

## The Bald Eagle is back

Dave Griffin

Along the Assabet, Sudbury and Concord Rivers it is increasingly common to look up and see an Osprey patrolling over the river or perched on a tree scanning the waters for that hint of dinner swimming just below the surface. In the past 10 years, with increasing frequency each year, the chance of spotting a Bald Eagle flying over our watershed is slowly becoming common as well. With their seven-foot wingspan they are easily the largest bird of prey in Massachusetts. This is thrilling to many of us—although I don't think the Osprey are sharing our joy.

In 2004 I had the privilege of photographing eagles in Alaska. Coming from a place where eagles are relatively scarce it was a surreal sight to find them perching in trees and on light poles. While it is unlikely that we will ever reproduce that particular scene here in Massachusetts, just 30 years ago it was impossible because there were no nesting eagles in Massachusetts.

Once common from Canada and Alaska to Florida and Baja Mexico, the American Bald Eagle (*Haliaeetus leucocephalus*) had become extinct in Massachusetts ("extirpated") and indeed most of the northeast by the turn of the 20th century. This was due to what could be considered

a declared war on these birds: a combination of massive habitat loss, hunting and, finally, polluted rivers. The last nest in Massachusetts, on Snake Pond in Sandwich, was abandoned in 1905. Our national symbol was pushed to the margins of the lower 48 where their numbers further declined due to the widely used pesticide DDT, which caused the thinning of egg shells that cracked during the rigors of incubation at the nest site. As a "top predator" eagles, like osprey, are susceptible to toxins in the food chain as the seemingly benign low levels begin to multiply the further up the chain you go. While their preferred food is fish, they may also eat waterfowl. Federally listed as an Endangered Species in 1967, within the United States the Bald Eagle remained unthreatened only in Alaska.

Fast forward to 1982, with the historical decline of agriculture, forested areas had largely returned to the Northeast. Coupled with our rivers slowly being restored, islands of habitat for a wide variety of animals were created. A team at Massachusetts Department Fish & Wildlife (MassWildlife), inspired by the success of a program in New York, initiated a program to re-introduce eagles to Massachusetts. At the 2012 OARS Annual



Meeting in May, Dr. Tom French, Assistant Director of MassWildlife and Director of the Natural Heritage and Endangered Species Program, held the audience spellbound with the story of the ambitious (and sometimes perilous) effort to bring back eagles to Massachusetts that has spanned three decades.

The team began by constructing a nesting platform on the shores of the Quabbin Reservoir. The program used a process called "hacking." Essentially you start with young eaglets taken from a nest in an area where eagles are not threatened, relocate them to their new home, place them in cages that overlook their future new territory, feed them plenty of fish and deer carcasses until they are ready to fledge (all the time never exposing them to humans on a regular basis). You then let them go and see what happens.

**Eagles, page 6**

## OARS' Photo Contest: Calling all Photographers

All photographers, young and old, novice and pro, are invited to enter. We are seeking photographs that illustrate the beauty and challenges of the Assabet, Sudbury, and Concord Rivers and their watersheds. Winning photos will be featured in our 2013 Calendar.

Complete rules and guidelines are at [www.oars3rivers.org](http://www.oars3rivers.org). Entry deadline is midnight September 21, 2012.



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# OARS

Protecting, preserving, and enhancing the Assabet, Sudbury, and Concord Rivers, their tributaries and watersheds for the purposes of public recreation, water supply, and wildlife habitat.

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## On the lookout!

The water was clear, turtles basked on logs, fish darted below, a heron rose out of the grasses with much wing flapping, and the biggest snapper we had ever seen ducked below the surface and swam under the canoe. It was a beautiful July day on the Assabet and we had a mission—to map every last water chestnut plant in the section between Cox Street in Hudson and the Gleasondale dam in Stow, and to remove them. We achieved the former goal (we think), but not the latter (but nearly!). Two weeks later the intrepid OARS volunteers who specialize in water chestnut pulling were out to finish the job.



I admit it, some of the most fun I have at OARS is when I toss aside my Executive hat, and don my Volunteer hat and head outside. For five hours I can pretend I am a field biologist, honing my pattern recognition skills as I scan the water's surface for the tell-tale rosettes of the invasive water chestnut plant. I've been trained, of course, by our (real) Staff Scientist Sue Flint, and I tap my gps-enabled mobile mapper's tiny screen to enter the location and number and type of invasive plant. Other trained volunteers have already been out mapping other sections of the Assabet, and I wonder what they found. Another screen to map trash might be useful!

