



THE MAINE CHAPTER OF THE WILDLIFE SOCIETY

THE MAINE WILDLIFER



WINTER 2015

IMPACTS OF INVASIVE PLANTS ON WILDLIFE

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Land managers have long been concerned about the effects of invasive plants on Maine’s forests, wetlands, and waterways. Invasive plants are problematic in the landscape as they typically lack natural predators, diseases, and other pathogens that keep them in check in their native habitats. They also have competitive adaptations, including early leaf-out, aggressive reproductive strategies (including a persistent seed bank), and efficient dispersal methods. Many invasive plants have direct impacts on native plants, including competition via shading, strangling, and/or weighing down mature overstory trees. Invasive plants can also affect our wildlife in numerous ways. Some invasive plants do not provide suitable breeding or foraging habitat for wildlife, some produce compounds harmful to wildlife, and some may not provide our wildlife with the nutrition they need.

Forested habitats cover much of Maine and provide a diversity of wildlife habitat, from early successional forests of birch and aspen to mature, closed-canopy eastern hemlock stands. Wildlife biologists are already on the watch for invasive forest insect pests such as hemlock woolly adelgid and emerald ash borer, but invasive plants that can compete in Maine’s forest understories are also a threat to these habitats. Invasive shrubs have crept into many southern and central Maine forests and woodlots. Shrubby honeysuckles (*Lonicera* species) are known to depress native plant cover and

richness, including tree seedling density, once honeysuckle cover exceeds about 30% (Woods 1993). Over time, this dominance can be expected to change the forest structure and composition on badly infested sites, with potential impacts to wildlife. American Robins suffered increased nest predation in shrubby honeysuckle compared to native shrubs and small trees, and Wood Thrushes suffered increased nest predation compared to all but one native plant (Schmidt and Whelan 1999). Finally, invasive forest plants may not provide quality food for wildlife. Fruit of a shrubby honeysuckle, *Lonicera maackii*, was low in protein and lipids, and therefore a poor food source (Ingold and Craycraft 1983).

Another forest invader with impacts on wildlife is common buckthorn, *Rhamnus cathartica*, a shade-tolerant shrub or small tree that reproduces abundantly (Knight et al. 2007). A secondary metabolite produced by common buckthorn, emodin, is present in most plant parts and can leech into soil and water in amphibian breeding pools and surrounding uplands. At concentrations found in field environments, emodin caused significant mortality and malformation of embryos in two frog species (Sacerdote and King 2014). Given that many amphibians are already in decline, this is troubling. Emodin is present in unripe common buckthorn fruit, leading to the epithet

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“cathartic” in the species name; eating unripe fruit caused vomiting or watery stools in birds and mice (Sherburne 1972 in Knight et al. 2007).

Over the long term, one of the most serious threats posed by invasive plants is the threat to successful forest regeneration. Plants such as shrubby honeysuckles, common buckthorn, and glossy false buckthorn (*Frangula alnus*) grow very well in the forest understory. In dense enough infestations, the combination of competition for light and preferential deer browse on native tree seedlings can inhibit forest tree regeneration. Foresters working in these environments must use caution to ensure the next generation’s forest resource. To ensure continuation of our forest resources, and the wildlife that depend on our native forests, control of invasive shrubs in forests should be a priority.

Wetlands are also key habitats for wildlife, and serve as spring and fall refueling locations for migratory birds, and breeding or foraging habitat for many species including birds, mammals, amphibians, and insects. Unfortunately, wetlands seem to be disproportionately susceptible to monoculture-forming invasive plants (Zedler and Kercher 2004). Two of the most well-known wetland invaders, purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis*), can form large stands which effectively exclude native plants and create habitat structure not suitable for many native wildlife species, including Nelson’s Sharp-tailed Sparrow and Saltmarsh Sparrow (Benoit



Common buckthorn invading the forest understory. Image courtesy of weedimages.org and Steve Katovich, USDA Forest Service.

& Askins 1999), which are both species of Special Concern in Maine. Purple loosestrife stands also have negative impacts on several waterfowl and songbird species, including Black Tern and Least Bittern (both state Endangered), and American Bittern and Marsh Wren (both state Species of Greatest Conservation Need) (Blossey et al. 2001). These species all avoided purple loosestrife stands for breeding and/or foraging, and in at least one case, a population explosion of purple loosestrife coincided with the local extinction of Black Terns.

