2018

State of Maine
Courtesy Boat Inspector Handbook

CBI Cam Dufour at Pleasant Pond on Memorial Day Weekend

Sources of help and information

Maine Department of Environmental Protection Invasive Aquatic Species Program –DEP staff: John McPhedran, Karen Hahnel, and Denise Blanchette - Bureau of Land and Water Quality, Maine Department of Environmental Protection, 17 State House Station, Augusta ME 04333. 207-287-7688, **milfoil@maine.gov.**

Web sites with information about invasive aquatic species:

- Maine DEP: **www.maine.gov/dep/water/invasives**.
- Lakes Environmental Association (LEA): **www.mainelakes.org.**
- Maine Department of Inland Fisheries and Wildlife: **www.eregulations.com/maine/fishing/**
- Maine Volunteer Lakes Monitoring Program: **www.mainevlmp.org**

Courtesy boat inspector workshops and supplies: Ziploc ID bags, T-shirts, infested lakes brochures.

- Lakes Environmental Association (LEA), Mary Jewett, 207-647-8580, **mary@leamaine.org**, **www.mainelakes.org**.

Workshops for:

- Invasive Plant Patrol; Hand Removal of Plants
- Conducting Lake Plant Surveys
- CBI Training

Contact Roberta Hill, 207-783-7733, Maine Volunteer Lake Monitoring Program, 24 Maple Hill Road, Auburn ME 04210. **vlmp@mainevlmp.org**.

Maine Public Safety Dispatch numbers – Use for an emergency or an immediate complaint:

- Augusta : 1-800-452-4664
- Bangor : 1-800-432-7381
- Gray: 1-800-228-0857
- Houlton: 1-800-924-2261

List of fishing tournaments: http://www.maine.gov/ifw/fishing-boating/fishing/bass-tournaments.html

Maine Warden Service: http://www.maine.gov/ifw/warden-service/

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Efforts to prevent, detect and manage invasive aquatic species are made possible by boater participation in the Maine Lake and River Protection sticker program.

Courtesy Boat Inspection Program

Invasive aquatic plants such as variable leaf and Eurasian water milfoil, hydrilla, and water chestnut are a serious threat to Maine's waters. These plants are so vigorous and propagate so fast that they can crowd out native plants, affect fish populations, and make swimming and boating difficult, if not impossible. When that happens, costly control measures are needed.

Many new infestations occur in shallow waters near boat access points, suggesting that invasive plants move from lake to lake on the boats and equipment of unsuspecting boaters. If people are the cause, they can also be the cure.

Up to now Maine's invasive aquatic species prevention focus has been on invasive plants and fish. Many of our neighboring states are dealing with invasive small-bodied animals such as spiny water flea, Asian clam, and zebra mussels. Maine's spread prevention program must expand to include the risk posed by these new threats.

The state has developed a program to reduce the risk of spreading invasive aquatic species (IAS) including plants, fish and small-bodied animals. It's the Courtesy Boat Inspection (CBI) Program, and it's our lakes' first line of defense. Inspectors educate boaters about IAS spread prevention and assist boaters with inspecting boats, trailers and gear and removing anything found.

The Maine Department of Environmental Protection (DEP) oversees and distributes grants to local CBI programs protecting their lakes from IAS. While DEP provides training, protocol, and funding, none of this prevention work can be done without the hard work of local residents.

Maine's 'Milfoil law'

The first bill involving invasive aquatic plants passed in 2000. Several related bills have passed since, including the sticker funding mechanism in 2001.

Funding for education, prevention, eradication and en¬forcement comes from the sale of stickers required for motorized boats used on inland waters. Failure to dis¬play the appropriate sticker (see Page 5) can result in a fine. MRSA Title 12, Sections 13056 and 13058.

Serious Consequences

It is illegal to transport ANY aquatic plant, native or non-native, on the outside of a vehicle, boat, trailer or equipment. Violations may result in fines up to $500, and $2,500 for subsequent violations (MRSA Title 38, Section 419-C).

Launching a boat carrying invasive aquatic plants, as defined in MRSA 38 Section 410-N, carries a more serious fine of between $500 and $5,000 (MRSA Title 12, Section 13068-A).

Courtesy Boat Inspectors do the following:

- Discuss with boaters how invasive aquatic species (IAS) spread and promote Clean, Drain, Dry message (below)
- Show boaters how to inspect boats and equipment for plant fragments and zebra/quagga mussels
- Ask boaters to drain bilge and live wells to reduce the spread of small-bodied animals like mussels and spiny water flea
- Ask boaters to dry boats and equipment between lakes if possible
- Urge boaters to inspect before and after every launch
- Explain to boater Maine law on transporting IAS
- Distribute the map of known invasive aquatic plant infestations in Maine

The Message: Clean, Drain, Dry

To prevent the spread of all organisms in Maine lakes, boaters should be aware of the problem and be instructed to remove all plants, animals and mud before boats are launched and after pulling out of a water body. To achieve this more comprehensive approach to spread prevention, inspectors are urged to practice and promote the Clean, Drain, Dry approach to IAS spread prevention.

Important note: inspections are still voluntary. Aside from laws regarding transporting plants and fish (summarized above), the Clean, Drain, Dry approach is not required but is recommended for improved invasive aquatic species spread prevention. Some northeast U.S. states require that boats be drained of all water before launching in another waterbody. While this is not state law in Maine yet, the threat of invasive fauna is real since some of these invasive animals are in neighboring states and Canada.

Clean: Encourage boater to inspect boat with you, demonstrating where to look for hitchhiking plants and other organisms. A visual inspection will reveal plant fragments and other debris anywhere on the outside of the boat, but especially on and behind propellers, license plate holders, rollers or 'bunks' that the boats ride on, the trailer frame, and any gear on the outside of the boat (see diagram on page 3).

Ask permission to check gear inside the boat – such as anchors and lines, chains, fishing tackle, the floor of the boat, and live wells.

Drain: Explain the importance of draining water from the boat and motor after removal from a waterbody to prevent the spread of small animals such as the invasive zebra and quagga mussels, Asian clam and water flea.

Ask the boater to drain the bilge, engine motor, live wells, and bait containers before leaving the ramp.

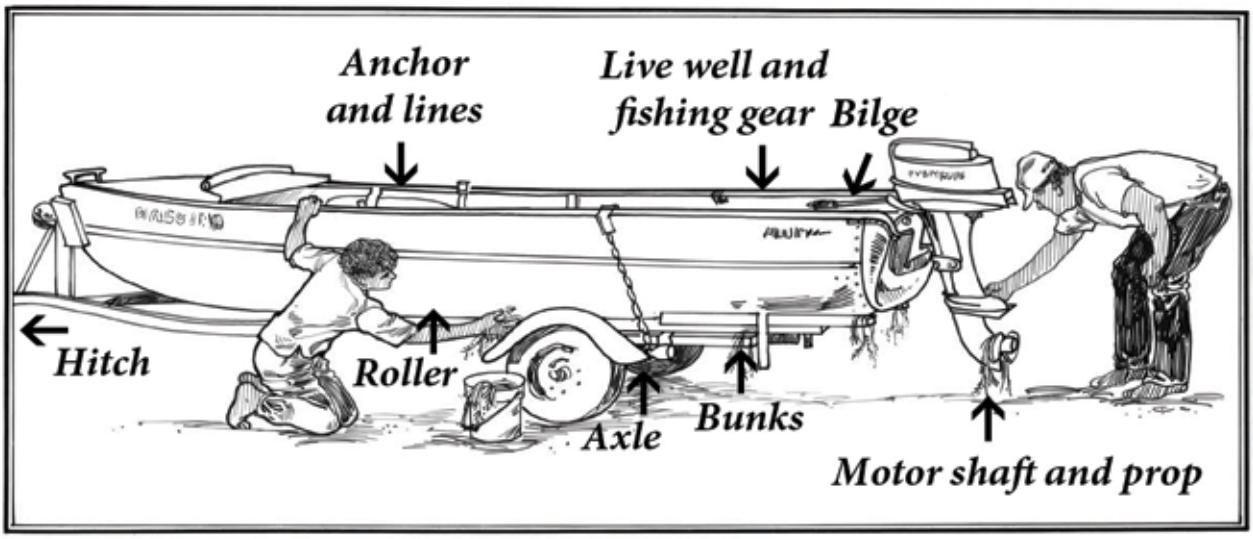
Wakeboard boats have ballast tanks which should also be drained before leaving the lake.

Check jet boats and personal watercraft (PWCs) intake grates. Ask them to run the engine 5-10 seconds to blow out excess water and vegetation from internal drive before leaving the water.

Dry: Encourage boater to dry the boat and equipment between use at different lakes. This is especially important if it came from a known zebra mussel or spiny waterflea infested water. Drying can be done manually with a towel or by allowing the boat and equipment to dry thoroughly between uses.

Additional Clean, Drain, Dry considerations:

- The inspector should always check trailered boats arriving to launch to be sure their bilge and live wells are drained (and ideally dry) before launching.
- If the last lake visited is from out of state, the inspector should ask if they drained and dried their boat before coming to Maine. If the answer is no, the inspector should respectfully ask the boater to drive away from the ramp and drain their boat before entering. Remember: the inspector cannot require the boater to do so. If a boat from outside Maine has visible mud or organisms on it, the inspector should respectfully ask them to visit a car wash or use a pressure washer to clean the boat and trailer. Many of these organisms can be removed using high pressure spray and most can be killed with very hot water (140˚ Fahrenheit). While it's often not possible, allowing a boat to dry completely between uses (for at least 5 days) will also ensure that organisms are dead.
- Upon leaving the lake, and after visually inspecting for plant fragments, the boater should be asked to park away from the ramp and drain all water from the bilge, motor, live well, etc. before continuing their trip.



Watercraft checkpoints: Look for hitchhiking plants anywhere on the boat and trailer where they could be caught by rough edges.

Follow these steps and ask boaters to do the same on their own:

- ✓ **Clean** off any mud, plants (even small fragments), and animals from boats, trailers and equipment.
- ✓ **Drain** boat, live well, engine and equipment away from water.
- ✓ **Dry** anything that comes into contact with water.
- ✓ **Never** leave waters with live fish, or release plants or animals into a body of water unless they came out of that body of water.

The Ideal Inspection

A courtesy boat inspector can — and should — do much more than help boaters inspect their boats, trailers and equipment. Each inspection also is an opportunity to create a change in boater behavior, so that he or she automatically conducts an inspection without relying on an inspector. It's also a chance to educate the boater about why inspections are so important. "CBIs need to engage boaters in discussion – have a dialogue – rather than to quietly inspect their boat without explaining the importance of the boater inspecting on their own," says John McPhedran of DEP's Invasive Aquatic Species Program.

See the box below for questions that can help "break the ice" and establish a dialogue with boaters. Begin with conversational questions which will provide informa¬tion about them as a boater, for example:

- So where are you from?
- Did you boat there?
- Are you visiting?
- Where else have you visited in Maine?
- Are you heading out fishing or just for a cruise?
- Did you know that plants that get caught on lines and anchors could be invasive and spread around the lake or to other lakes?

In addition to being familiar with the milfoil law, know how much money the milfoil sticker generates (about $1 million annually; 80 percent for DEP and 20 percent for the Department of Inland Fisheries and Wildlife). And be ready to talk about nearby or newly infested wa¬terbodies. Attempt to engage the boater and ask follow-up questions. You might be the first — perhaps the only — person to talk to a boater about protecting Maine's waters. Don't miss this chance to make a friend for your lake.

