State of the state update: Invasive terrestrial and wetland plants

Nancy Olmstead, Invasive Plant Biologist
DACF, Maine Natural Areas Program

MISN Annual Meeting
March 16, 2018

maine DEPARTMENT OF Agriculture Conservation & Forestry

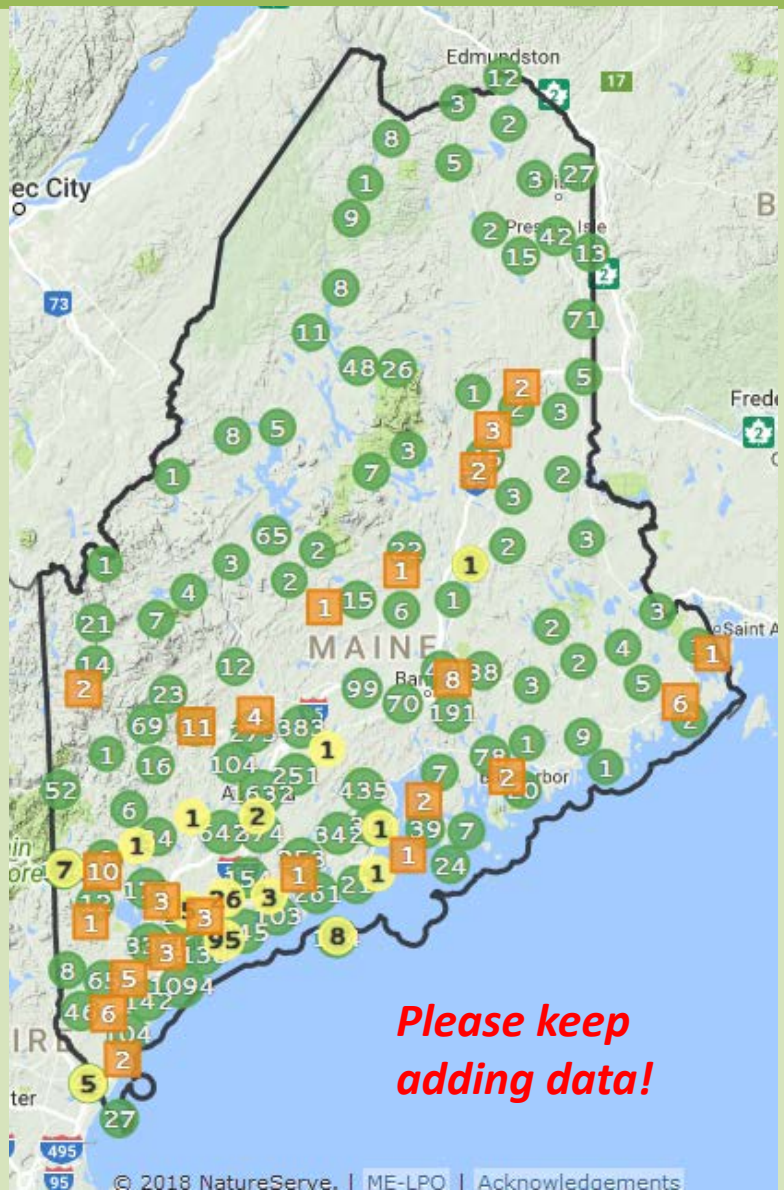
iMapInvasives online mapping tool

Growing by leaps and bounds!

Terrestrial & wetland plants	1/2016	1/2018
Observations	~4,000	~10,880
Species	49	65
Surveys	101	325
Treatments	81	221

iMapInvasives

Sharing information for strategic management



NRCS CIG project with SWCDs on farms & woodlots in Knox, Lincoln, Kennebec counties

- Provided maps & prioritized management recommendations for 40 properties, ~7,000 acres
- Refer to NRCS EQIP competitive funding
- Spread awareness to agricultural community
- Next steps – CIG
- Parallel steps – proposal with MFS for family forests and town forests

maine Department of Agriculture Conservation & Forestry

Maine Outdoor Heritage Fund

NRCS

Knox-Lincoln Soil & Water Conservation District
Conserving land & water resources

