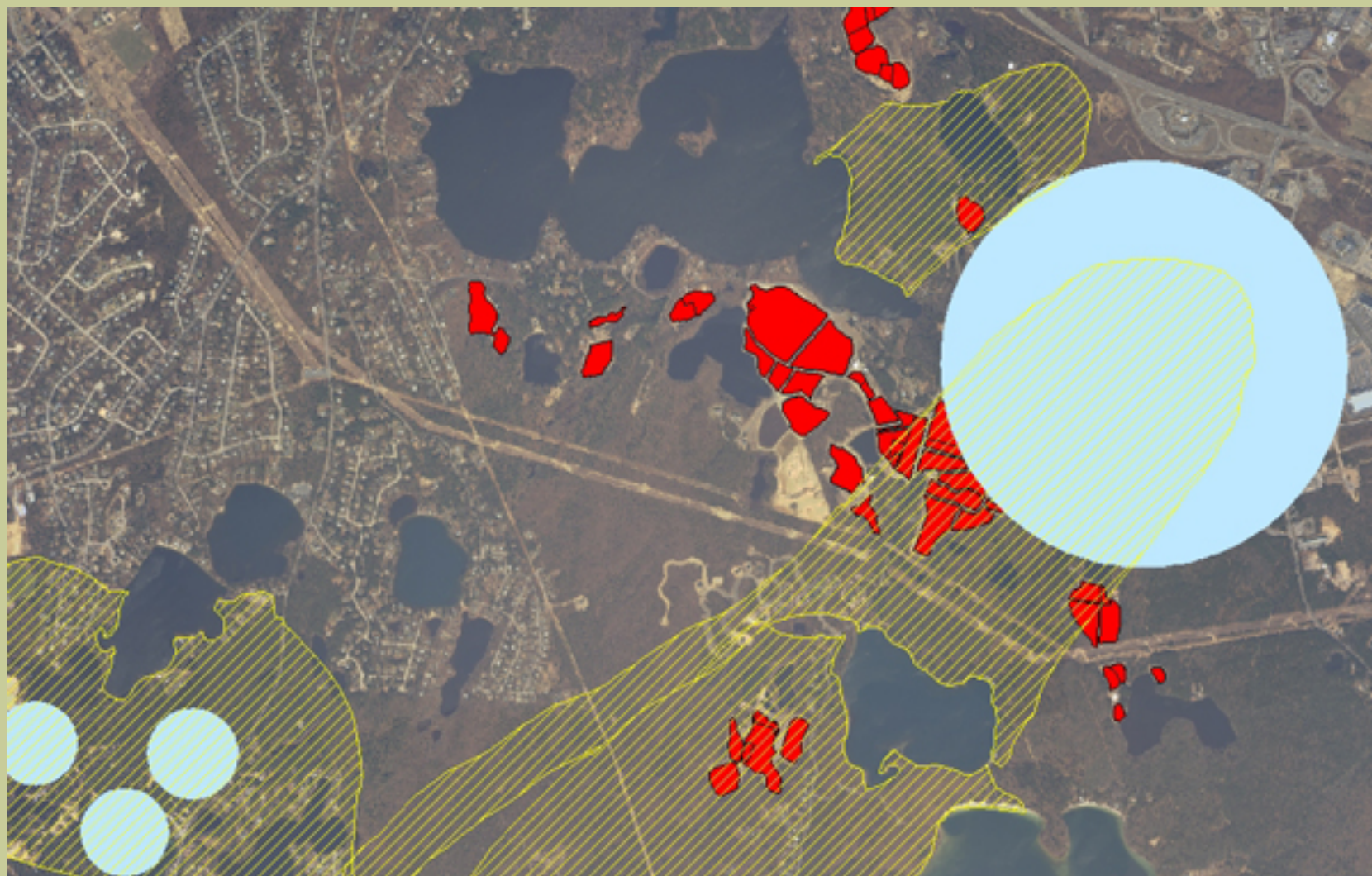


Bogs With IWPA





Bogs With IWPA & Zone II





Bogs With IWPA & Zone II





CCCGA Web Site Maps



Cape Cod Cranberry Growers' Association



- About Us
- Cranberries
- Grower Services
- News & Media
- Harvest Celebration
- Contact Us
- Resources
- Site Map

- Grower Advisories
- Alerts & Information
- Due Dates
- Events
- Grants & Programs
- Resources



The Cape Cod Cranberry Growers' Association, established in 1888, is one of the oldest farmer organizations in the country. By maintaining focus on grower issues, the goal of the Association is to "*Enhance the economic viability of the Massachusetts cranberry grower*". Our mission is to support and promote the cranberry growers of Massachusetts.