Approaching the boater

Smile and be friendly as you approach the boater in the staging area, before he or she is on the boat ramp. Avoid delaying boaters or causing a backup.

To instill a "self-inspection" ethic among boaters, invite boaters to get out of their vehicles and conduct the boat and trailer inspection WITH you. If a boater is reluctant to take the time, simply offer the known infestations brochure, and record whatever information you can.

Make a note to approach this same boater again as he or she is leaving the launch to conduct a complete survey and inspection at that time. Ideally, you will inspect each boat and trailer TWICE — entering and leaving the water.

Sample Script: "Good Morning / Afternoon. I am (a vol¬unteer) from _____. We are trying to prevent the spread of invasive plants such as milfoil and hydrilla in Maine lakes. The plants are spread from lake to lake when they become lodged on boats, gear and trailers. May I have just a few minutes of your time to give you some general information and to show you how to in¬spect for fragments? If you would walk around your boat with me, I can show you some areas to check for hitchhiking plants."

Transport of Fish

Legal baitfish and smelt may be transported alive. Excluding fish on the unrestricted species list (largely tropical fish), a person must have a valid stocking permit to keep and transport freshwater fish alive. Freshwater fish caught by anglers must be released alive or harvested and killed; however, those operating a permitted bass fishing tournament can temporarily keep fish alive while on the lake for which the permit was issued. For more information about invasive animals see pages 12-15.

Trouble by the Bucketful!

Please help us fight this serious problem by telling boaters:

- It is illegal to transport live with without a permit.
- It is illegal to dump unused baitfish into any waterway.
- There is a $10,000 fine for a conviction of illegal stocking.
- Always keep you ears and eyes open for those who are committing these senseless acts.

Black Crappie

There is a $2,000 reward for information leading to a conviction

Northern Pike

To report information about an illegal introduction please call:
1-800-ALERT-US (253-7887) - In-State
(207) 287-6057 - Out-of-State

# of trailers present upon shift arrival ____

2018 Maine Courtesy Boat Inspection Form

Check here if you encouraged self-inspection _____

Lake Name_____ **Ramp Name** _____ **Town** _____ V/P____

Date _____ **Shift Time: From**_____ **To**_____ **Inspector Name** _____ **Host Agen-**

Use Military Time

*Is the Plant Suspicious?

	If Motorized		Current Year's Sticker Present?	Previous Waterbody Visited For "Entering" inspections			Time of Inspection? Trailer, Boat, Motor		Any Plants Found?	Was the Plant Identified as Invasive?	Who Identified?
	State Abbr.	*Entire BOW #: alphanumeric boat registration #	Circle Y/N/NM (non-motorized)	Lake Name	Town	State		Military TIME	(Circle Y/N)		**see bottom of page
1			Yes No NM				Entering		Yes No	Yes No	
							Leaving		Yes No	Yes No	
2			Yes No NM				Entering		Yes No	Yes No	
							Leaving		Yes No	Yes No	
3			Yes No NM				Entering		Yes No	Yes No	
							Leaving		Yes No	Yes No	
4			Yes No NM				Entering		Yes No	Yes No	
							Leaving		Yes No	Yes No	
5			Yes No NM				Entering		Yes No	Yes No	
							Leaving		Yes No	Yes No	
6			Yes No NM				Entering		Yes No	Yes No	
							Leaving		Yes No	Yes No	
7			Yes No NM				Entering		Yes No	Yes No	
							Leaving		Yes No	Yes No	
8			Yes No NM				Entering		Yes No	Yes No	
							Leaving		Yes No	Yes No	
9			Yes No NM				Entering		Yes No	Yes No	
							Leaving		Yes No	Yes No	
10			Yes No NM				Entering		Yes No	Yes No	
							Leaving		Yes No	Yes No	

Comments:

DO NOT CHANGE THIS FORM!

1/2018

V/P: V=Volunteer inspector; P=Paid inspector *IMPORTANT— Record the entire boat's *bow* registration number.

****Invasive plant identification must be done by VLMP so send all suspicious plants to VLMP for identification. Keep Inspection Form until contacted by VLMP.**

The inspection form

The Inspection Form accommodates up to 10 inspections. It is important that each boat inspector has his/her own survey form. NO SHARING PLEASE!

Recording information on the inspection form

- Fill in the top two lines of the form completely. Failure to do so may render the entire form useless.
- Coordinators may want to fill in generic parts on these lines before photocopying a blank form.
- Be consistent when filling in the Launch Name/Location. This is important for data retrieval.
- Many of the columns can be filled in before you approach the boater.

Description of inspection form questions

If Motorized: This box is for recording the boat's state abbreviation and the entire alphanumeric **bow registration number** (see below), not the annual registration sticker number. Motorized boats include any boat with any type of motor including canoes with electric motors and personal watercraft. **Note:** Massachusetts boats use MS.

Sticker Present?: Circle "yes" if the boat displays the current years sticker (see right). The sticker color changes each year. This is also where you indicate if the boat is non-motorized by circling "NM". **You are encouraged to inspect non-motorized watercraft**. If "yes" or "no" is circled then it is understood that the boat is mortorized. It is important that one of these three options is circled.

The sticker reads "Stop Aquatic Hitchhikers -Preserve Maine Waters" and is physically attached to the Maine watercraft annual registration sticker. Owners of Maine-registered watercraft automatically pay the combined cost of the sticker ($10) and the annual registration when the boat is registered for use on inland waters.

Owners of motorized boats with out-of-state registration are required to purchase and affix a separate nonresident sticker (see right) annually. The cost is $20.

What does this mean for you, the CBI? For Maine-registered boats, look for the rectangular "Stop Aquatic Hitchhikers – Preserve Maine Waters" sticker attached to the boat's annual registration sticker (above). For non Maine-registered boats, look for a white, square sticker (above) with colored text matching the wording and color of the Maine sticker. This should be located beside the out-of-state bow registration number.

What if a Maine registered boat has the current annual registration but lacks the attached "Stop Aquatic Hitchhikers" sticker? Owners of Maine-registered watercraft used only in tidal waters may declare such use to their town clerk. The $10 fee will be deducted from the annual watercraft registration fee and the "Stop Aquatic Hitchhikers" sticker will be removed from the watercraft registration, since boats used exclusively in tidal waters do not require a sticker. But if tidal boaters later decide to boat on inland waters their municipal office can issue (for $10) a new Maine watercraft registration that includes the milfoil sticker.

What if the boat does not have the current year's registration and sticker? You do not have the authority to stop boaters from launching. However, you may inform them they risk a fine if a warden stops them. This is a good opportunity to explain where the money from the sale of the sticker goes.

Where can boaters buy a milfoil sticker in your town?
Contact the Department of Inland Fisheries and Wildlife: 207-287-8000
or Purchase online at https://www10.informe.org/webshop_ifw/?storeID=2

A key point to remember is that all the funds go to dedicated accounts at DEP and DIFW for preventing and managing invasive aquatic species. Eighty percent of the sticker funds go to DEP and twenty percent to DIFW. For more information on how the money is spent, see Pages 17-19.

Previous Waterbody Visited: This question is primarily for the inspector. It's very helpful to know if a boat came from an infested or out-of-state lake so extra precautions can be taken. Ask which body of water the boat was previously on. You also need to record the state where the lake is located (see the table below for the state abbreviations). **Note:** If you find a suspicious plant be sure to record the previous waterbody.

Boat Inspected at What Time?: We need to know whether the boater is potentially introducing plants into the lake or bringing them out. Record the time the boat entered or left the lake in the appropriate line.

Please use **military time** and use the same survey line for each individual boat if you see it twice (entering and leaving the lake). See the table to the right for converting to military time.

Any Plants Found?: If any aquatic plant is found, record a "yes." If you find a suspicious plant – one you believe might be invasive – you must send it in to the Volunteer Lake Monitoring Program (VLMP) for identification or turn it in to the local program coordinator, who will either confirm it is not invasive or send it in to the VLMP for positive identification. **Note:** Remember to record the entire boat bow identification number in the "If Motorized" field.

Converting to Military Time

Regular time	Military time	Regular time	Military time
Midnight	0	Noon	1200
1 a.m.	100	1 p.m.	1300
2 a.m.	200	2 p.m.	1400
3 a.m.	300	3 p.m.	1500
4 a.m.	400	4 p.m.	1600
5 a.m.	500	5 p.m.	1700
6 a.m.	600	6 p.m.	1800
7 a.m.	700	7 p.m.	1900
8 a.m.	800	8 p.m.	2000
9 a.m.	900	9 p.m.	2100
10 a.m.	1000	10 p.m.	2200
11 a.m.	1100	11 p.m.	2300

Was the Plant Identified as Invasive? Don't make your selection in this column until after a positive ID is made. **Note:** Only plants identified by VLMP as invasive will be recorded in the state database.

Who Identified the Plant?: Use this column to record the person and/or agency that identified the plant.

List places in your area where nonresident boaters can buy milfoil stickers.

1._____

2. _____

State abbreviations

Alabama AL
Alaska AK
Arizona AZ
Arkansas AR
California CA
Colorado CO
Connecticut CT
Delaware DE
District of Columbia DC
Florida FL
Georgia GA
Hawaii HI
Idaho ID
Illinois IL
Indiana IN
Iowa IA
Kansas KS
Kentucky KY
Louisiana LA
Maine ME
Maryland MD
Massachusetts MS
Michigan MI
Minnesota MN
Mississippi MS
Missouri MO
Montana MT
Nebraska NE
Nevada NV
New Hampshire NH
New Jersey NJ
New Mexico NM
New York NY
North Carolina NC
North Dakota ND
Ohio OH
Oklahoma OK
Oregon OR
Pennsylvania PA
Puerto Rico PR
Rhode Island RI
South Carolina SC
South Dakota SD
Tennessee TN
Texas TX
Utah UT
Vermont VT
Virginia VA
Washington WA
West Virginia WV
Wisconsin WI
Wyoming WY

Dealing with suspicious plant fragments

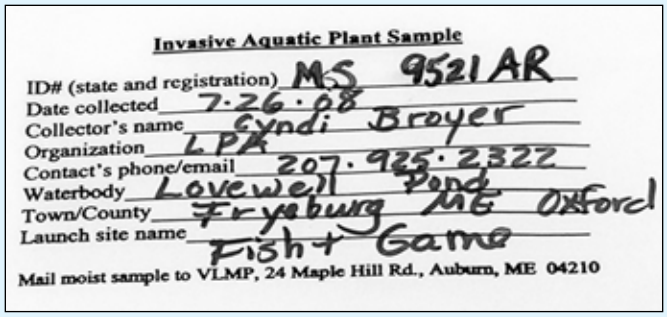
Use the color pictures of plants found on Pages 21-25 to help determine if a plant fragment is suspicious. Suspicious means: Is there any possible chance the plant is an invasive? If yes:

Label and package the sample according to protocol **being sure to record the entire boat bow registration number for the sample ID (see box at right).** Send the sample to the Volunteer Lake Monitoring Program (VLMP). Also please do the following:

- Hold the applicable survey form until contacted by VLMP, which will be within 72 hours of receipt of plant. Write the plant name on the bottom of the original inspection form. If ID takes longer than this, explain why in the comment section and submit the inspection form.
- Fill in the "Was the Plant Identified as Invasive?" column to indicate if the plant was identified as invasive or not.
- Fill in the "Who Identified?" column to indicate who conducted the plant identification.
- Send the inspection forms to LEA and keep a copy for your records.