Kennebec County Soil & Water Conservation District

Research project with Maine DOT

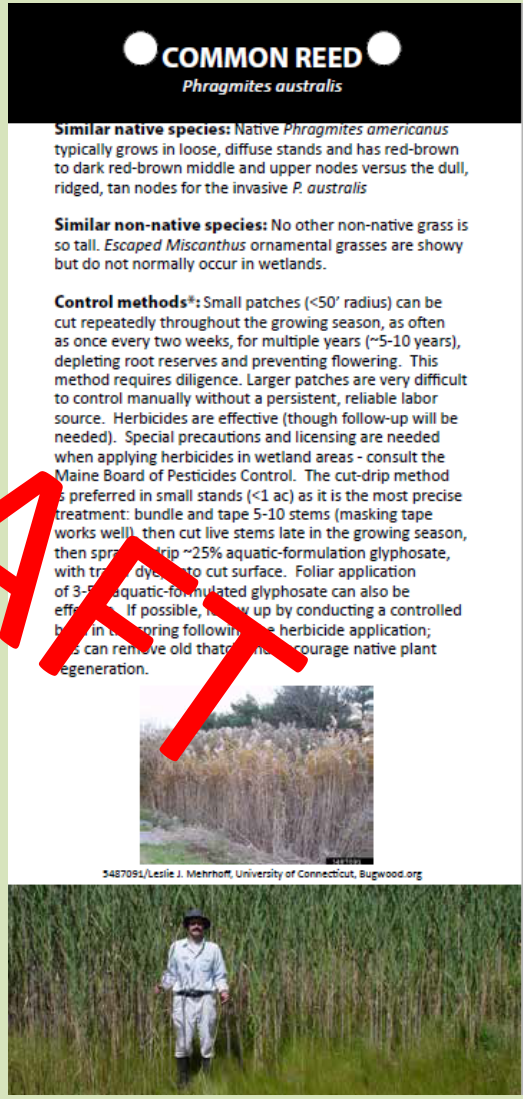
- Better understand invasive plant distribution
- Generate management recommendations for invasive plants adjacent to priority natural areas
- Provide invasive plant trainings for DOT vegetation managers
- Create BMPs for preventing spread of invasive plants
- Identify native plants thriving in roadsides

2017 - Invasive Plant Strike Team for state lands

- 3 MFS Student Interns in partnership with UMO & Colby
- New invasive plant surveys
- Provided manual and herbicide control for small infestations
- Followed up on previous contractor treatments
- 2018 plans

Maine Invasive Plant Field Guide – *almost done*!

- Essential ID and control information for 44 species
- Waterproof, small format
- Working with designer at Maine DOT
- Selection of printer via state bid process
- In hand Summer 2018
- Maine Woodland Owners
- Funding from US EPA, MOHF, Maine DOT, DACF



Review in progress: Advisory List of invasive plants

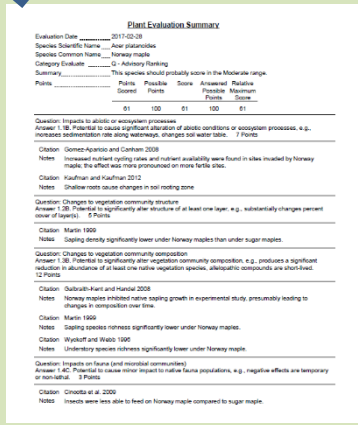
ADVISORY LIST:

- Non-regulatory list maintained by MNAP with review from TIPSAC
- Goal: provide information to land managers on which plants are most harmful, in which habitats

1. Reviewed other states' invasive plant lists, gathered TIPSAC suggestions

2. List of plants to review

3. Reviewed scientific literature to evaluate ecological impacts and biological traits


Plant Evaluation Summary

Evaluation Date _____ 2017-02-09
Species Scientific Name _____ Acer platanoides
Species Common Name _____ Norway maple
Category Evaluate _____ Q - Advisory Ranking
Summary _____ This species should probably score in the Moderate range.

Points	Points Scored	Possible Points	Score	Answered Possible Points	Relative Maximum Score
	61	100	61	100	61

Question: Impacts to abiotic or ecosystem processes
Answer: 1.1B. Potential to cause significant alteration of abiotic conditions or ecosystem processes, e.g., increases sedimentation rate along waterways, changes soil water table. 7 Points

Citation: Gomez-Aparicio and Canham 2008
Notes: Increased nutrient cycling rates and nutrient availability were found in sites invaded by Norway maple; the effect was more pronounced on more fertile sites.