Inside this web site is information for both members and the public alike. Come explore and learn more about the unique aspects and history of Massachusetts cranberry agriculture, cranberry recipes, industry news and more.

Web Site Highlights

- Cranberry Recipes
- Ice Sanding Cranberry Bogs
- Neighbor to Neighbor Brochure





CCCGA Web Site Maps



Cape Cod Cranberry Growers' Association



[About Us](#) [Cranberries](#) [Grower Services](#) [News & Media](#) [Harvest Celebration](#) [Contact Us](#) [Resources](#) [Site Map](#)

[Growers ~ Alerts & Information](#)

Grower Alerts & Information

Select from the category listed below. Grant information can be found [here](#).

[Dam Safety](#)
updated Jan2009

[DOR \(Dept. of Revenue Ch. 61/Abatements/Farm Plates\)](#)
updated Jan2009

[GAP](#)
updated May2008

[Irrigation Automation Systems Report](#)
updated Jan2008

[Pesticide Use Reporting](#)
updated Mar2010

[RMV Inspections](#)
updated Jan2009

[Water Management Act](#)
updated Jan2010

[Zone II \(Groundwater Protection Areas\)](#)
updated Apr2009



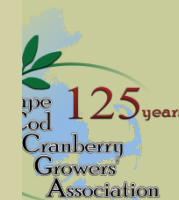
2008 Pesticide Report Forms Due

(posted March 2010)

2009 Pesticide Use Report forms are due to the Massachusetts Department of Agriculture's Division of Crop Inspectional Services by **May 15, 2010**. Failure to submit this report will result in loss of eligibility for renewal of your pesticide license. Each certified or licensed pesticide applicator is accountable for the submission of their Pesticide Use Report.

[2009 Pesticide Use Report](#) (PDF: 216KB)

[Back to top](#)





CCCGA Web Site Maps

[Back to top](#)

Zone II Information

(updated April 2009)

The MA Department of Agricultural Resources must be notified of any applications of a product on the Groundwater Protection List **within 10 days of the end of each month**. This form should include all applications made during that month. You do not need to include chemicals that are not on Groundwater Protection List. You may use one form to report multiple applications that occurred in the same month.

Notification Form: [PDF Form](#) (15 KB) 

MDAR Web Site: [Electronic Notification Form](#)

The CCCGA Zone II maps can be viewed by county and town. Links to the Groundwater Protection Regulations grower advisory and pesticide notification forms can be found here as

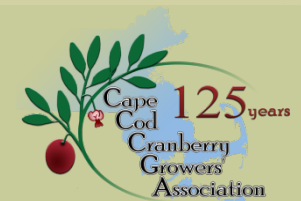
ll. [Learn more.....](#)

[Back to top](#)

If you don't have a PDF reader installed on your computer, you can download free software at the [Adobe web site](#).



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CCCGA Web Site Maps



Cape Cod Cranberry
Growers' Association



[About Us](#) [Cranberries](#) [Grower Services](#) [News & Media](#) [Harvest Celebration](#) [Contact Us](#) [Resources](#) [Site Map](#)

Growers ~ [Alerts](#) ~ Zone II

2009 Zone II Information

Below are links to the 2009 Zone II maps (Groundwater Protection Areas) listed by county. There has been only slight changes noted on the 2009 Zone II maps, with little to no impact to cranberry production visible. However, all growers should verify their own acreage for accuracy. In many instances you may need to look at more than one map in order to find your bog. If your particular bog is not located on any of the maps or if you have any problems or questions, please contact the CCCGA office by [email](#) or phone at 508-866-7878.

For more information on Zone II's, please read the Grower Advisory on [Groundwater Protection Regulations for 2009](#) (PDF: 68KB) . Download a [Notification Form](#) (PDF: 15KB)  for applying products on the groundwater protection list or submit usage [electronically](#) at the Massachusetts Department of Agriculture web site.