Variable Leaf Milfoil

Hydrilla



Preparing specimens for mailing

Keep the plant wet and cool; place it in the pre-labeled Ziploc bag provided to you at the beginning of the season. If the plant is delicate and/or flimsy, add enough water to the bag to cushion the plant and keep it wet.

If the plant is relatively sturdy, remove all air from the bag and seal. DO NOT wrap the plant in a wet paper towel or other absorbent material.

Using a waterproof marker, label the bag with the following information: Date; Collector's name; Waterbody; Town; Launch site location; Submitted by (person's name) and contact info; ID# (state abbreviation and **the boat's full registration number**) which should also be on the inspection form.

Make sure the bag is sealed tight and place it in a small box with enough packing material (crumpled newspaper works well) to prevent movement.

Mail the specimen on a Monday or Tuesday, to minimize the possibility of weekend delays. Please contact VLMP at (207) 783-7733 or vlmp@mainevlmp.org to let them know the specimen is on its way.

Send packaged specimen to the following address:

Volunteer Lake Monitoring Program
24 Maple Hill Road
Auburn, Maine 04210

You will be contacted within 72 hours of receiving your plant sample. If the plant is invasive, the Maine Department of Environmental Protection will be notified. Remember to fill in the last two columns of the CBI Inspection Form once you learn if the plant specimen is invasive or not.

Personal Safety

Nothing is of greater importance or concern than your personal safety. Please observe the following guidelines when you are at a launch site:

- If you have a cell phone, take it with you to the boat launch site.
- Always back away from a potentially dangerous or violent situation. Volunteers are not enforcers of rules and should never jeopardize their own safety.
- If you are ever suspicious of someone (such as a loiterer or someone who is not boating), do not hesitate to leave the launch site. If you feel that a boat launch site is unsafe in any way, notify your coordinator or the host agency sponsoring inspections on your lake. If it's that dangerous to be there, report the condition to the local, county or state police and cease operations.
- Do not allow a confrontation to develop, no matter how strong you feel about the threat of invasive plants.

Courtesy Boat Inspectors at Roxbury Pond

Conduct at the launch site

Follow these few simple guidelines and both you and boaters will be comfortable.

- Always ask if boaters would mind answering a few questions and ask permission to inspect their boats with them.
- Always introduce yourself and say which organization you are working for and why you are at the launch site. Do not just approach a boater and begin asking questions immediately, as they might be confused about who you are and why they should give you their time.
- Wear a CBI T-shirt or other organization shirt if available. It helps promote your message and reassures boaters that they're being approached by someone involved in a legitimate project.
- Maintain a positive attitude and wish all boaters a good day, no matter how irritable they may seem.
- In an effort to be more attentive to boaters, stay on your feet until the boat launches or is loaded on a trailer and driven away. If you sit down too quickly the boater may think you are not interested in conversation or a thorough inspection.

Difficult Boaters

What if you meet with resistance and a boater refuses an inspection; or insists on launching even if they know there are plants on the boat or trailer; or doesn't have the current year's sticker? While most boaters are appreciative of your efforts to protect the lake, some simply do not want to be bothered or aren't convinced that invasive plants are a problem and therefore refuse to participate in an inspection. Remember these are courtesy boat inspections - always respect the boater's wishes. However you could:

- Politely explain the reason invasive plants and animals are a concern: "Invasive plants grow in dense mats that shade out native plants, block fish movement, entangle boat motor propellers, and interfere with swimming and other types of water recreation. Invasive plants grow rapidly and out-compete native vegetation needed by fish and wildlife".
- If the boat has a lot of plants, suggest the boater pull over and remove before launching. Caution the boater that Maine law prohibits the transportation of ANY plant on the outside of a boat, trailer, or equipment and prohibits launching a boat with invasive plants (see page 1 for more details about the law).
- Caution that all motorized boats using inland waters are required by law to affix the Lake and River Protection Sticker (see page 5 for more information) and risk a fine if the warden stops them.
- If the boater insists on launching or leaving with plants attached, note the vehicle license plate and boat bow registration numbers and communicate them to your coordinator or a Maine game warden (numbers are found on the front, inside cover).
- Most importantly, don't jeopardize your safety!

Tricky questions

Courtesy Boat Inspections have been around for a while, so most people are aware of the program, but here are some ideas in case someone asks: **"Why are you out here wasting resources when the plant is going to come anyway?"** You might say, "Even if we cannot keep the plants out completely, we can prevent a lot of widespread damage. Prevention gives us time to adopt new control methods as they are developed. Also, the longer we keep invasives out of a lake the longer we put off the enormous costs of management and property devaluation."

"Aren't all plants bad anyway?" It is important to clear up this misconception! Native plants are essential elements of an aquatic ecosystem, providing the basis for all life in the lake. The problem with invasive (non-native) plants is that they out-compete native plants, since they have no natural competition or predators.

"I don't think a sticker fee is fair because we boaters spend enough money as it is." Maine lacks adequate funding to protect its waters. Most states do not offer free public boat launches and it would be a shame if Maine had to charge boaters to launch their boats.

Many states charge a lot more than Maine does, either in registration fees, charges to launch boats or additions to the gas tax. In Vermont, 25 percent of boat registration fees go toward fighting invasive plants that have become established there.

In other New England states, boaters face higher fees and contend with more infested waters. Hundreds of Massachusetts lakes are impaired for boating and swimming by invasive plants.

"I don't have time for this . . . I know all about it already!" This is a fairly common remark. If the boater does not wish to help you with the survey, you must respect their rights and let them be. Just offer them a brochure and wish them a nice day.

"Who is really getting the money from the stickers anyway?" Except for the $1 per sticker agent fee for each non-resident boat and costs associated with distribution, printing and administration at Inland Fisheries and Wildlife, all of the money is channeled directly into the dedicated invasive aquatic species accounts at DEP and DIFW.

The state uses some of the money to offer grants to municipalities and non-profit organizations that sponsor volunteer efforts and local programs such as courtesy boat inspections. Refer to Pages 17-19 for a breakdown of how sticker revenues are distributed and spent.

Variable Leaf Milfoil flowering in the Songo River in Naples, Maine

Implementing the CBI Program on your lake

Beyond the immediate goal of protecting your lake, the benefits of running a CBI program are many: great PR for your association resulting in new members, greater donations, and even the emergence of new leaders within your group.

Requirements: Each organization receiving a grant from the DEP for CBI staffing must send a minimum of one representative to a CBI training session. That person, ideally the organization's CBI supervisor, will be responsible for training all inspectors who are hired or who volunteer for the organization. **The main training session is held after the annual Milfoil Summit in late February/early March.** Contact LEA to arrange training if you can't make the Summit. Contact information is on the back of the front cover, under "Sources of help and information."

In addition to CBI training and a CBI supervisor, you will need volunteers, a staffing schedule and a volunteer coordinator for each launch site if possible. Use the media and your organization's newsletter to publicize the need for volunteers, but realize you will probably not get enough people unless you make direct person-to-person requests.

Use your membership list, divide it up among volunteers, and call individuals you think would be willing to help protect the lake. Be sure telephone callers use the Volunteer Survey Form below. You'll be amazed how little you remember about each call after 5 or 10 minutes have passed. The call has four objectives: explain the problem (invasive aquatic plants); state your need (volunteers); get a commitment, and schedule the individual for CBI training.

Volunteer survey

Sponsoring group _____

Name _____

Address_____

Phone_____ Email _____

Left message/ Date_____ Left message/ Date_____ Left message/Date_____

Will volunteer? _____(yes/no)

Preferred Launch Site_____ Doesn't Matter_____

Preferred day_____ Doesn't matter_____

Preferred time_____ Doesn't matter_____

Weekends available for boat inspection (Please circle the weekends volunteer is available):

June 3 June 10 June 17 June 24 July 1 July 8 July 15 July 22 July 29

August 5 August 12 August 19 August 26

Can you work July 1? _____ July 2?_____ July 3?_____ July 4?_____

Can you suggest other property owners or interested persons who might volunteer?

What training session would you like to attend?

Can you take a friend to the launch site with you during your assigned time?_____

What size T-shirt do you prefer? Small___ Medium___ Large____ Extra Large____ XX Large____

_____

(Name of recruiter) (Phone) (Email) (Date)

Scheduling inspectors: You can use Excel to make a spreadsheet showing the days and times you plan to have inspectors at launch sites. Two or three-hour time slots work for most volunteers. It's a lot easier if you can schedule a volunteer into the same time slot each week or for a period of weeks. Some organizations use online scheduling templates. The most popular is Google Drive. The busy times vary from site to site. Generally, Fridays, Saturdays and Sundays are good to cover. Some organizations cover weekends first, and then schedule extra volunteers on weekdays.

Reporting procedure

For those only using paper inspection forms, send them every two weeks to LEA, 230 Main Street, Bridgton, Maine 04009. Please be sure all inspection forms for the first half of the summer reach LEA by July 15 and by September 15 for the second half.

Electronic inspection forms should be sent every two weeks to Karen Hahnel at the Maine DEP: karen.a.hahnel@maine.gov

Keep photocopies of your completed forms in case the originals are lost. Please review forms before sending to make sure the inspector is writing legibly and has filled out the forms properly. Inspection forms received later than two months after the season may not be entered into the state's database.

PROGRAM COORDINATORS ARE URGED TO REVIEW INSPECTION FORMS BEFORE SENDING THEM IN! It is much easier to correct mistakes or omissions when things are still fresh in your mind.

What has worked well?

- Signs like the one shown at right let boaters know what's ahead, making them more receptive to inspections.
- Using an online scheduler lets CBIs enter or change their work shifts from a computer connected to the internet.
- Wearing the CBI T-shirt immediately identifies you to boaters.
- Provide all inspectors with list of phone numbers to call.
- Know where boaters can buy stickers locally.
- Using a Mystery Boater program can help identify issues with individual CBIs.

What is a Mystery Boater?

A mystery boater will observe the CBI inspecting their boat and report back to your organization about their performance. The boater will fill out an easy form to turn in to the CBI coordinator. This allows supervisors to assist inspectors who are having difficulties with the job.

Please watch out for these other invaders

Although this manual is focused on preventing the spread of invasive aquatic plants through courtesy boat inspections, it is important to realize there are also invasive aquatic animals that threaten Maine's water bodies. Read about some of the common invasive fauna on the following pages.

Control methods for invasive aquatic animals vary greatly depending on the species, but following the five simple steps below can help to greatly reduce their spread into Maine.

1. Learn how to identify invasive aquatic species. Attend an Invasive Plant Patrol workshop.
2. Remove mud, plants, fish, and animals from all of your equipment and drain all water from the bilge and live wells before leaving launch areas. Many unwanted organisms (plants, animals, and diseases) can easily be transported and then unintentionally introduced into waters via recreational boater's bilge water and fish live wells. Bilge water and live well water should be drained prior to leaving a lake and if possible allowed to dry for 5 days before entering a new water body.
3. Clean your equipment with hot water or a pressure washer and allow it to dry for five days before transporting it into a new body of water.
4. If you have snails, plants, fish or other animals in an aquarium and you no longer wish to care for them, find a new aquarium home for them. Do not release them into the wild!
5. Never release any plants or animals into a different body of water from which they came.

The following pages describe some of Maine's most threatening aquatic animal invaders. The descriptions and photos are taken from the *Maine Field Guide to Invasive Aquatic Plants and their common native look-alikes* by the Maine Center for Invasive Aquatic Plants and the Maine Volunteer Lake Monitoring Program. Additional source references for individual species are listed after each description.