There are many other ways that invasive plant species intersect with wildlife. In southern Maine, the complex issue of state Endangered New England Cottontail presents a challenge in reconciling critical habitat needs with a desire to restore

native plant species, since New England Cottontails are using invasive shrub thickets as habitat. Impacts of aquatic invasive plants on fish, aquatic macroinvertebrates, and other aquatic organisms are poorly studied. Thankfully, Maine lakes and rivers are not extensively infested with aquatic invasive plants. However, where dense infestations do occur, there

may be impacts on wildlife which we do not yet understand.

Because invasive plant control is a resource-intensive job, the best way to deal with invasive plants is to prevent them from becoming established or catch them very early in their invasion so that they can be eradicated before a seed bank has formed. In areas with special natural features, populations of rare animals, valuable timber,



Common reed growing into a salt marsh in southern Maine. Image courtesy of the Maine Natural Areas Program.

Table 1. Common invasive plants in Maine, by habitat type.

Upland Forests (species at least moderately shade tolerant)	Old Fields, Forest Edges	Wetlands
Asiatic bittersweet	Asiatic bittersweet	Common reed (<i>Phragmites</i>)
Common buckthorn	Autumn olive	Glossy false buckthorn
Glossy false buckthorn	Black locust	Purple loosertrife
Japanese barberry	Common buckthorn	
Norway maple	Glossy false buckthorn	
Shrubby honeysuckles	Multiflora rose	
Winged euonymus	Japanese barberry	
	Japanese knotweed (also in floodplain forests)	
	Norway maple	
	Shrubby honeysuckles	
	Winged euonymus	

beloved recreation areas, and the like, existing invasive plants should be controlled and/or suppressed to reduce their damage. In some cases, if there are only a few plants, and the surrounding area is not infested, eradication and vigilant monitoring can prevent re-infestation. But the best return on investment is prevention, followed by early detection and rapid response to new invasions.

You can help minimize negative effects of invasive plants by becoming familiar with plants that may infest the habitats where you work. Forest, wetland, grassland, shrubland, lake, or river – all have different invasive plant threats. If you can recognize the invasive plants likely to occur where you work, you can be on the lookout for them and address them before they become difficult and costly to control. Below (Table 1) are some common invasive plants arranged by habitat type, followed by species not yet widely distributed (or in some cases, not yet known to Maine) (Table 2). To familiarize yourself with these species, you can find factsheets on the Maine Natural Areas Program (MNAP) website, or you can use the website GoBotany to view many pictures. For aquatic plants, visit the Maine Volunteer Lake Monitoring Program's website.

MNAP has also launched a free invasive species mapping tool, iMapInvasives, which allows you to report infestations. The more we know about how these species are distributed in Maine, the more informed all land managers can be. For more information about invasive plants or iMapInvasives, please visit the MNAP website: www.maine.gov/dacf/mnap/features/invasive_plants/invasives.

References

- Benoit, L. K. and R. A. Askins. 1999. Impact of the spread of *Phragmites* on the distribution of birds in Connecticut tidal marshes. *Wetlands* 19(1): 194-208.
- Blossey, B., Skinner, L. C., and J. Taylor. 2001. Impact and management of purple loosestrife (*Lythrum salicaria*) in North America. *Biodiversity and Conservation* 10: 1787-1807.
- Ingold, J. L. and M. J. Craycraft. 1983. Avian frugivory on honeysuckle (*Lonicera*) in Southwestern Ohio in fall. *The Ohio Journal of Science* 83(5): 256-258.
- Knight, K. S., Kurylo, J. S., Endress, A. G., Stewart, R., and P. B. Reich. 2007. Ecology and ecosystem impacts of common buckthorn (*Rhamnus cathartica*): a review. *Biological Invasions* 9:925-937.

Sacerdote, A. B. and R. B. King. 2014. Direct effects of an invasive European buckthorn metabolite on embryo survival and development in *Xenopus laevis* and *Pseudacris triseriata*. *Journal of Herpetology* 48(1): 51-58.

Schmidt, K. A. and C. J. Whelan. 1999. Effects of exotic *Lonicera* and *Rhamnus* on songbird nest predation. *Conservation Biology* 13(6): 1502-1506.

Woods, K. D. 1993. Effects of invasion by *Lonicera tatarica* L. on herbs and tree seedlings in four New England forests. *American Midland Naturalist* 130: 62-74.