Citation: Kaufman and Kaufman 2012
Notes: Shallow roots cause changes in soil rooting zone

Question: Changes to vegetation community structure
Answer: 1.2B. Potential to significantly alter structure of at least one layer, e.g., substantially changes percent cover of layer(s). 5 Points

Citation: Martin 1999
Notes: Sapling density significantly lower under Norway maples than under sugar maples.

Question: Changes to vegetation community composition
Answer: 1.3B. Potential to significantly alter vegetation community composition, e.g., produces a significant reduction in abundance of at least one native vegetation species, allelopathic compounds are short-lived. 12 Points

Citation: Gulbraith-Kent and Handel 2008
Notes: Norway maples inhibited native sapling growth in experimental study, presumably leading to changes in composition over time.

Citation: Martin 1999
Notes: Sapling species richness significantly lower under Norway maples.

Citation: Wyckoff and Webb 1996
Notes: Understory species richness significantly lower under Norway maple.

Question: Impacts on fauna (and microbial communities)
Answer: 1.4C. Potential to cause minor impact to native fauna populations, e.g., negative effects are temporary or non-lethal. 3 Points

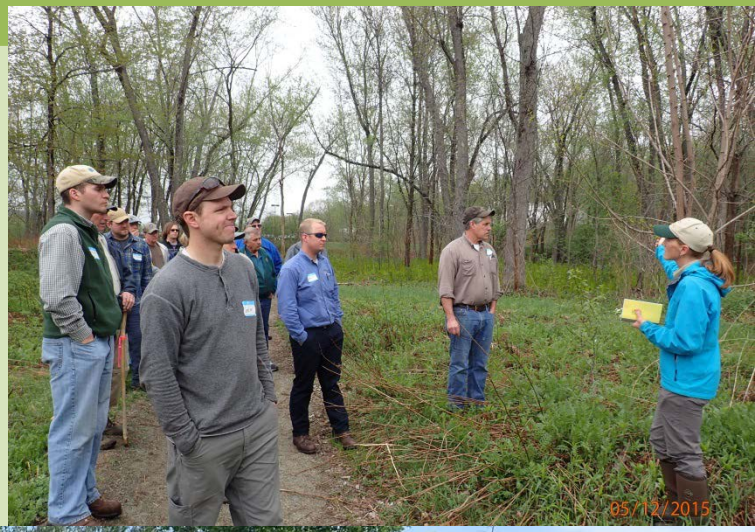
Citation: Cinnotta et al. 2000
Notes: Insects were less able to feed on Norway maple compared to sugar maple.