Spiny Water Flea

(Bythotrephes cederstroemi)

Spiny water flea is native to Great Britain and parts of northern Europe. Spiny water fleas are more common in deep, cool lakes. However, they also inhabit warmer lakes where surface water temperatures exceed 25° C. The creature is small (1 to 1.5 cm long) with transparent exoskeleton, a large black eye spot on both sides of the head, and four pairs of legs. Most distinctive is the crustacean's long, barbed tail spine. Spiny water fleas are often first noticed by anglers, when they become entangled in fishing lines. When the line is pulled from the water, something resembling tiny straight pins waving about perpendicular to the line may be noticed. These are the miniscule creatures, raising and lowering their tails as they cling to the line. Impacts to aquatic ecosystems caused by the spiny water flea are not fully understood. What is known is that spiny water fleas reproduce rapidly, (both sexually and asexually) producing numerous offspring during the growing season, and "resting eggs" that overwinter in the sediments.

Once well established in the waterbody, spiny water fleas compete directly with other zooplankton feeders in the ecosystem (eating up to three times as much food as similar species). Their sharp spine prevents fish of a certain size class from eating them. It is believed that both of these impacts have the potential to trigger disturbances throughout the aquatic food web.

As of 2017, spiny water fleas can be found throughout the Great Lakes Region, Eastern New York and Lake Champlain in Vermont.

References:

1. Spiny Water Flea; Ontario Federation of Anglers and Hunters; www.invadingspecies.com/Invaders.cfm

2. Spiny Water Flea in the Great Lakes Region; Great Lakes Information Network; www.great-lakes.net

Zebra Mussels

(Dreissena polymorpha)

Zebra mussels are thought to have been introduced to this country as accidental stowaways attached to hulls, or in the ballast water of ships entering the Great Lakes from Europe. Since they were first discovered in this country in 1988, these tiny, freshwater bivalves, have become a major aquatic pest throughout much of the Midwest. Spreading to New England, primarily by way of boating activity, as of 2017 they have impacted waters in Vermont and are known to be in Massachusetts and Connecticut. (Indeed, in 2006 a Courtesy Boat Inspector on Lake Winnipesaukee in New Hampshire detected-and successfully averted some zebra mussels that were hitching a ride on a boat from New York.)

Zebra mussels begin life as tiny free-swimming larvae, called veligers. It is during this stage that they are most readily transported from one waterbody to another (attached to boating gear, in bilgewater, bait buckets, etc.) and also most difficult to detect. After two or three weeks, the veligers "settle out" in the waterbody, attaching by way of strong, threadlike filaments to just about any hard surface they encounter. Rocks, sediment, wood, intake pipes, moorings, boat hulls, native mussel beds, are all at risk of colonization. Zebra mussels are small (adults are about 15 mm long) but they are voracious filter feeders, straining out major portions of the phytoplankton population and effectively starving out many native zooplankton species. The gap created in the food web may cascade through the entire ecosystem.

Zebra mussel infestations may clog power plant and industrial water systems, cause problems in irrigation canals and pipes, and foul boating equipment. Ecologically, they can alter benthic substrates and compete with native zooplankton, mussel and fish species for food and/or space. Zebra mussels have not yet been detected in Maine.

References:

1. Frequently asked Questions about the Zebra Mussel. United States Geological Survey. Florida Integrated Science Center, Gainsville. http://cars.er.usgs.gov/Nonindigenous_Species/Zebra_mussel_FAQs/zebra_mussel_faqs.html

Asian Clam

(Corbicula fluminea)

The Asian (or Asiatic) clam is a freshwater bivalve mollusk native to southern and eastern Asia and Africa. The source of introduction to the United States is unknown, but it is suspected that this species was brought from China by immigrants as a food source and subsequently released. The popularity of these small clams as aquarium specimens and as bait may have further exacerbated their spread. As of 2017, the Asian clam is now found in fresh waters throughout much of the United States including all New England states, except Maine.

The clams thrive in sandy lake bottoms where they form dense communities; the population in a single waterbody may easily reach into the billions. The sexes are normally distinct; however, hermaphrodites exist that are capable of self-fertilization. When the second stage larvae, called veligers, reach approximately 1mm in size they are discharged from the gills of the parent to begin life as juveniles on the bottom sediments. (Under ideal conditions a single clam can release up to 70,000 baby clams a year!) Adults may reach up to 4cm in length during their lifespan of one to four years. The shell of the Asian clam is ovate, and normally yellow-green to brown in color with thick concentric rings. The inside of the shell is layered with polished, light purple material called nacre. Other shell colors (called morphs) do occur.

Asian clam infestations may clog power plant and industrial water systems, cause problems in irrigation canals and pipes, and foul boating equipment. Ecologically, this species can alter benthic substrates and compete with native zooplankton, mussel and fish species for food and/or space. Asian clams appear to be capable of tolerating polluted environments better than many native bivalves. In cases where Asian clam infestations have been intentionally controlled by a cold weather draw-down the clams have produced ammonia in high enough quantities to be lethal to other fish and wildlife.

References: 1. Asian Clam; Indiana Illinois Sea Grant website; www.iisgcp.org

2. What Lurks Beneath? by Megan Woolhouse, The Boston Globe: Globe West, April 19, 2007

Chinese Mystery Snail

(Cipangopaludina chinesis malleatus)

Chinese mystery snails, native to parts of Southeast Asia, were brought to this country as a food source for Asian markets. It is believed that imported snails were intentionally released in some areas to create a locally-harvestable supply. Since their introduction, Chinese mystery snails have spread to many parts of the United States, and can now be found in a number of Maine lakes and ponds.

Chinese mystery snails are distinctively large; the size of a walnut or golf ball, they are half-again as large as Maine's largest native freshwater snail. Though they spend a good portion of their lives under the water surface, half buried in the bottom sediments, Chinese mystery snails may also be encountered with their trap doors sealed up tight, floating along at the water's surface. When these large snails die, they often wash up on shore, where their dark, olive-colored shells can be easily seen and (unpleasantly) smelled. Chinese mystery snails prefer the quiet water of lakes, ponds, roadside ditches and slower portions of streams.

Once in a body of water, the Chinese mystery snail may be transported, as adults or tiny juveniles, via bait buckets and water holding areas on boats. Like other snail species, this species may serve as a vector for various parasites and diseases. Chinese mystery snails occur in a number of Maine waterbodies, but the full distribution of this snail in Maine is unknown. The Maine Volunteer Lake Monitoring Program currently manages a statewide database on reported sightings of C. chinesis malleatus. You can assist the effort to get a better handle on this invasive organism by reporting any sightings to VLMP at 207-783-7733 or vlmp@mainevlmp.org.

References:

1. Martin, Scott M. 1999. Freshwater snails (Mollusca: Gastropoda) of Maine. Northeastern Naturalist.

2. Cipangopaludina chinensis (Reeve, 1863). Fact sheet by Gulf States Marine Fisheries Commission. http://nis.gsmfc.org/nis_factsheet.php?toc_id=125

Quagga Mussels

(Dreissena bugensis)

Quagga mussels are native to the Caspian Sea, and like zebra mussels, are thought to have come to this country in the ballast water of ocean going ships. Quagga mussels were first discovered in the Great Lakes region in 1989, but were not identified as a distinct species until 1991. As of 2017 there is only one known infestation in New York and none in New England.

These invaders prefer silty or sandy lake bottoms, but may be found in waters ranging from warm and shallow to deep and cold. Like zebra mussels, the shell is distinctly striped in dark and light bands. Adult quagga mussels are generally larger than zebras, 20 mm long (roughly the size of your thumbnail) and their shells are broader and more fan-shaped. The ventral (or hinged) side of the shell is convex, preventing the quagga mussel from being balanced, on this side, on a flat surface. (The zebra mussel will remain upright when placed on its ventral side.) Quagga mussel feed year-round, even in winter when zebra mussels are dormant.

Quagga mussel infestations may clog power plant and industrial water systems, cause problems in irrigation canals and pipes, and foul boating equipment. Ecologically, they can alter benthic substrates and compete with native zooplankton, mussel and fish species for food and/or space. Quagga mussels have not yet been detected in Maine.

References: 1. Quagga mussel; Wisconsin Department of Natural Resources http://www.dnr.state.wi.us/invasives/fact/quagga.htm

Didymo or "Rock Snot"

Didymosphenia geminata

Anglers and boaters using Maine's streams and rivers are urged to be aware of a new threat! The aquatic nuisance alga known commonly as "Didymo" or "rock snot" has invaded the northern reaches of the Connecticut River in New Hampshire and in the White River and Battenkill River in Vermont. These are the first official reports of the invasive algae in the northeastern U.S. This highly invasive species has not been detected in Maine.

Didymo

However, didymo already affects freshwater rivers and streams in other parts of the U.S., Canadian provinces of Quebec and New Brunswick and New Zealand. It is not known at this time how Didymo will affect water quality, aquatic habitat and fish populations in Maine, but its potential to alter habitats and displace natives species are of great concern to officials in regions where in festations have been established. As of 2017 Didymo is found in Vermont and New Hampshire.

It is critical for anglers and boaters to be aware that Didymo is easily spread by even just one cell of the alga breaking off and drifting downstream in infested reaches. It is also very easily spread by waders and other fshing gear that touches the bottoms of streams in infested areas, so it is essential to check and clean all fishing equipment.

Viral hemorrhagic septicemia *(VHS)*

VHS is an Ebola-like virus, deadly to fish, which was first reported in 2005 in North American freshwater fish. It's not a threat to humans, but is devastating to 22 species of freshwater fish populations. It's been found in the Great Lakes, St. Lawrence River, New York State and moving eastward (toward Maine).

Genetic tests suggest that the Great Lakes VHS probably originated in the Atlantic Ocean and most likely was transported in the bilge water of ships. VHS has been reported in more than 20 species and may be the most serious threat ever to our freshwater fish populations.

Report immediately to DIFW (207-657-2345) any fish appearing to be abnormal. VHS has been divided into three stages with symptoms which may overlap. These include darkening of the body, protrusion of the eyes, hemorrhages in gills and eyes, pectoral fins and body surface. The fish may become twisted and swim on their sides. Keep any such fish cool (4 degrees C, 39 degrees F), but do not freeze. Virus isolation must be done within 24 hours after a fish is caught.

Northern Pike

(Esox lucius)

Northern pike are native to parts of Eurasia and North America, but not native to Maine. This popular "sport fish" was illegally introduced into the Belgrade Chain of Lakes in the 1970s. It's now present in at least 16 lakes in the Kennebec, Androscoggin, and coastal river drainages, and is suspected to occur in additional waters.