You may have seen how the water chestnut has taken over large sections of the Sudbury River and some embayments of the Concord River, creating an impenetrable mat that prevents boating and fishing and creates very inhospitable conditions for most aquatic life. Only the large mechanized harvester of the US Fish and Wildlife Service can make a dent there. Valiant efforts by local groups have had remarkable success controlling the invasive plant in Fairhaven Bay on the Sudbury River, Hurd Pond, and other ponds in the watershed. The Assabet, however, is lucky to have only been infested more recently and the population is still possible to control by hand pulling. The down side is that the river is shallow, and hand pulling may be the only option—so it is up to us. Now.

Water chestnut has hard, spiky "chestnuts" that overwinter and can germinate for up to 12 years, which is, luckily, the only way they reproduce. As I dip my hand into the river and pull out a rosette, I find it connected to four more on the same stem (there can be up to 15). A single plant can produce 20 nuts, removing this strand of rosettes could prevent 100 new plants next year. This is an effort we cannot leave to chance. OARS is mapping the Assabet River from Northborough to Concord to systematically find all emergent populations and remove them.

As we neared Gleasondale dam with our canoe laden with water chestnut plants and our mapper in hand, we knew we could make a difference. But only if we do it now, and do it thoroughly. Kudos to those volunteers, and all of you who support our work, who will succeed in controlling this threat to our rivers. It is hard work, good fun, and very satisfying.

Alison Field-Juma  
Executive Director





## Mapping alien species on the Assabet

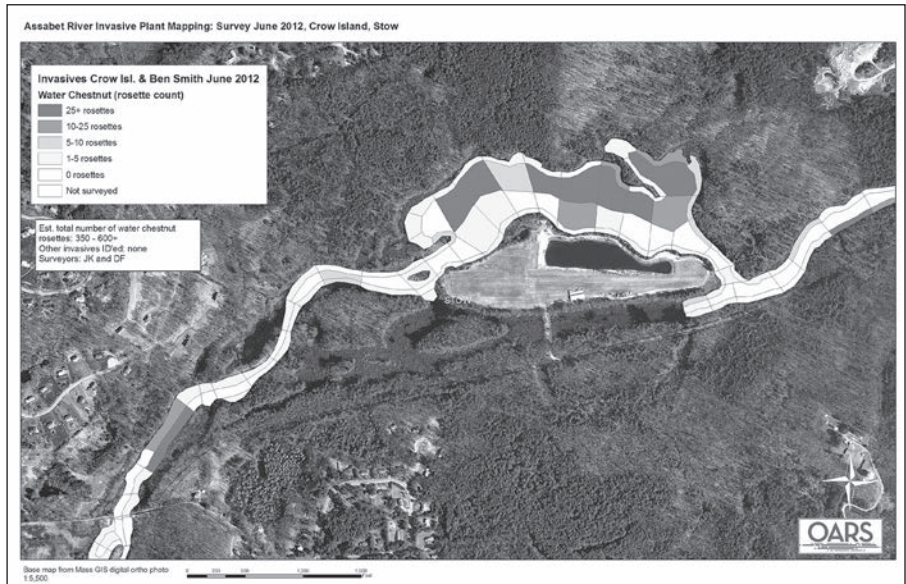
*Sue Flint*

This summer, OARS has been tracking down aliens on the Assabet—invasive, non-native, plant species that is! Paddling the Assabet River from Northborough to Concord, volunteers are on the lookout for invaders such as water chestnut, purple loosestrife, water hyacinth, and Eurasian milfoil. Hand-held GPS units are used to map smaller patches of water chestnut for immediate removal and to monitor the progress of OARS' water chestnut pulling efforts in Stow. The maps will be used to develop a 5-year plan to systematically control this invasive plant. Since it is much easier (and less expensive) to control smaller, newly introduced populations, early detection and rapid response are key to preventing the high-impact infestations like we see in sections of the Sudbury and Concord Rivers.