Go To Maps Of: [Barnstable County](#) | [Bristol & Norfolk County](#) | [Plymouth County](#)

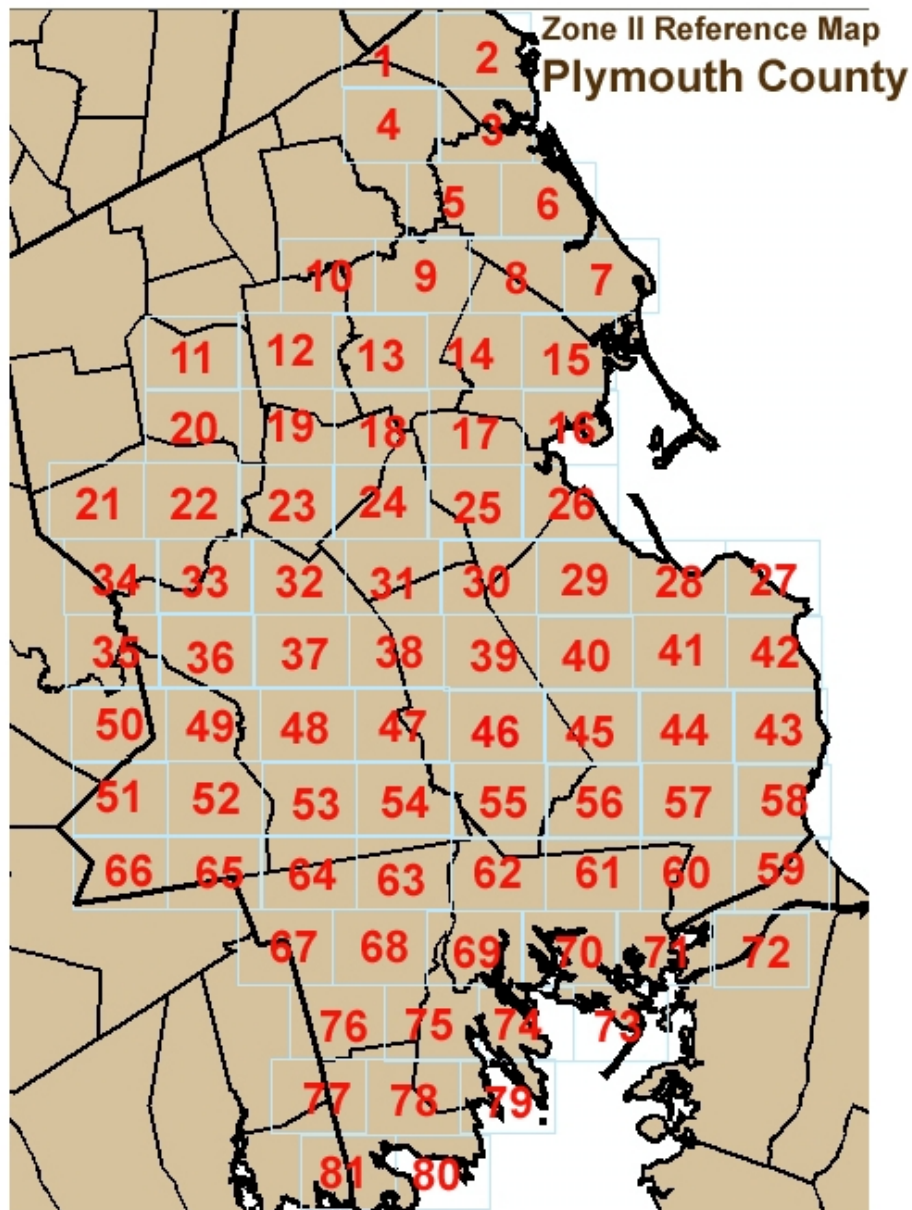
Disclaimer:

The Cape Cod Cranberry Growers' Association (CCCGA) has provided these maps as a service to its members. The CCCGA makes every effort to provide updated information in these maps but cannot guarantee an exhaustive listing of all Zone IIs and IWPA's as this information is updated yearly by the Massachusetts Department of Environmental Protection. By using these maps the user absolves the CCCGA from liability associated with Zone II and IWPA applications and any resulting lapse in reporting requirements.