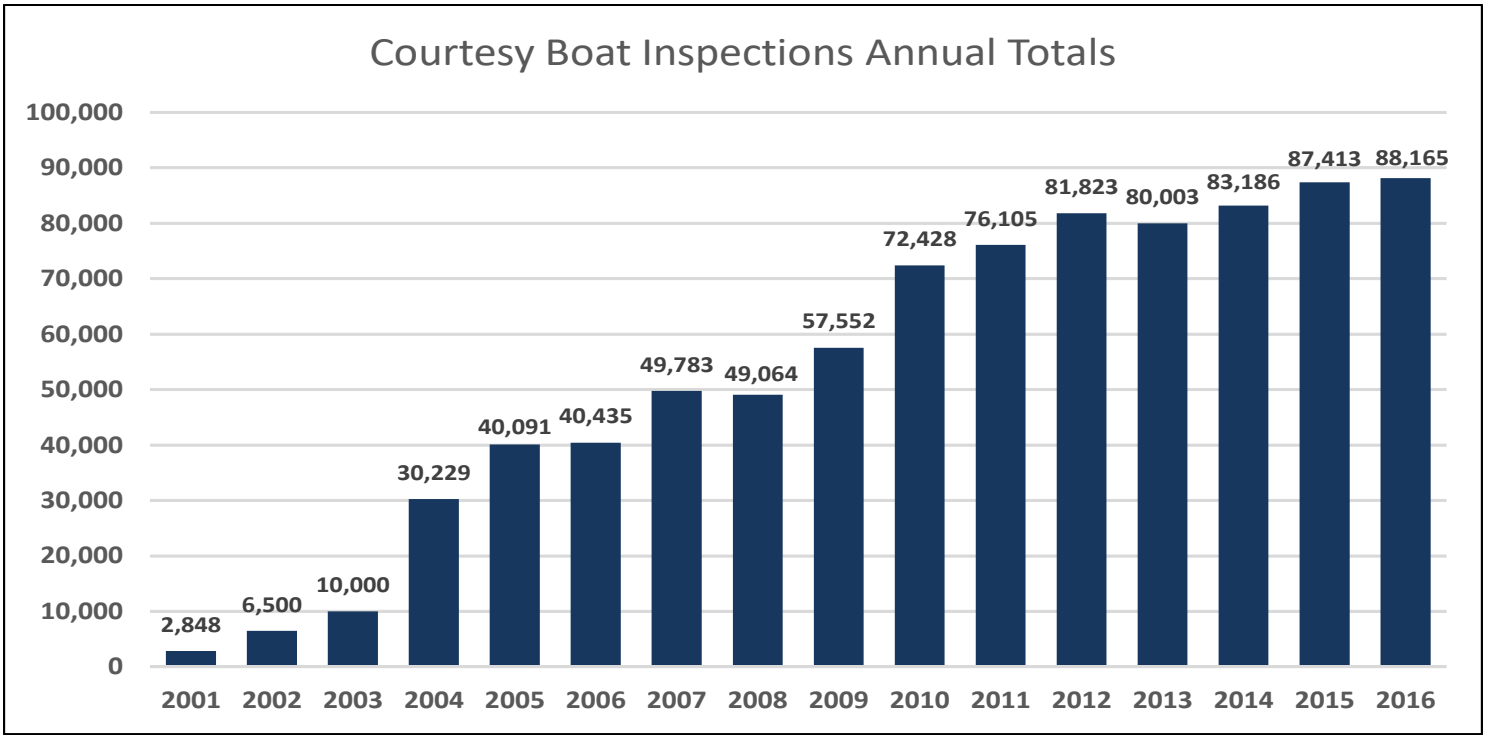
Esox lucius can inhabit almost every type of freshwater, from cold deep lakes, to warm shallow ponds, to sluggish streams. Besides fish, its diet includes frogs, crayfish, small mammals, and birds — just about anything it can sink its teeth into. Pike exceeding 30 pounds have been caught in Maine.

Northern pike may be confused with its close relative, the chain pickerel (Esox niger), a fish native to Maine. Unauthorized introductions of invasive, exotic fish species are particularly destructive to Maine's native brook trout populations, but pike are particularly voracious fish eaters. Their presence in one Maine lake is suspected of destroying one of the state's premier landlocked salmon populations. They may also cause irreversible changes to entire aquatic ecosystems.

The illegal introduction of any fish into any Maine water is a Class E crime, punishable by fines up to $10,000. The Maine Department of Inland Fisheries and Wildlife offers a minimum reward of $2,000 for information leading to the apprehension of persons responsible for the illegal introduction of fish. Call Operation Game Thief at 1-800-253-7887. If you suspect that you have seen or caught a northern pike, please report your findings to the Maine Department of Inland Fisheries at 207-287-8000.

References: Illegal Fish Stockings Threaten Maine Lakes and Rivers by David Boucher, Fishery Biologist, Maine Department of Inland Fisheries and Wildlife; www.maine.gov/ifw/fishing/illegal_stocking.htm. Northern pike at http://www.maine.gov/ifw/fishing/species/identification/northernpike.htm

Northern pike



CBI statistics	2015	2016
Infested lakes with inspections	14	14
Water bodies with inspections	117	124
Total plants found	2648	5162
Total invasive plants found	94	124
Invasive plants on entering boats	8	10
Invasive plants on leaving boats	86	114
Total inspectors	702	660
Inspection hours	43,591	44,675
Boats with sticker	92%	93%
Participating organizations	98	92*

Source: Maine Department of Environmental Protection

***38 participating organizations were BASS clubs and 6,176 inspections were conducted at BASS tournaments.**

Confirmed 'saves' 2016	Boat direction	Invasive plant
Sebago Lake, Raymond	1 leaving	Variable milfoil
Sebago Cove, Naples	7 leaving	Variable milfoil
Lake Arrowhead, Waterboro	4 entering 72 leaving	Variable milfoil
Messalonskee Lake, Oakland	10 leaving	Variable milfoil
Messalonskee Lake, Sidney	1 entering 9 leaving	Variable milfoil
Pleasant Pond, Litchfield	3 leaving	Variable milfoil
Northeast Pond, Lebanon	1 leaving	European naiad
Lovewell Pond, Fryeburg	1 entering	Variable milfoil
Thompson Lake, Oxford	1 entering 5 leaving	Variable milfoil
Songo River, Naples	1 leaving	Variable milfoil
Sebago Lake, State Park	3 leaving	Variable milfoil
Balch Pond, Newfield	2 leaving	Variable milfoil
Salmon Pond, Belgrade	3 entering	Curley-leaf pondweed (2) and Variable milfoil (1)

Department of Environmental Protection's Prevention and Control Efforts

Maine Department of Environmental Protection's Invasive Aquatic Species Program Funding 2018

Funding for the Department of Environmental Protection's (DEP) Invasive Aquatic Species Program (IASP) comes from a fee on motorboats ($10 Maine registration, $20 non-Maine) and seaplanes ($20) using inland waters. Following are brief descriptions of primary program elements for calendar year 2018. Please email milfoil@maine.gov with questions regarding DEP funding and budget.

Early Detection

Over 3,500 "citizen scientists," trained and supported by the Maine Volunteer Lake Monitoring Program through a grant with DEP, form the state's early detection program. They provide a core force for surveying boat ramps, inlets, dock and swim areas and other areas for potential plant invasion.

Education

IASP staff engages in educational activities to inform residents and visitors of the invasive species threat, promotes behaviors that prevent the spread of new infestations and advises lake groups on plant control strategies and techniques. These activities include the following:

- assisting lake groups with spread prevention and plant control programs
- speaking about the invasive aquatic species threat to varied audiences and responding to requests for information from media outlets
- distribution of brochures and other collateral materials
- technical assistance to plant retailers and schools that use plants as classroom tools
- distribution of warning signs on infested and non-infested lakes and ponds

Prevention (Courtesy Boat Inspection Prorgam)

Until it becomes standard boater practice to inspect and remove hitchhiking plants and other biological debris from watercraft, trailers and equipment, staffing ramps with inspectors is the most effective way to assure biological threats do not spread. An inspection program also provides an opportunity to show boaters the importance of inspecting and removing plants and debris. Boat inspectors are trained and grant funds are provided to support lake association and municipal boat inspection programs. Inspections have increased from 2,500 in 2001 to over 80,000 annually between 2012 and 2016. The 2018 Courtesy Boat Inspection Program budget includes a grant program for un-infested waters and allocates specific funding to organizations on infested lakes to prevent spread from those waters.

Plant Control and Rapid Response

Local and regional lake groups work tirelessly to control established infestations. The IASP responds to newly-discovered infestations to limit spread both within the infested lakes and beyond. Efforts include manual removal of plants by trained volunteers and SCUBA divers, deployment of warning buoys to direct boat traffic away from infested areas, and—in worst-case situations—the application of herbicides.

Task Force/Interstate efforts

Collaboration, both with neighboring states that have more extensive invasive plant problems and with Maine stakeholders, is essential to set priorities and find efficiencies. Not only do nearby states have a greater variety of invasive species able to migrate into Maine, they also have more experience in curbing or controlling plant infestations. Communication and the free exchange of experience are essential.

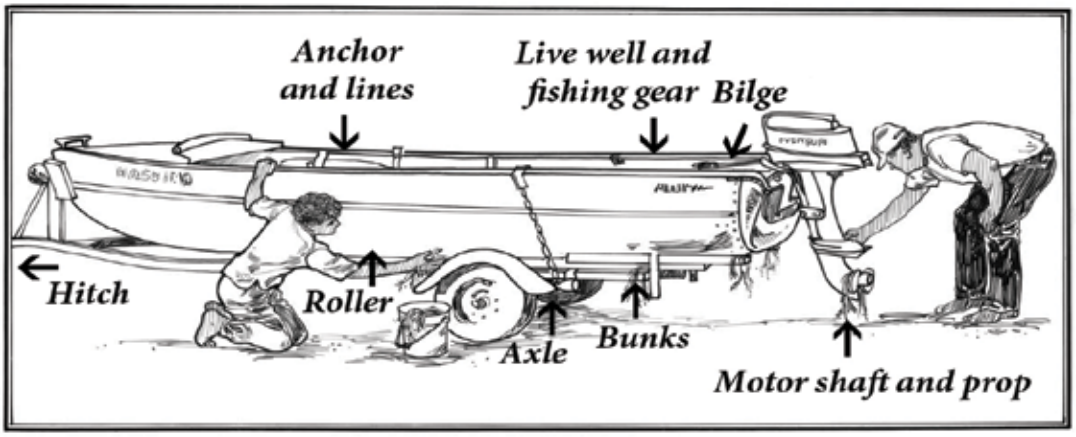
Within Maine, a Governor-appointed panel of stakeholders, the Interagency Task Force on Invasive Aquatic Plants and Nuisance Species, overviews and advises how revenues coming to the IASP best serve the state.

Total milfoil sticker sales and revenue, 2002-2017

Calendar Year	Resident	Amount	Non-resident	Amount	Grand Total	DIFW Share	DEP Share
2002	100,049	$900,441	9,814	$186,466	$1,086,907	$434,763	$652,144
2003	94,451	$850,059	9,135	$173,565	$1,023,624	$409,450	$614,174
2004	96,713	$870,417	9,260	$175,940	$1,046,357	$418,543	$627,814
2005	98,393	$885,537	10,239	$194,541	$1,080,078	$432,031	$648,047
2006	99,947	$899,523	10,449	$198,531	$1,098,054	$439,222	$658,832
2007	98,255	$884,295	11,666	$221,654	$1,105,949	$442,380	$663,569
2008	94,451	$944,510	11,190	$212,610	$1,157,120	$462,848	$694,272
2009	94,568	$945,680	11,052	$209,988	$1,155,668	$462,267	$693,401
2010	97,250	$972,500	11,096	$210,824	$1,183,324	$473,330	$709,994
2011	92,675	$926,750	10,203	$193,857	$1,120,607	$448,243	$672,364
2012	93,477	$934,770	10,108	$192,052	$1,126,822	$450,729	$676,093
2013	93,945	$939,450	9,402	$178,638	$1,118,088	$447,235	$670,853
*2014	92,764	$927,640	10,171	$193,249	$1,120,889	$251,142	$869,747
2015	93,887	$938,870	10,017	$190,323	$1,129,193	$225,839	$903,354
2016	97,243	$972,430	10,121	$192,299	$1,164,729	$232,946	$931,783
2017	95,493	$954,930	9,387	$178,353	$1,133,283	$226,657	$906,626
Totals	**1,533,562**	**$14,747,812**	**163,310**	**$3,102,890**	**$17,850,702**	**$6,257,626**	**$11,593,076**

Source: Maine Natural Resources Services Center. Revenues collected January 1 - December 31.