If you are heading out for a paddle, please take along one of our "Identify and Report Cards" (available at local outdoor stores, libraries, town halls, or download one from [oars3river.org](http://oars3river.org)) so that you can let us know where invasive weeds are growing.

This work, in cooperation with the SuAsCo Cisma (Cooperative Invasive Species Management Area) and Mass Audubon, is funded, in part, by a grant from the ERM Foundation.

Volunteers paddled the Assabet on the lookout for invasive weeds. Using GPS units programmed with a grid-covered map of the river, they were able to record the location of the weeds they found. This map shows the results of the Crow Island area in Stow.



## Volunteers rid the Assabet of invasive water chestnut

*Allan Fierce*

On three days in mid-July, groups of volunteers organized by OARS hand-pulled six truckloads (about 300 cu. ft.) of invasive water chestnut plants from the Assabet River in Stow. The effort was very successful and removed nearly all the water chestnut plants growing in the Stow portion of the river.

Water chestnut was introduced to North America from Eurasia in the 1870s; by 1879 plants were found in the Charles River. It is mainly in the northeastern US and Quebec, thriving in nutrient-rich lakes and rivers. The rooted, aquatic plants have floating leaf rosettes that may grow to a foot in diameter by mid-summer. Dense, nearly impenetrable beds of these rosettes can form on the surface, making canoeing and kayaking almost impossible. The

rosette beds also severely reduce oxygen levels in the water below, thereby harming aquatic life. The spiny nuts, when washed ashore, can inflict painful wounds to those who step on them.

OARS has been working over the past four years to remove the water chestnut infestation from the Assabet River while it can still be managed by hand. Volunteers in canoes need to return every year because the spiny chestnuts that drop into the river sediments can take 10-12 years to germinate. The goal each year is to hand-pick the growing plants before they reproduce and drop another generation of chestnuts. If this is done year after year until no more plants appear, an infestation can be eradicated and then only a small amount of effort can control any new

populations that may emerge (sometimes wildlife spread the seeds).

The work is hard and dirty. The roots are often embedded in the muddy river sediments, so when a volunteer grabs and pulls a rosette, the entire plant, muddy roots and all, can end up in the volunteer's lap in the canoe! When a canoe is filled to the brim with plants, the volunteers paddle to shore, offload the weeds, and head out for another load. While this may sound like an awful job, it's amazing to see the enjoyment on the faces of the volunteers as they haul out the weeds, and the satisfaction as they survey a newly cleared stretch of river. Many volunteers come back every year to see the progress and pull out another season's plants.

**Pulling water chestnut, page 4**





### 3rd Intel-OARS Environmental Innovator Contest

On March 15 teams from Marlborough High School, Westford Academy, and Lincoln-Sudbury High School presented their environmental innovation projects. State Senator James Eldridge spoke about how he became involved with his local river—the Assabet, how he continues to be an advocate for the environment in his work today, and why innovative solutions for our water problems are necessary in order to protect this valuable resource and reduce costs.

Representing Marlborough High School, the winning team of Rachel Crittendon and Eleni Kisty designed a device that would skim excessive algae from our waterways, earning them a \$500 prize. Celina D'Amico, Jackie Giammatteo,

Katie Milligan, and Erin McCarthy placed second for their innovation that would collect algae from the river through a basket-like system placed at dams. In third place, Martha Gowaski and Matthew Zinck addressed the problem of pharmaceutical pollution in water sources and sought to reduce them by using social marketing techniques.

**Are you a high school student? We hope you will participate in the 2013 Environmental Innovator Contest set to begin this fall. Call 978-369-3956 for more information.**

#### Pulling water chestnut page 3

*I've been volunteering with OARS to pull water chestnuts on the Assabet for the last few years, especially in the Stow portion upstream from the Sudbury Road bridge. The effort is definitely succeeding. In that area this year we saw many fewer rosettes than in the past.*

Many of the volunteers this year were OARS members from Stow and surrounding towns. A group of volunteers from ERM, an environmental consulting firm in Boston, aided the effort, as well as several multi-year volunteers from Intel. OARS would like to thank all of this year's volunteers for their successful labors.