Zedler, J. B. and S. Kercher. 2004. Causes and consequences of invasive plants in wetlands: opportunities, opportunists, and outcomes. *Critical Reviews in Plant Sciences* 23(5): 431-452.

Table 2. Invasive plants not yet widely established in Maine—train your eye for these and eradicate any small populations.

Upland Forests (species at least moderately shade tolerant)	Old Fields, Forest Edges	Wetlands
Garlic mustard (also in floodplain forests) ¹	Black swallowwort ¹	Perennial pepperweed ² (a.k.a. tall pepperwort)
Japanese stiltgrass ²	Garlic mustard ¹	Ornamental jewelweed
Mile-a-minute weed ²	Japanese honeysuckle	Yellow iris
Porcelainberry	Kudzu ²	
Tree-of-heaven ²	Mile-a-minute weed ²	
	Porcelainberry	
	Tree-of-heaven ²	

¹ Locally abundant in southern Maine.

² Not known to be naturalized in Maine.



NATIONAL TWS—CONSERVATION AFFAIRS NETWORK

The Conservation Affairs Network enhances the effectiveness of our entire Society by increasing communication, collaboration, and coordination between our Chapters, Sections, and TWS headquarters. Establishing better connections among the individual units of TWS is part of a larger strategic effort that will propel our entire Society into the future as a stronger organization and make each of us more effective at achieving our mission.

The Conservation Affairs Network is being launched with an initial focus on wildlife policy issues at the national, regional, and local levels. Wildlife policy

issues are currently addressed by all levels of TWS. However, policy activities of individual units are rarely communicated to others in the Society. Given the many similarities in wildlife policy issues among regions, this is an area in which more communication and collaboration could immediately increase our individual and collective effectiveness by allowing us to learn from and assist each other.

Learn more and read past Conservation Affairs Network newsletters at:

<http://wildlife.org/policy-2/conservation-affairs-network/>

PRESIDENT’S MESSAGE BY LAUREN GILPATRICK

We’ve had quite a winter this year, with snow storms reminiscent of my Maine childhood. While deer hunting in late November I had the opportunity to see a Canada Lynx in Northern Maine and also do some great snow-tracking of otter, fisher, and marten. Since then, I’ve shoveled more snow from around my house than I thought was possible. I think it’s safe to say we’re mentally ready for woodcocks.

Snowy Owls continued to irrupt into Maine this winter. After four embarrassing years of searching for one of these amazing creatures, I finally had the opportunity to not only see them, but spend days trying to catch them. A number of owls that need to be relocated away from airports are being fitted with transmitters across the United States in an effort to track their winter movements. In collaboration with USDA- APHIS, Project SNOWstorm, and Biodiversity Research Institute, we are attempting to deploy the study’s first transmitters in Maine. For more information on Project SNOWstorm go to: <http://www.projectsnowstorm.org/>

There have been productive Chapter happenings this winter, including a technical writing workshop, and the first meeting of the Maine Bat Working Group (MBWG). At the Northeastern Bat Working Group Meeting in late January a group of over 20 concerned wildlife scientists, researchers, and managers gathered as the MBWG to discuss the many facets of Maine bat conservation, including how the upcoming Federal listing of the Northern Long-eared Bat will affect our

State. We also discussed strategies for education, outreach, and historical data compilation. The second meeting of the new working group will follow the annual spring meeting on Friday April 3rd in Augusta. We plan on continuing the discussion as the listing ruling will have been released the day before. I hope to see many of you there!



**Are you a true nature’s child? Were you BORN TO BE WILD?
Show your METWS member pride with a new-logo long-sleeve tee!**

Free METWS sticker included.

\$20 - sizes S, M, L, XL

To order contact Lauren Gilpatrick at LGILPATRICK@hotmail.com

MAINE TWS CHAPTER NEWS
joomla.wildlife.org/maine

FALL 2014 AWARDS DINNER



Members of the Penobscot Fly Fishers receiving the Award of Recognition



Don Katnik receiving the Award of Meritorious Service



Randy Cross receiving the Award of Professional Achievement



Members lining up to a homemade Maine meal of locally sourced foods



A great turnout for a fun gathering!

MAINE BAT WORKING GROUP

METWS is pleased to announce the formation of the Maine Bat Working Group. The group was voted in by members at the annual fall meeting in 2014, with all in favor. The group already has 25 participants and will be chaired by Dave Yates, Mammal Program Director at Biodiversity Research Institute.