4. Peer review of results by TIPSAC, incorporate feedback, finalize rankings.

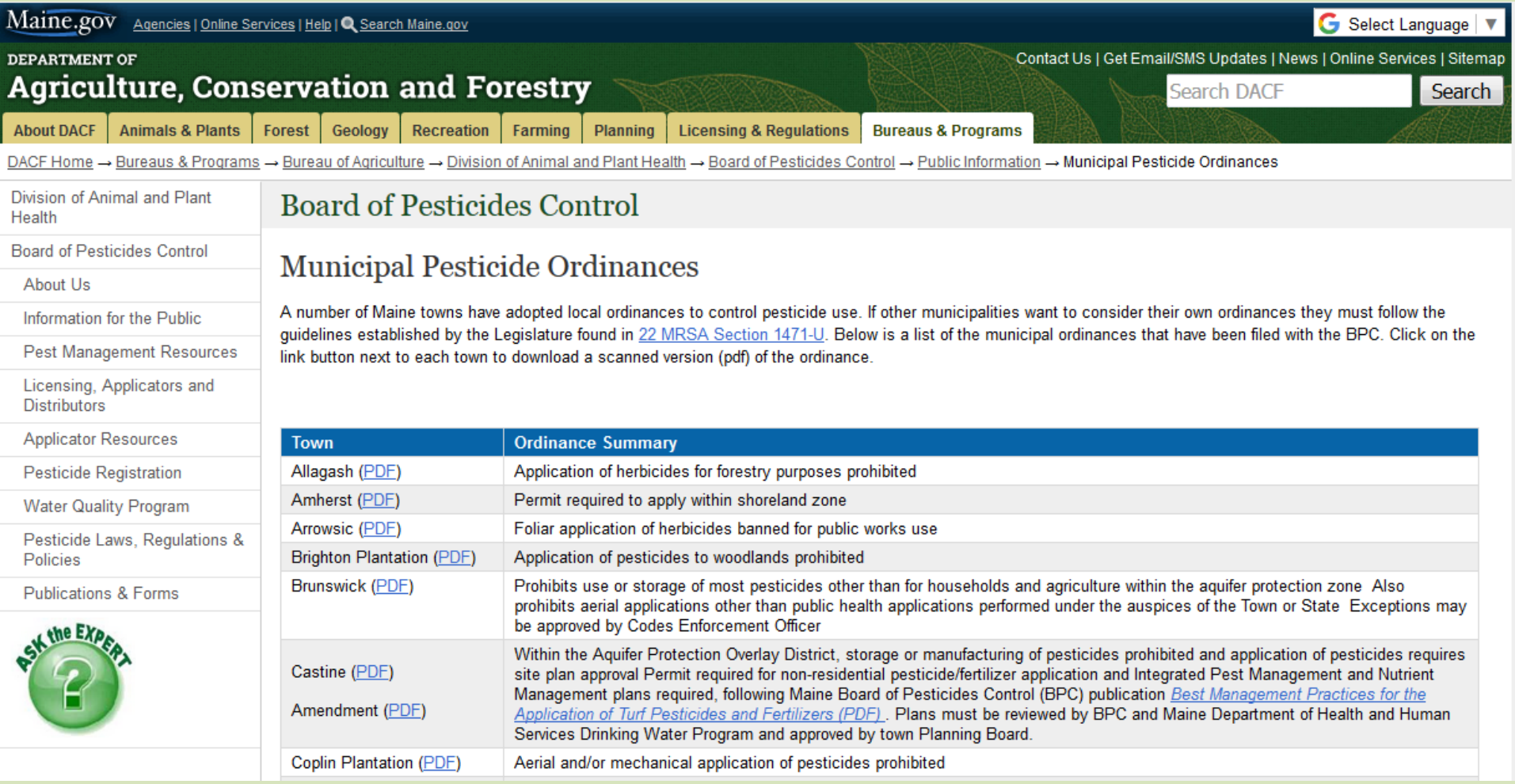
5. Publish revised Advisory List with invasiveness ranking, habitats threatened, etc.
ON TRACK FOR SUMMER 2018

Awareness-raising: trainings/workshops

- 90th presentation given January 2018!
- Foresters & other natural resource professionals
- Landowners
- Road and utility staff
- Garden clubs
- Farmers
- Students
- General public



Recent town pesticide ordinances



Maine.gov Agencies | Online Services | Help | Search Maine.gov

Select Language

DEPARTMENT OF
Agriculture, Conservation and Forestry

Contact Us | Get Email/SMS Updates | News | Online Services | Sitemap

Search DACF Search

About DACF | Animals & Plants | Forest | Geology | Recreation | Farming | Planning | Licensing & Regulations | Bureaus & Programs

DACF Home → Bureaus & Programs → Bureau of Agriculture → Division of Animal and Plant Health → Board of Pesticides Control → Public Information → Municipal Pesticide Ordinances

- Division of Animal and Plant Health
- Board of Pesticides Control
  - About Us
  - Information for the Public
  - Pest Management Resources
  - Licensing, Applicators and Distributors
  - Applicator Resources
  - Pesticide Registration
  - Water Quality Program
  - Pesticide Laws, Regulations & Policies
  - Publications & Forms

ASK the EXPERT

Board of Pesticides Control

Municipal Pesticide Ordinances

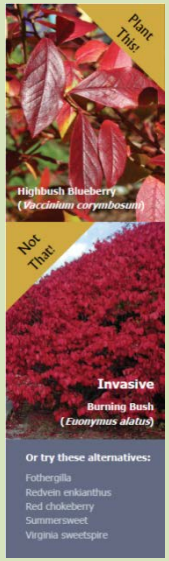
A number of Maine towns have adopted local ordinances to control pesticide use. If other municipalities want to consider their own ordinances they must follow the guidelines established by the Legislature found in 22 MRSA Section 1471-U. Below is a list of the municipal ordinances that have been filed with the BPC. Click on the link button next to each town to download a scanned version (pdf) of the ordinance.