CCCGA Web Site Maps





CCCGA Web Site Maps

Options for reading the maps:

- 1) **Click on the red number** in the squares above to open a close-up map of that area
- 2) [Scroll through all](#) Plymouth County maps
- 3) **Select by town** from the list below and scroll through all maps for that town

[Bourne](#)

[Hanson](#)

[Norwell](#)

[Bridgewater](#)

[Kingston](#)

[Pembroke](#)

[Carver](#)

[Lakeville](#)

[Plymouth](#)

[Duxbury](#)

[Marion](#)

[Plympton](#)

[East Bridgewater](#)

[Marshfield](#)

[Rochester](#)

[Halifax](#)

[Mattapoisett](#)

[Scituate](#)

[Hanover](#)

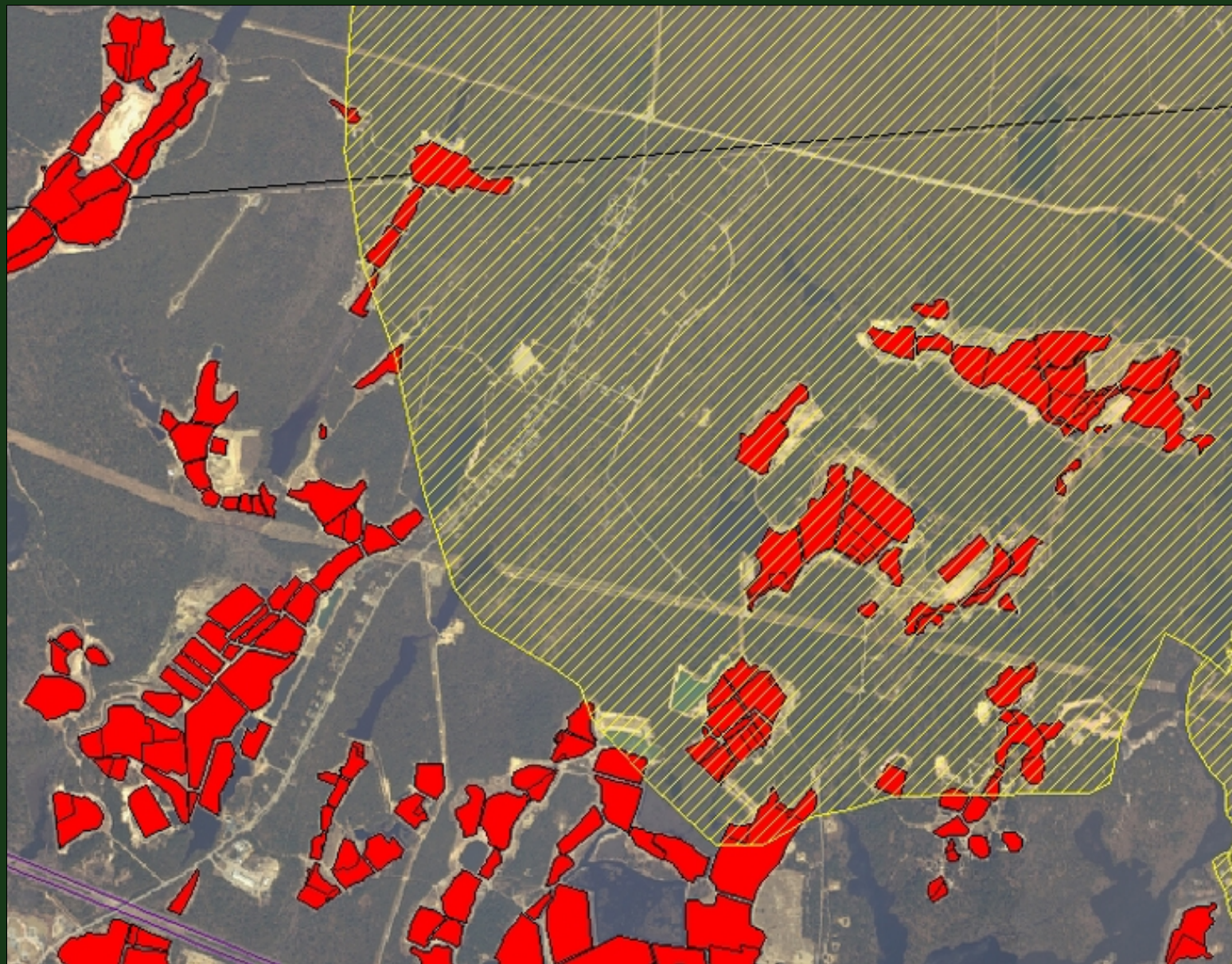
[Middleborough](#)