The scope of the Maine Bat Working Group (MBWG) is the study and exchange of information relative to the conservation, biology, ecology, and management of bats and their habitats on state, federal, tribal, and private lands in Maine.

The goals of the MBWG are: 1) To promote the conservation and ecological awareness of bats in Maine; 2) provide a mechanism and forum by which current information regarding bat ecology, distribution, research techniques, public education, and technical assistance can be discussed and accessed; and 3) promote public awareness and support for bat conservation in Maine.

Strategies of the MBWG are:

1. Promote and facilitate research on bats and their habitats throughout the state of Maine.
2. Enhance knowledge and technical capabilities of commercial, municipal, state, federal, and private organizations and their personnel regarding the understanding of bats and their habitats in the state.
3. Facilitate standardized surveys and monitoring of resident and migrant bats in Maine to aid evaluations of species status.



4. Promote the conservation and management of bats in all phases of land and water development and management within the state.
5. Increase awareness and appreciation of bat conservation and management within the public and private sectors.
6. Provide information and technical assistance to Working Group members and others interested in bat conservation.
7. Facilitate communication and information exchange among members of the Working Group through e-mail discussions, meetings, symposia, workshops, newsletters, etc.
8. Participate / coordinate with the Northeast Bat Working Group (NEBWG) through attendance at annual meetings and workshops, and provide routine correspondence with NEBWG officers regarding activities of the Working Group.



**MAINE BAT
WORKING
GROUP**

Spring 2015 Meeting

*Friday April 3rd, 3:00 pm
Viles Arboretum, Augusta*

*Topic of Discussion:
Federal listing decisions and
what it means for Maine*

To participate in and sign up for emails from the Maine Bat Working Group contact Dave Yates at Dave.Yates@briloon.org



APPLY NOW FOR 2015 LEADERSHIP INSTITUTE

The Wildlife Society (TWS) is currently accepting applications for its Leadership Institute. The Institute's goal is to facilitate development of new leaders within TWS and the wildlife profession. The Institute will recruit 10-15 promising early-career professionals for a series of intensive activities and mentoring relationships. The focus will be on exposing the participants to the inner workings of TWS and increasing the number of active leaders in TWS and the wildlife profession.

From May until October, participants will engage in a series of activities to develop and expand their leadership skills. Institute members will attend the TWS Annual Conference in Winnipeg, Manitoba, Canada (October 16-21, 2015) and participate in various activities, including mentoring and leadership workshop sessions. The Institute is free, and participants receive free registration and a travel grant for the conference.

Participation in the Institute is geared toward early-career professionals, individuals 2 to 3 years out of school (either undergraduate or graduate school), currently working full-time in a wildlife professional position, and with demonstrated evidence of their leadership potential. Also eligible are more recent graduates who have shown strong evidence of their leadership potential and those who are working while concurrently pursuing a graduate degree. All applicants must be dues-paying members of TWS and a Chapter or Section of TWS. The selection committee will be seeking to create a diverse group with participants of varying gender, ethnic, and regional diversity. Selection will be based upon:

- An excellent academic record
- Demonstrated leadership capability or potential
- Demonstrated level of excellence in current position
- Commitment to and involvement in TWS

Preference will be given to individuals who are certified as Associate Wildlife Biologists® or Certified Wildlife Biologists®, or who have submitted such an application to TWS.

Applicants must submit (in one PDF, excluding online application form and recommendation letters):

Application form (available at <http://wildlife.org/LIApplication-2015>)

- Cover letter with evidence of leadership capacity or potential, such as previous leadership positions held in TWS Chapters or Student Chapters or in other organizations
- Résumé including a list of publications, awards, etc.
- Academic transcript/s
- 2 letters of recommendation from supervisors, academic advisors, professors, or others in leadership positions with whom you have worked and who are familiar with your leadership potential, commitment to TWS, and commitment to wildlife management and conservation
 - Letters should be emailed directly to leadership@wildlife.org, subject line "Leadership Institute Recommendation for [applicant last name]"
- An essay (1000 word limit), which succinctly summarizes (1) your concept of leadership, (2) your aspiration for your role within TWS in 5 to 10 years, and (3) why you are an ideal candidate for the Institute

Application deadline is March 27, 2015. Email all materials (except the application form, which is submitted online) in one PDF to: leadership@wildlife.org Visit www.wildlife.org for more information (click on 'Next Generation').