**DEP's share increased and DIFW's decreased in 2014 due to the revenue distribution change approved by the Maine Legislature in April 2014. See Funding section on page 17 for explanation of the revenue distribution change.*



DIFW's invasive species program

Highlights from the Fisheries Division

Department biologists responded to reports of non-native fish and other aquatic organisms in twelve counties. New occurrences of invasive fish were confirmed in 6 waters. Biologists responded to reported or confirmed introductions on: largemouth bass (9), northern pike (8), black crappie (6), muskellunge (4), smallmouth bass (4), bluegill (3), rainbow smelt (2), central mudminnow (2), and white perch (1). In addition, one private pond containing goldfish was chemically reclaimed with cooperation from the landowner.

The State of Maine has an active invasive species task force comprised of members of the State Departments of Environmental Protection, Conservation, Health and Human Service and several public and private conservation organizations and water oriented agencies. The Maine Department of Inland Fisheries & Wildlife is represented by staff from the Fishery Division and the Maine Warden Service. Department staff play an integral role in addressing both non-native invasive plant and animal species.

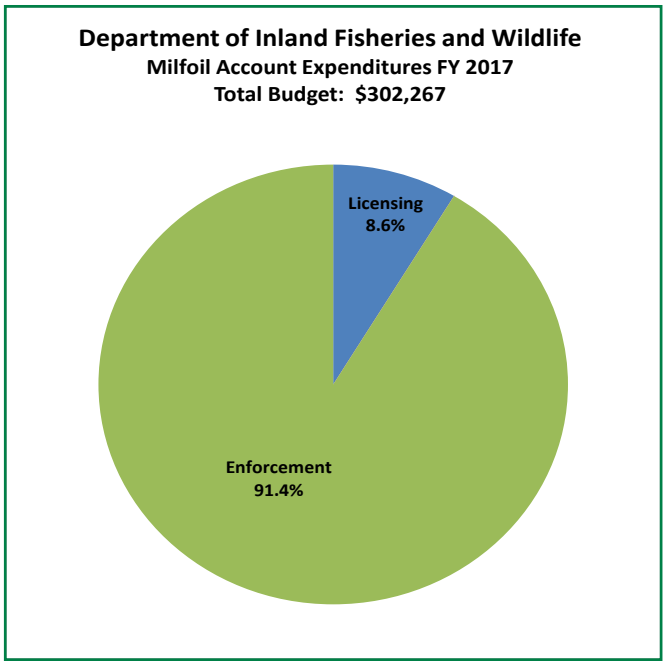
On August 7th of 2003, an angler reported that he caught and released a northern pike (Esox lucius) in Pushaw Lake that weighed approximately six pounds. This was the first known occurrence of this invasive species within the Penobscot drainage and since then pike have spread throughout much of the lower Penobscot drainage. The Penobscot River watershed encompasses 269 surveyed lakes and ponds totaling 189,486 surface acres, and 4,753 miles of brooks, streams and rivers which include many valuable and historical fisheries which could be severely impacted by the introduction of pike. Starting in 2006, IFW biologists deployed fyke nets in the inlet to capture and remove as many pike as possible during the spring spawning season. The design of the net allows for very minimal mortality of captured fishes. Suppression of the population was thought to be a viable option to slow the dispersal of pike into the Penobscot River watershed. The efficacy of gillnets, seines, and electrofishing boats were examined for pike removal, but the spring trap netting appeared to be the most successful, efficient and cost effective.

MDIFW has continued the pike suppression effort each spring since 2006. The number of nets used and the geographic area that has been trapped has varied greatly over the years, but continues to be centered on the inlet of Pushaw Lake. The 2013 trapping season continues to be noteworthy in both the number of pike trapped, and the catch rate. This is possibly due to low water levels that facilitated much more efficient trapping and to a high number of smaller individuals caught that year. The 2016 trapping season resulted in some of the largest fish caught yet, with 13 of the 55 fish taken being over 10 pounds, compared to 5 in 2013, one from 2014 and 6 collected in 2015. This potential trend could reflect a suppressed population, and increased availability of food and habitat for remaining pike.

A record low number of pike were caught in 2017, all three of which were males. The nets were deployed as soon as possible in the spring, in fact two days were spent removing ice in the net locations to launch. The ice around the net locations was so thick it went all the way to the bottom of the inlet and melted away very slowly. Typically, this ice begins to float off the bottom with the spring rains and snow melt, allowing the pike spawn under the ice. This may have resulted in the pike spawning elsewhere. Removal efforts are currently slated to continue in the spring of 2018.

Warden Service Milfoil report

In 2017 Maine game wardens checked 18,086 boats and spent 10,296 hours on the water. 419 milfoil violations were addressed with 132 resulting in summonses and 287 resulting in warnings. Wardens reported working with the CBI program again this past year. A minimum of 43 specific details, ranging from one hour up to four hours in time, were spent with CBI personnel across the State. Wardens will continue state wide to increase our work effort with the CBI program and will look to continue to expand our educational partnerships with both the public and the members of the CBI teams.



Invasive Aquatic Plants

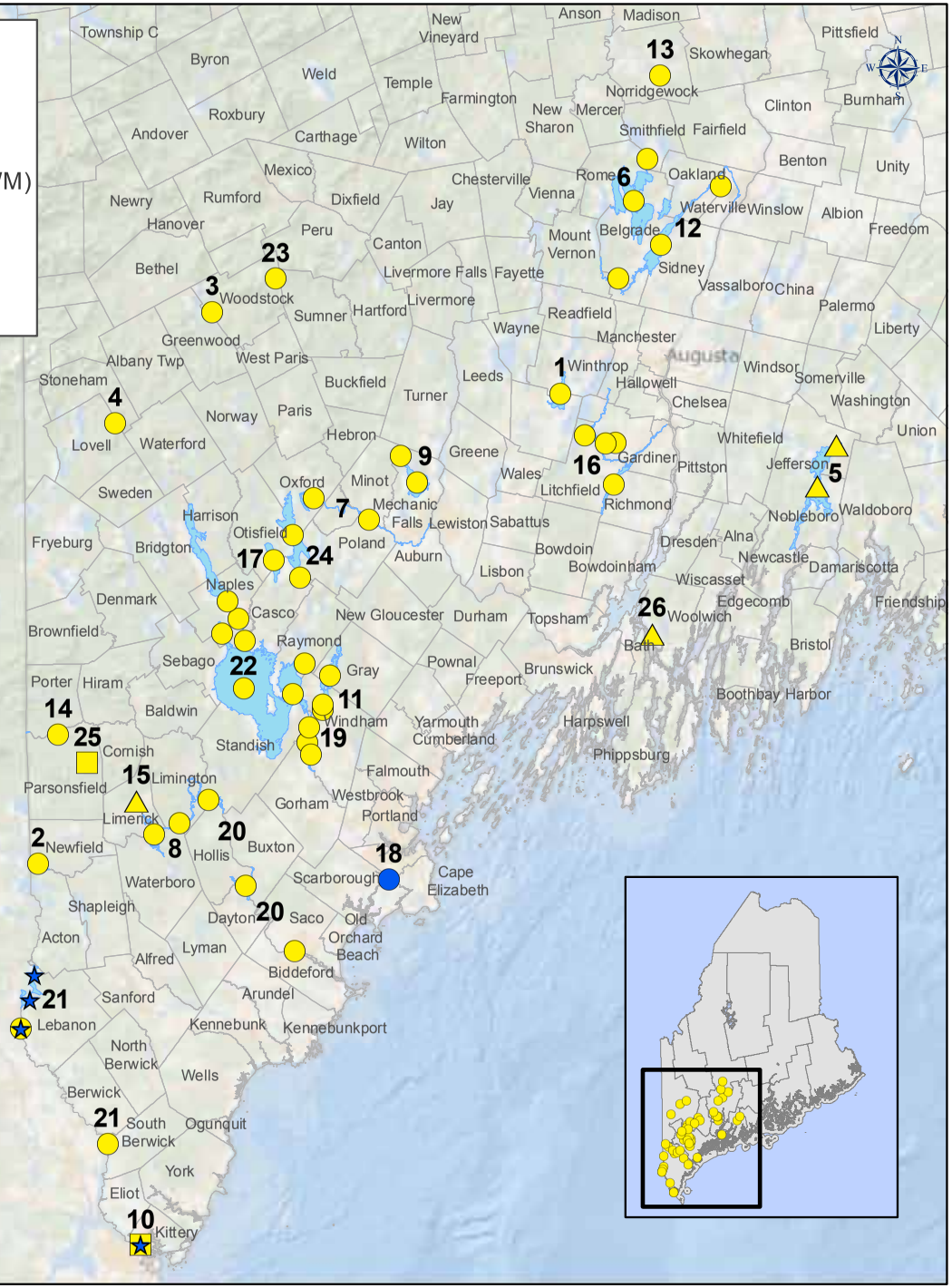
Infested Maine Public Waters, January 2018

www.maine.gov/dep/water/invasives/

- Variable Leaf Milfoil (VLM)
- Eurasian Water Milfoil (EWM)
- Hydrilla (HYD)
- European Naiad (EN)
- Curly Leaf Pondweed (CLP)

Infested Systems

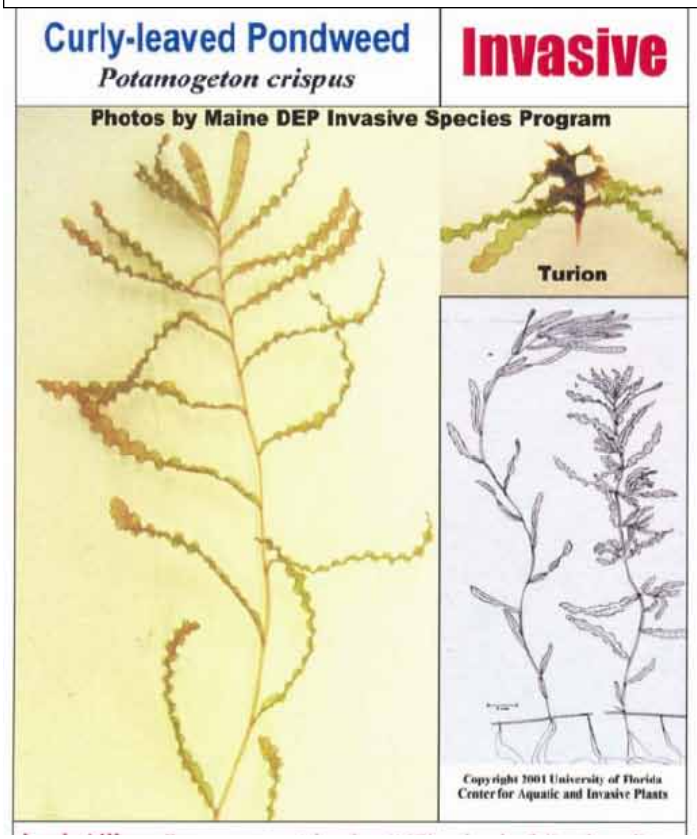
1	*Annabessacook Lake* — Annabessacook Lake — VLM	15	*Pickerel Pond* — Pickerel Pond — HYD
2	*Balch Pond* — Balch Pond — VLM	16	*Pleasant Pond/Cobbossee* — Pleasant Pond, Cobbossee Stream, Horseshoe Pond and Purgatory Stream — VLM
3	*Bryant Pond* — Bryant Pond — VLM	17	*Pleasant Lake* — Pleasant Lake — VLM
4	*Cushman Pond* — Cushman Pond — VLM	18	*Pleasant Hill Pond* — Pleasant Hill Pond — EWM
5	*Damariscotta Lake* — Damariscotta Lake and Davis Stream — HYD	19	*Presumpscot River* — Presumpscot River, Dundee Pond and North Gorham Pond — VLM
6	*Great Pond* — Great Pond and Great Meadow Stream — VLM	20	*Saco River* — Limington Rips to Bonney Eagle Dam, Skelton Flowage and Biddeford — VLM
7	*Hogan Pond* — Hogan Pond and Little Androscoggin River — VLM	21	*Salmon Falls River* — Salmon Falls River Reservoir, Spaulding Pond, Northeast Pond, and Milton Pond — VLM, EN
8	*Lake Arrowhead* — Lake Arrowhead and Little Ossipee River — VLM	22	*Sebago Lake* — Long Lake, Brandy Pond, Songo River, Sebago Cove, Panther Run, Sebago Lake, Sebago Basin — VLM
9	*Lake Auburn* — Lake Auburn and The Basin — VLM	23	*Shagg Pond* — Shagg Pond — VLM
10	*Legion Pond* — Legion Pond — EN, CLP	24	*Thompson Lake* — Thompson Lake and The Heath — VLM
11	*Little Sebago Lake* — Little Sebago Lake, Collins Pond and Mill Pond — VLM	25	*West Pond* — West Pond — CLP
12	*Messalonskee Lake* — Messalonskee Lake, Belgrade Stream and Messalonskee Stream — VLM	26	*Woolwich Ponds* — Private Ponds — HYD
13	*Mill Stream* — Mill Stream in Norridgewock — VLM		
14	*Ossipee River* — Ossipee River in Porter and Parsonsfield — VLM		