[Wareham](#)





CCCGA Web Site Maps





CCCGA Web Site Maps

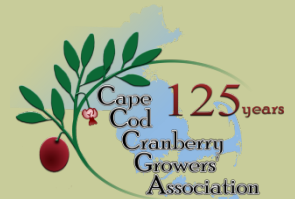


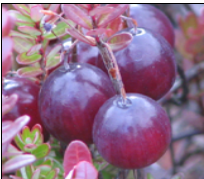


Are You Subject to the Regulations?

Step 1: Determine if your cranberry bog is in a Zone II area

Step 2: Check the cranberry pesticides on the groundwater protection list





Cranberry compounds on the Groundwater Protection List

EXCEPTIONS

- Chlorothalonil – Bravo, Echo, Equus, Chloronil

NO EXCEPTIONS (SORT OF)

- Methoxyfenozide – Intrepid
- Thiamethoxam – Actara



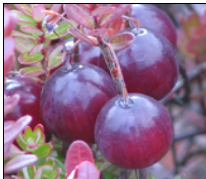


CHLOROTHALONIL

BRAVO, ECHO, EQUUS, CHLORONIL, CHLOROTHALONIL

You cannot use Chlorothalonil products in a Zone II area unless you can document that you have **tried alternatives** in the past, at this same location and they **failed**.





THIAMETHOXAM

ACTARA

This compound **CANNOT** be used in Zone II areas.

There are available alternatives.

(Avaunt in spring, Belay in summer)



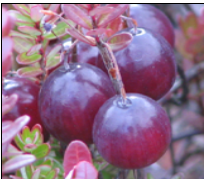


THIAMETHOXAM

ACTARA

HOWEVER, some handlers **prohibit** the use of **Belay**, which means you have **no alternative** for second generation weevil and can use Actara for **summer weevil populations only!**





METHOXYFENOZIDE

INTREPID

This compound **CANNOT** be used in Zone II areas.

There are available alternatives (Confirm, Delegate, Spintor).





METHOXYFENOZIDE

INTREPID

Note: There are **SPECIAL** cases where use may be allowed for **black-headed fireworm infestations during bloom** – you **MUST** contact the Cranberry Station before proceeding.



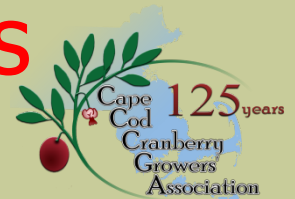


Are You Subject to the Regulations?

Step 1: Determine if your cranberry bog is in a Zone II area

Step 2: Check the cranberry pesticides on the groundwater protection list

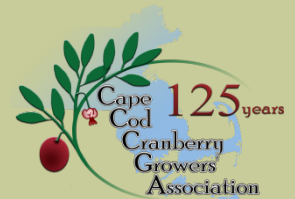
Step 3: **Requirements for existing producing cranberry bogs**





Requirements for Producing Bogs

- >50% foliar coverage
- No viable alternatives for the pesticide
- IPM plan from MDAR approved sources
 - 2013 Cranberry Chart Book
 - UMass Extension IPM fact sheets
- IPM program specific to GP regs
- Support letter from UMass Extension and/or relevant section from Chart Book
- Documentation that past alternatives failed

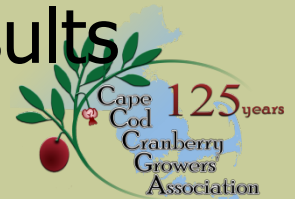




Example

Can I use Bravo?