MEETINGS

Maine Chapter of The Wildlife Society

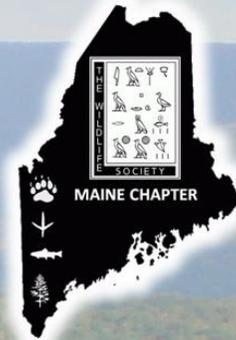
Annual Spring Meeting

ROAD ECOLOGY

Friday April 3rd, 2015

Viles Arboretum

153 Hospital Street, Augusta, ME



Business Meeting 9:30am

*Road Ecology Program
10:30 am and 1:30 pm*

Awards lunch: 12:00pm

*Maine Bat Working
Group Meeting: 3:00pm*

*Road Ecology Program
topics include:*

Moose reflectors

Habitat and vegetation

Wildlife crossing structures

Collisions/Roadkill



**SOCIETY OF WETLAND SCIENTISTS
INTERNATIONAL ANNUAL MEETING
MAY 31—JUNE 5, 2015, PROVIDENCE, RI**

<http://swsannualmeeting.org/>

**Changing Climate, Changing Wetlands: Climate
Impacts to Wetlands and the Role of Wetlands in
Climate Change Adaptation and Carbon Mitigation**

The Society of Wetland Scientists (SWS) is pleased to announce that the 2015 International Annual Meeting will be held in Providence, Rhode Island, U.S.A. This ground-breaking conference will examine the role that wetlands play in the global carbon cycle, how wetlands provide climate adaptation services, and how they are being impacted by our changing climate. Wetlands provide a variety of ecosystem services that protect communities from the impacts of climate change, and yet they are particularly vulnerable to some of the climate changes that are occurring. Over the course of

five days, leading researchers from around the world will present findings that represent our most current understanding of how wetlands function in the context of climate change. A number of field trips, both coastal and inland, will be offered in addition to a variety of workshops. Abstract submissions are now being accepted through Feb. 11, 2015. Visit the SWS meeting website for more information and to register.

If you or someone you know is interested in sponsoring or exhibiting at this exciting meeting, please contact Brittany Marsala Olson (bolson@sws.org).

MEETINGS



Founded in 1993, OFWIM is an international, professional association dedicated to managing and conserving natural resources through technology and information exchange. OFWIM's membership includes representatives from numerous state, federal, and non-profit fish and wildlife agencies/organizations that work with natural resource data. The annual OFWIM conference is a unique opportunity to learn about new technologies such as mobile data collection, cloud-based solutions, and web-mapping. It is a great way to connect with your colleagues in the "digital trenches" to share tools and expertise, form partnerships, or just vent to someone else who understands TechSpeak!

OFWIM ANNUAL CONFERENCE SEPTEMBER 27—OCTOBER 1, 2015 WILLIAMSBURG, VIRGINIA <http://www.ofwim.org>

Colonial Williamsburg is a beautiful, renowned living-history museum located between Richmond and Norfolk on I-64. The conference will be held at Williamsburg Woodlands Hotel & Suites within 45 minutes of three international airports. The conference registration includes two dinners and OFWIM offers several \$500 travel grants.



The Wildlife Society's Annual Conference is one of the largest gatherings of wildlife professionals, students and supporters in North America. More than 1,500 attendees gathered to learn, network and engage at our 2014 Annual Conference in Pittsburgh, PA. In 2015, you'll be able to experience TWS live in Canada! It's a rare opportunity since it's the first time the event has been held in Canada in a decade. You'll be able to choose from more than 400 learning opportunities on wildlife management, research and techniques through a wide variety of symposia, contributed papers, panel discussions, workshops, contributed posters and field

THE WILDLIFE SOCIETY 22ND ANNUAL CONFERENCE OCTOBER 17—21, 2015 WINNIPEG, MANITOBA, CANADA <http://wildlife.org/2015conference>

trips. And as there are more opportunities than you can possibly attend in person, your conference registration also includes post-conference access to the presentations so that you can continue to learn all year round from the convenience of your home or office. At our conference, wildlife professionals make new connections with colleagues in wildlife science, research, management, business and education. Students meet professionals who can provide insights on careers, job opportunities, current research and best practices, and who might even become mentors. Through more than 40 meetings, receptions and special events, you'll have plenty of opportunities to meet professionals with similar interests who can be valuable assets to your career growth and wildlife knowledge.

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