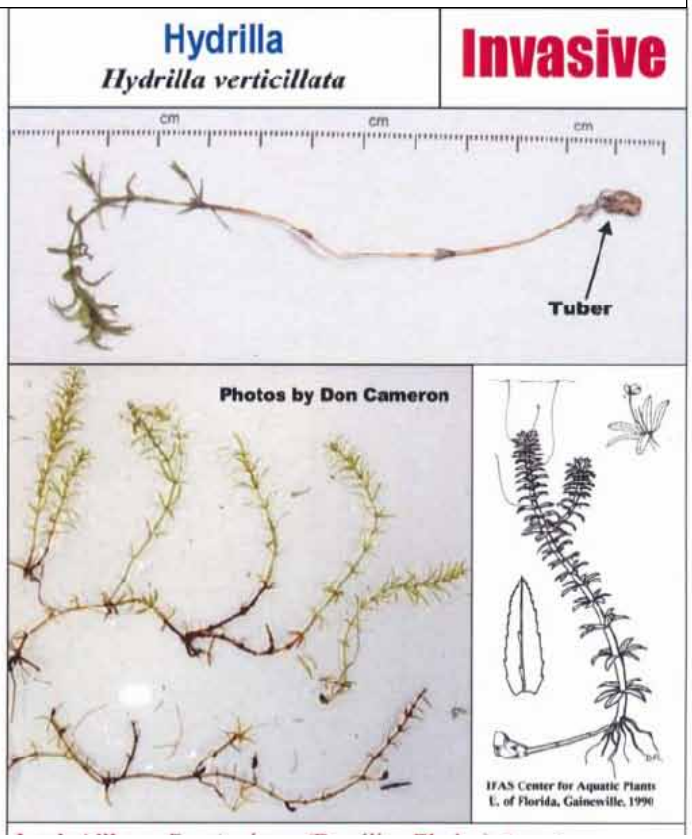


Map of known locations of infestations in Maine public waters

Invasive aquatic plants handout

As of 2012, these four invasive plants and European naiad have been documented in Maine's public waters.





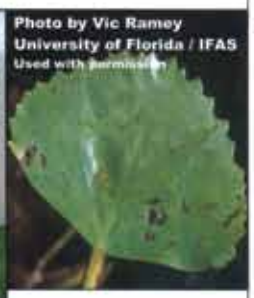
Parrot Feather
Myriophyllum aqaticum

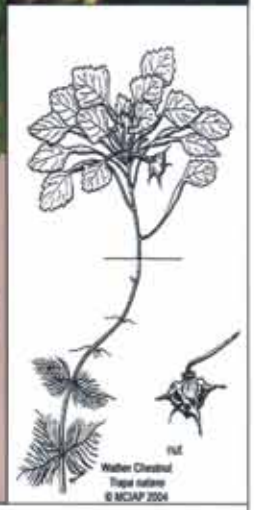
Invasive

Look Alikes: *Other members of the Myriophyllum genus*

Water Chestnut
Trapa natans

Invasive





Look Alikes: None

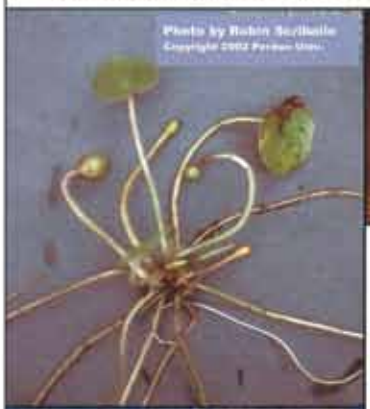
Yellow Floating Heart
Nymphoides peltata

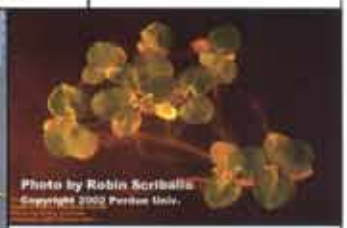
Invasive

Look Alikes: *Nuphar variegata* (Spatterdock) **Native**
Hydrocharis morsus-ranae (European Frogbit) **Invasive**
Nuphar microphylla (Yellow Waterlily) **Native**

European Frogbit
Hydrocharis morsus-ranae

Invasive

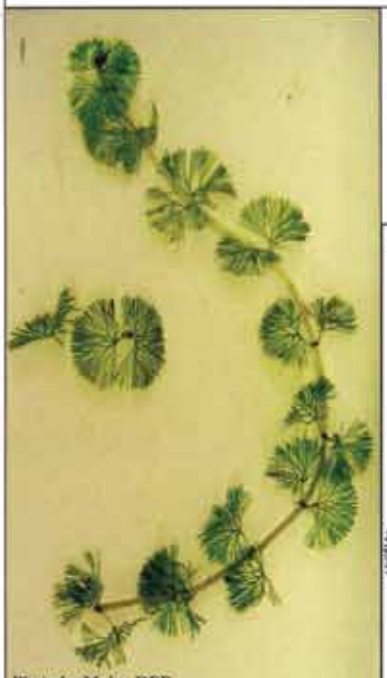


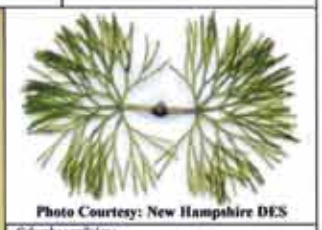


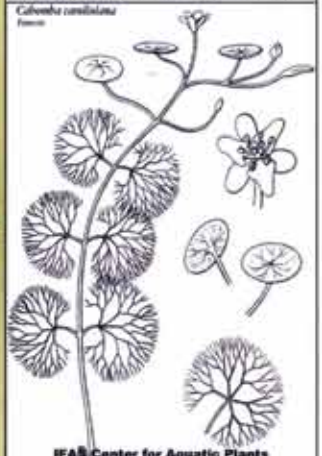
Look Alikes: *Nymphoides Cordata* (Little Floating Heart) **Native**
Nymphoides peltata (Yellow Floating Heart) **Invasive**
Nuphar microphylla (Yellow Waterlily) **Native**

Fanwort
Cabomba caroliniana

Invasive



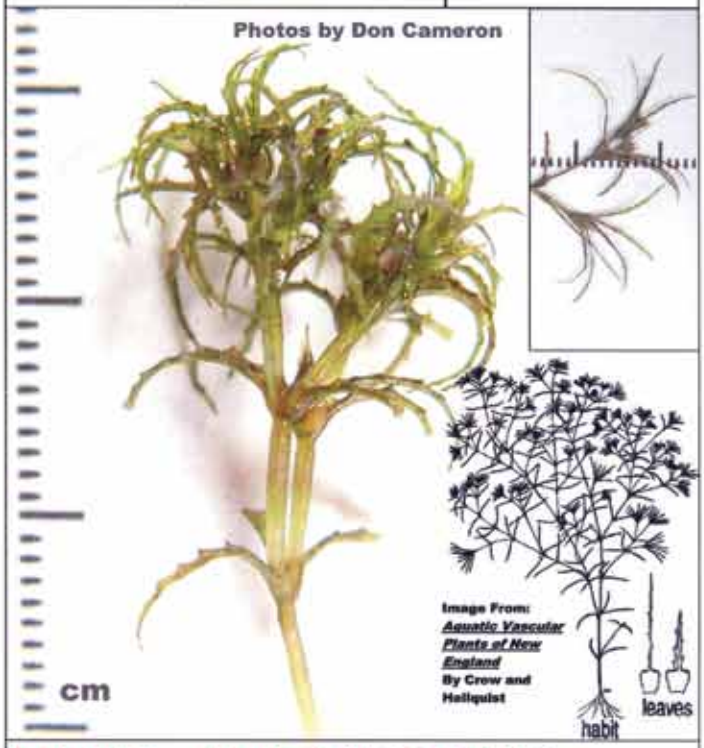




Look Alikes: *Bidens beckii* (Water Marigold) **Native**
Ranunculus flabellaris (Yellow Water Crowfoot) **Native**
Utricularia sp. (Bladderwort) **Native**

European Naiad
Najas minor

Invasive



Look Alikes: *Najas flexilis* (Slender Naiad) **Native**
Other *Najas* species **Native**

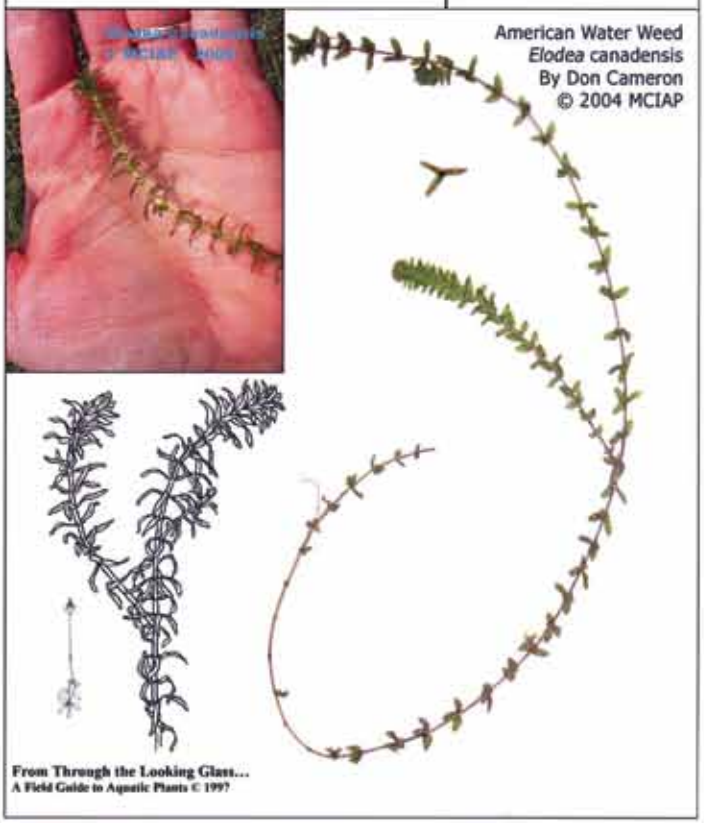
Brazilian Elodea
Egeria densa

Invasive

Look Alikes: *Hydrilla verticillata* (Hydrilla) **Invasive**
Elodea canadensis (American Waterweed) **Native**