- Is it an established bog?
- Use of Cranberry Chart Book/Fact Sheets
- IPM Program
- Past Fungicide Alternatives Failed
- Failure = >3% rot
- Document Failures (Harvest Receipts, IPM Records, etc.)
- History of Upright Dieback w/poor results using alternatives





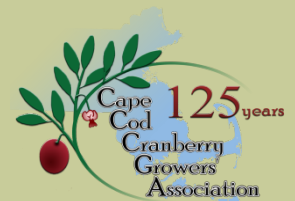
Requirements for New Plantings

Step 1: Determine if your cranberry bog is in a Zone II area

Step 2: Check the cranberry pesticides on the groundwater protection list

Step 3: Requirements for existing producing cranberry bogs

Step 4: **Requirements for new plantings**

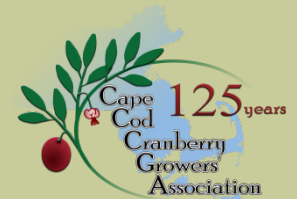




Requirements for New Plantings

For a pesticide product which is soil applied or applied to an area with less than 50% foliar ground cover

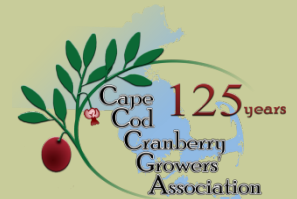
- There is no viable alternative for the use of the pesticides on the Groundwater Protection List
- A Pesticide Management Plan (PMP) for that use pattern has been approved by MDAR. A PMP is developed specifically for new plantings in a Zone II area.





PMP Approval Process

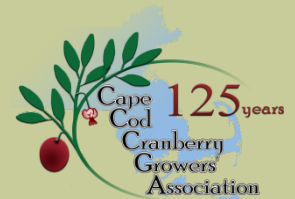
- MDAR, MassDEP and the Department of Public Health will review the plan
- MDAR must respond within 60 days





PMP Approval Process

- **Criteria:**
- The anticipated use site is not a highly vulnerable site
- There is unlikely to be an unreasonable adverse effect on the environment
- There is no viable alternative control method
- The product has not been detected as a result of a groundwater monitoring program





Are You Subject to the Regulations?

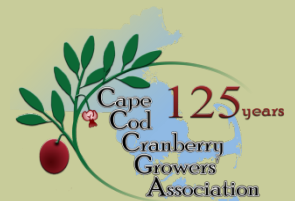
Step 1: Determine if your cranberry bog is in a Zone II area

Step 2: Check the cranberry pesticides on the groundwater protection list

Step 3: Requirements for existing producing cranberry bogs

Step 4: Requirements for new plantings

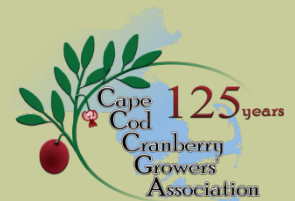
Step 5: Submission form requirements





Submission Form Requirements

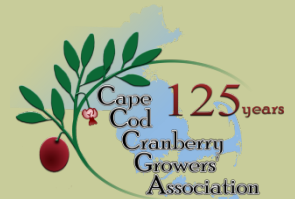
- MDAR must be notified of any applications of a product on the Groundwater Protection List **within 10 days of the end of each month.**
- Include all applications made during that month
- Do not include chemicals that are not on Groundwater Protection List
- May use one form to report multiple applications that occurred in the same month





Submission Form Requirements

- MDAR Web Site
(<http://www.mass.gov/eea/agencies/agr/pesticides/cranberry-grower-guidance.html>)
- CCCGA Web Site
(www.cranberries.org/growers/alerts_zone2.html)
- BOGS Online Grower System



HAPPY BREAK



**BOSTON
BRUINS
HOCKEY**

BOSTONBRUINS.COM






Winter Meeting Presentations

CCCGA Winter Meeting & Trade Show Presentations


2013 Winter Meeting Presentations (in order of appearance)

[A National Perspective on Issues Impacting Agriculture](#) 

Rebeckah Adcock, Senior Director, Government Affairs, CropLife America

[Resistance Management in Cranberries](#) 

Jeff Zelna, Syngenta Crop Protection

[BMPs of Tank Mixing Ag Chemicals](#) 


Gregory Comeau NY/ New England Sales Rep. Dow AgroSciences

[Nutrient Management and Water Quality in the Chesapeake Bay Region](#) 