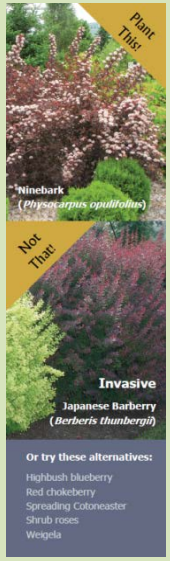
Town	Ordinance Summary
Allagash (PDF)	Application of herbicides for forestry purposes prohibited
Amherst (PDF)	Permit required to apply within shoreland zone
Arrowsic (PDF)	Foliar application of herbicides banned for public works use
Brighton Plantation (PDF)	Application of pesticides to woodlands prohibited
Brunswick (PDF)	Prohibits use or storage of most pesticides other than for households and agriculture within the aquifer protection zone Also prohibits aerial applications other than public health applications performed under the auspices of the Town or State Exceptions may be approved by Codes Enforcement Officer
Castine (PDF) Amendment (PDF)	Within the Aquifer Protection Overlay District, storage or manufacturing of pesticides prohibited and application of pesticides requires site plan approval Permit required for non-residential pesticide/fertilizer application and Integrated Pest Management and Nutrient Management plans required, following Maine Board of Pesticides Control (BPC) publication *Best Management Practices for the Application of Turf Pesticides and Fertilizers (PDF)*. Plans must be reviewed by BPC and Maine Department of Health and Human Services Drinking Water Program and approved by town Planning Board.
Coplin Plantation (PDF)	Aerial and/or mechanical application of pesticides prohibited

DACF Bureau of Agriculture, Horticulture Program

Do not sell list in effect 1/1/2018

- Outreach provided
- Warnings and stop sale orders if plants found for sale
- Fines for continued sale
- Challenge: many cultivars and hybrids are sold under numerous names





DACF Bureau of Agriculture, Horticulture Program

Do not sell list in effect 1/1/2018

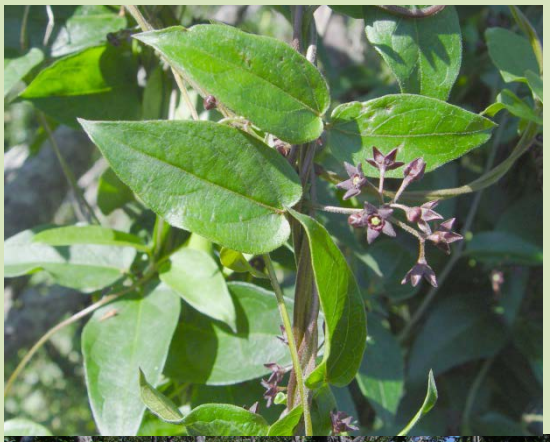
- Outreach provided
- Warnings and stop sale orders if plants found for sale
- Fines for continued sale
- Challenge: many cultivars and hybrids are sold under numerous names

Example: 40+ Norway maple cultivars/hybrids

Goldsworth Purple	Alberta park
Greenlace	Almira
Jades Glen	Aureo-marginatum
Laciniatum	Cavalier
Lamis Crystal (Lamis)	Charles F Irish
Lorbergii	Cleveland
Medallion (Medzan)	Columnare
Olmsted	Crimson King
Oregon Pride	Crimson Sentry
Parkway	Deborah
Princeton Gold	Dissectum
Royal Red	Drummondi
Schwedleri	Easy Street (Ezeste)
Stand Fast	Emerald Lustre (Pond)
Summershade	Emerald Queen
Superform	Erectum
Walderseei	Faasen's Black
Variegatum	Fairview
Globosum	Crimson Sunset (JFS-KW202)
Pacific Sunset (Warrenred)	Norwegian Sunset (keithsform)

Ogunquit Marginal Way Committee
Possible Black swallowwort biocontrol trials

Black swallowwort
Cynanchum louisae



URI Biological Control lab
Richard Casagrande & students,
Lisa Tewksbury, Lab Manager

Hypena opulenta

Not a silver bullet

Ogunquit Marginal Way Committee
Possible Black swallowwort biocontrol trials

RI release site
Monitoring protocols

Needs if approved:

- Suggestions for labeling, security for tent
- Financial support for equipment and purchase of the caterpillars from URI

THANK YOU! …. QUESTIONS?

Nancy Olmstead

Nancy.olmstead@maine.gov

287-8046