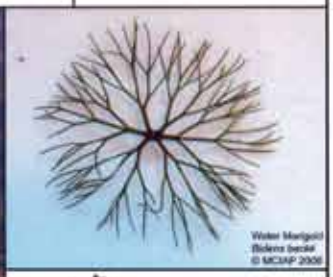
American Waterweed
Elodea canadensis

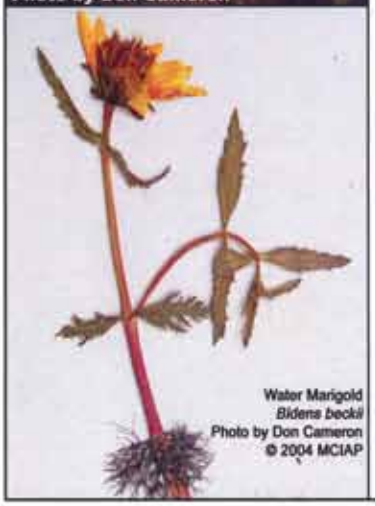
Native

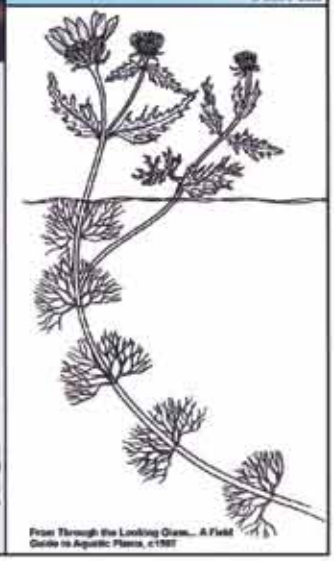


Water Marigold
Bidens beckii

Native

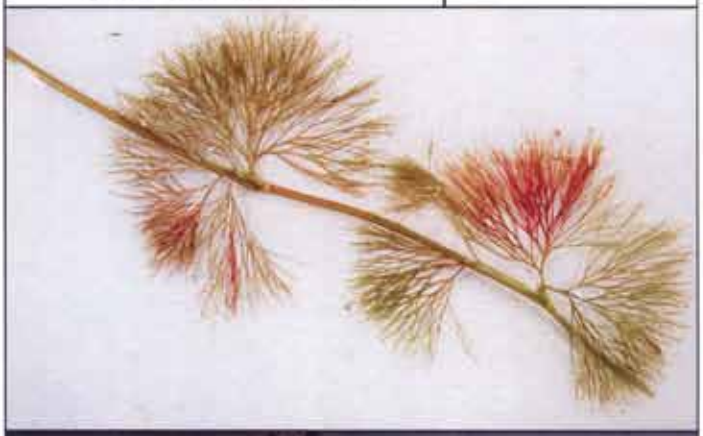






Yellow Water Crowfoot
Ranunculus flabellaris

Native

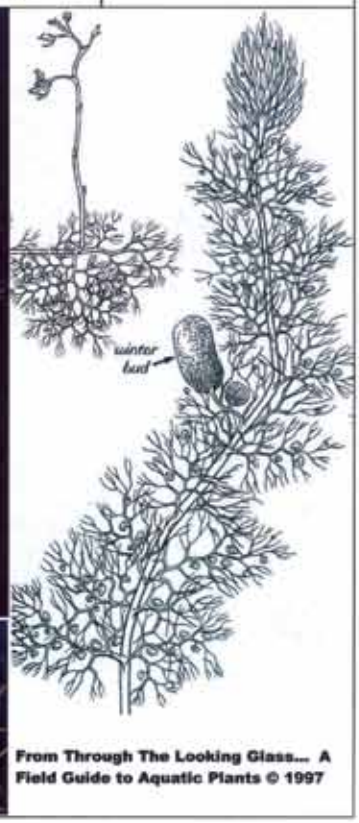


Coontail
Ceratophyllum demersum

Native

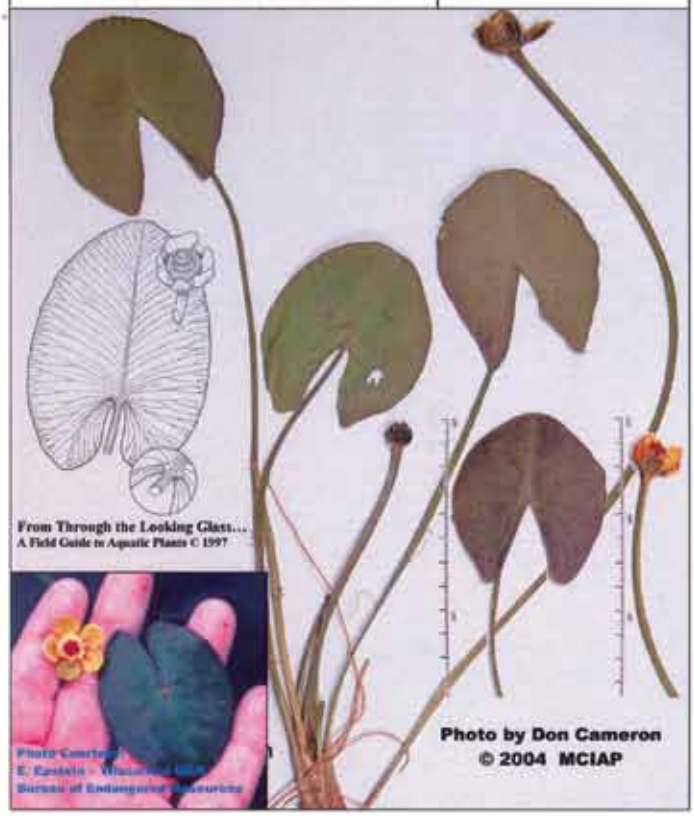
Common Bladderwort
Utricularia macrorhiza

Native



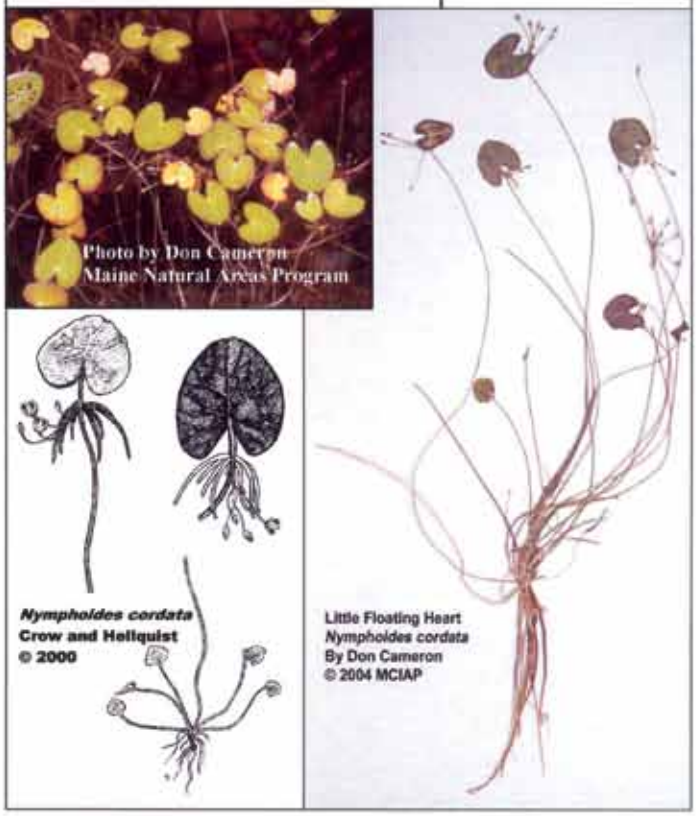
Yellow Waterlily
Nuphar microphylla

Native



Little Floating Heart
Nymphoides cordata

Native



Clasping Leaf Pondweed
Potamogeton richardsonii

Native

Slender Naiad
Najas flexilis

Native

In a nutshell: How to be a great CBI

1. **Be safe.** Don't stay around if someone gets ornery or if a situation seems uncomfortable.
2. **Urge boaters** to inspect their own boats and gear every time they enter and leave a water body.
3. **Be professional.** Your attire should promote the right image. CBI shirts are mandatory. Know the facts about invasives and be courteous.
4. **Discourage company.** You are at work so don't let friends deter you from giving your job full attention.
5. **Be prepared** to answer questions such as, "Where do I get a sticker?"
6. **Write legibly** and don't forget to fill out the top two lines of the survey sheet before you start.
7. **Be in touch.** Have a cell phone or know where the nearest phone is.
8. **Stay in touch.** Keep phone numbers handy for police, wardens and your supervisor.
9. **Be comfortable.** Make sure you have rain gear, an umbrella, a chair, water and sunscreen.
10. **Be inspired.** This is important work even though there will be slow times.
11. **Be attentive.** Stay on your feet while a boat is at the launch. This will encourage dialogue and reassure the public and funders that you are on task.

Quick Facts

About invasive aquatic plants:

Reproduce in many ways; may clone from small plant fragments.

Can survive out of water for days, reviving when rehydrated.

Can blanket and choke surface waters; make swimming and boating difficult, dangerous or impossible.

Harm native vegetation and wildlife; lower property prices; harm local businesses. Once well-established, they're virtually impossible to remove and very costly to manage.

About the 'Milfoil law':

It's illegal to transport **<u>any</u>** aquatic plant on the outside of a vehicle, trailer, or equipment in Maine. It's illegal to sell, possess, import, cultivate, transport or distribute any invasive aquatic plant in Maine.

CBI Aaron Tripp found and removed a Eurasian milfoil fragment on a boat launching at the Narrows public ramp on Kezar Lake in June 2011.

Violation may result in fines of up to $500 (first-time) and up to $5,000 for launching boats carrying any of the banned species.

Fines for failure to display a current boat sticker apply to all motorized craft on Maine inland waters. (Kayaks, canoes and sailboats without motors are exempt.)

About boat stickers:

2018 (Stop Aquatic Hitchikers) stickers are white with orange print for both Maine registered boats and non-Maine registered boats. The resident sticker is affixed to the annual boat registration sticker which is red.

Cost is $10 for resident; $20 for nonresidents. Resident/nonresident status depends on where boat is registered, not where owner resides (NH residents may store/register boat in Maine).

All the sticker money goes to dedicated accounts for invasive species, education, prevention, control, eradication and enforcement. Money is divided 80/20 between DEP and DIFW, respectively.

<u>CBI SUPPLY LIST</u>

- Clipboard
- Pen or pencil and an indelible marker
- Plenty of survey forms
- Ziploc baggies for plant samples
- DEP brochures explaining invasive aquatic plant threat
- Phone *(recommended)*
- Insect repellent, sunscreen, water
- Folding chair and umbrella
- Trash bag
- List of phone numbers to call in an emergency
- List of places boaters can purchase stickers
- Your CBI T-shirt!

Notes:

Thank you! Your help in halting the spread of invasive plants is priceless.

We know how valuable your time is and we thank you for your willingness to share it to protect Maine's waters.

The Lakes Environmental Association

The Maine Department of Environmental Protection