Peter Kleinman, Ph.D., Research Soil Scientist/Research Leader, USDA-ARS

[BMP for Handling/Transporting Chemicals](#) 

Taryn LaScola, Pesticide Inspector, Crop & Pest Services, MDAR

[Overview of the Quebec Cranberry Industry](#) 


Kevin Connolly, General Manager of L&S Cranberry LP and Quebec Cranberry Association (APCQ) Board Member

[CMC Overview and Cranberry Outlook](#) 

Scott Soares, Executive Director, Cranberry Marketing Committee

[Flooding Options for Pest Management](#) 

Carolyn DeMoranville, Director, UMass Cranberry Station

[BOGS Online Record Keeping: User Experiences and Tutorial](#) 

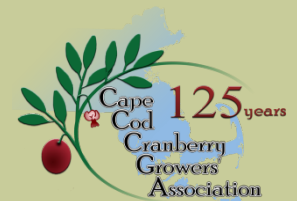
Brian Wick, CCCGA





Winter Meeting Presentations

[www.cranberries.org/growers/
winter_meeting.html](http://www.cranberries.org/growers/winter_meeting.html)





BOGS: Online Grower System



A RECORD-KEEPING AND PEST MANAGEMENT TOOL



What is BOGS?

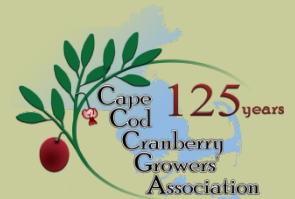
- Internet-Based Application
- Record Keeping Program
- Yearly Subscription
- Keep Records in One Place
- Designed to be Easy to Use
- Stay in Compliance





Features

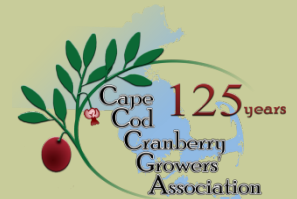
- Pesticides & Fertilizer Input
- Create Work Orders
- Submit Handler/State Pesticide Use Reports
- Contains IPM Tool(s)
- Track Horticultural Activities

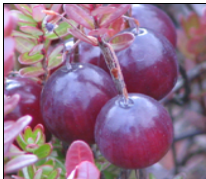




Features

- Handler Pesticide Restrictions
- EPA Numbers
- PHI, REI, etc.
- Maximum Rates, Maximum Applications
- Identify Insect Pests
- Compare Control Options





BOGS Home Page



Grower, Contract, Bog & People Management

Enter all of your contact information here. Manage worker accounts and pesticide applicators. Setup your bog, include individual sections, acreage, variety, pump systems and Zone II information.

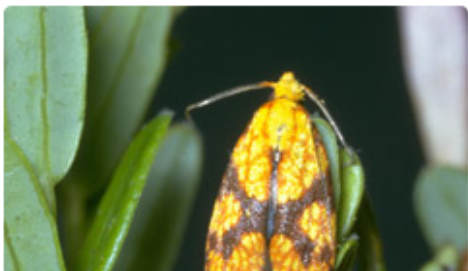
↻ Enter



Record Keeping Program

The Record Keeping Program is where you go to enter all of your inputs and create accompanying reports. Inputs include pesticides, fertilizers, IPM reports, tissue and soil tests, sanding amounts, water use and delivery information. Setup work orders to determine what pesticides you are planning on applying. Calculate your fertilizer nitrogen and phosphorous rates. Email your handler pesticide use reports, Zone II reports and more.

↻ Enter



Interactive Insect Management Program

This is the UMass Cranberry Chart Book in an online format. Use it to help identify insect pests on your bogs and be given options for how to treat them - including chemical and cultural.

↻ Enter

Interactive Insect Management

BOGS: INTERACTIVE MANAGEMENT PROGRAM

BOGS Home

Insect Management Program

Identify Insect

I know the insect associated with the problem.

Choose Insect:

Black vine weevil

Continue

Identify the insect associated with the problem.

What time of year is it?

April May Early June July August Don't Know

What is the average size of the sampled larvae?

1/6" 1/3" 2/3" 1" Don't Know

What color is the caterpillar?

green yellow brown black purple Don't Know

Interactive Insect Management



BOGS: INTERACTIVE MANAGEMENT PROGRAM

[BOGS Home](#)

[Insect Management Program](#)

Identify Insect Results

More than one insect was found for the answered questions from the previous section. Please choose an insect to modify your answers.

- Black-headed fireworm
- Blossomworm
- Brown spanworm
- Cranberry fruitworm
- Cranberry sawfly
- Cranberry weevil
- False armyworm
- Great cranberry spanworm
- Green spanworm
- Gypsy moth
- Humped green fruitworm
- Sparganothis fruitworm
- Winter moth
- Yellow headed fireworm

[Continue](#)



Interactive Insect Management

Identify Treatment

Insect: Black-headed fireworm

Is your chemigation rinse time less than 6 minutes?

Yes ▾

Do you have a pesticide license?

yes ▾

Are you interested in flood options?

yes ▾

Is the bog in a Zone II (groundwater protection) area?

no ▾

Are you interested in compounds with lowest risk on non-targets?

no ▾

Are there weevil over threshold in your sweep counts?

no ▾

Continue





Interactive Insect Management

Identify Treatment Results

Insect: Black-headed fireworm

Option Not an Option Answer Questions

Cultural Choices

Sort By:
Efficacy

May Re-flood Efficacy Bees Fish Humans Groundwater

- Hide Questions

Can you hold a short duration flood?

Yes No

Chemical Choices

Sort By:
Efficacy

Diazinon 50W Efficacy Bees Fish Humans Groundwater

- Hide Questions

Can the water be held for 3 days?

Yes No

Can the 5 day re-entry interval be observed?

















































Yes No





Interactive Insect Management

Chemical Choices

 Diazinon 50W	 Efficacy	 Bees	 Fish	 Humans	 Groundwater
 Avaunt	 Efficacy	 Bees	 Fish	 Humans	 Groundwater
 Delegate WG	 Efficacy	 Bees	 Fish	 Humans	 Groundwater
 Diazinon AG600 WBC	 Efficacy	 Bees	 Fish	 Humans	 Groundwater
 Diazinon AG500	 Efficacy	 Bees	 Fish	 Humans	 Groundwater
 Orthene 75S	 Efficacy	 Bees	 Fish	 Humans	 Groundwater
 Orthene 75WSP	 Efficacy	 Bees	 Fish	 Humans	 Groundwater
 Orthene 97	 Efficacy	 Bees	 Fish	 Humans	 Groundwater



Interactive Insect Management



Delegate WG



Efficacy



Bees



Fish



Humans



Groundwater

Will this application result in greater than 19.5 oz applied per site per season?

Yes No

then you may use Delegate. However if you have already used Delegate once or twice this season, then it is strongly advised to use an insecticide from another resistance grouping.

Has it been 7 days since your last Delegate application?

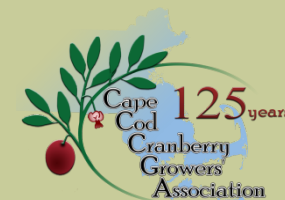
Yes No

then you may use Delegate again. However, it is strongly advised to use an insecticide from another resistance grouping.

Is your chemigation system rinse time under 8 minutes?

Yes No

then Delegate is a good option





Interactive Insect Management



Diazinon 50W



Efficacy



Bees



Fish



Humans



Groundwater



Avaunt



Efficacy



Bees



Fish



Humans



Groundwater



Delegate WG



Efficacy



Bees



Fish



Humans



Groundwater



Diazinon AG600 WBC



Efficacy



Bees



Fish



Humans



Groundwater

Can the water be held for 3 days?

Yes No

then you cannot use Diazinon to manage your insect pests. It is required to hold the water for 3 days after application.

Can the 5 day re-entry interval be observed?

Yes No





BOGS: Online Grower System



A RECORD-KEEPING AND PEST MANAGEMENT TOOL





Regulatory News

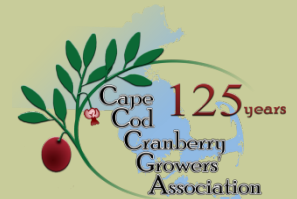




Regulatory News

- New EPA Regulation
- Fumigant Rules
- **Basamid & Vapam**

- Need to have training before purchasing
- Buffer Zones, Restricted Areas, Notifications, Postings, REI, Management Plans & More!



DONE!