All the collected plants were off-loaded on the shore and trucked to compost piles well away from the river. OARS would like to thank Rob Albright (Crow Island), Bob Collings (Collings Foundation airstrip), and Bob & Mary Cutler and George Simpson for allowing OARS to launch canoes from their properties. Many thanks also to Stow Acres Country Club, Bob Collings, Honey Pot Hill Orchard, and the Assabet River National Wildlife Refuge for allowing OARS to compost weeds in their compost piles. Special thanks are due to Tom Largy of Wayland and Dick Lawrence of Hudson who helped tremendously with their pickup trucks, and to Laurence Ullman and the Acton Boy Scouts for supplying canoes.





## 4th Wild & Scenic Film Festival packed the Fine Arts Theatre

Festival-goers were treated to an amazing evening of entertaining and inspiring films on March 7! The 16 short films included stunning aerial views of the Colorado River, the clever solution of “A Liter of Light”, the greening of Girl Scout cookies in the Brower Youth Awards, and the remarkable success of a community that now runs their own renewable energy national power grid in Germany. For a list of the films and a link to their trailers, visit [oars3rivers.org/event/filmfestival](http://oars3rivers.org/event/filmfestival).

OARS thanks the Fine Arts Theatre, the Maynard Cultural Council, and the Town of Maynard’s Selectmen for making the evening possible. We also thank our Supporting Sponsors: Patagonia Boston, Epsilon Associates, Kangas & Arnold, P.C., O’Reilly, Talbot & Okun Associates, and Thoughtforms. Thank you to our Community Sponsors: Nashoba Brook Bakery, Concord Outfitters, Gallery Seven, Boston Sailing Center, Wright Touch, Zoar Outdoor, EMS, REI, Whole

Foods, Global Goods, Cast Iron Kitchen, Halfway Café, El Huipil, Acton and Stow Colonial Spirits, Walden Liquors, Dabblers, Concord Players, Dance This Way, Quilters Way, Sugar Snap, and Reasons to be Cheerful. The film festival was also made possible thanks to National Sponsors: Patagonia, Osprey, Cliff Bar, Sierra Nevada, and Mother Jones.

A big thank you to our favorite emcee EJ Labb and the theatre tech crew of Ashley McFarland and Micaela Murphy. OARS also wishes to thank our volunteers and everyone who came out to see the films and support clean water in our Wild & Scenic Rivers, the Assabet, Sudbury, and Concord. See you next March!

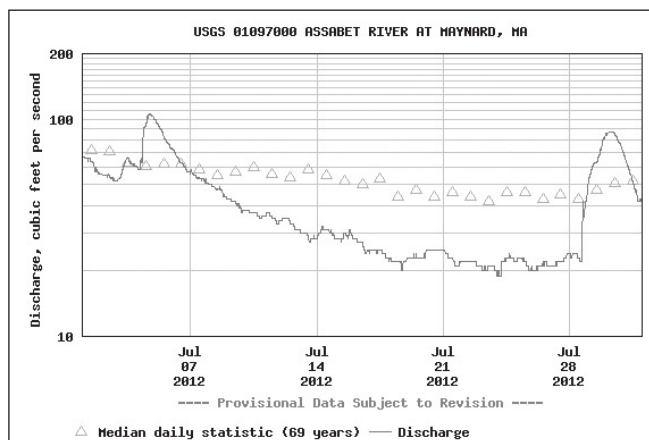
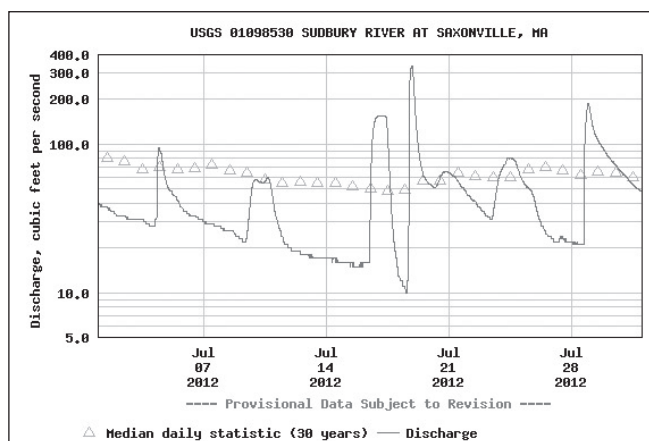
### River Steward Award



Lee Steppacher presenting the award from the SuAsCo Wild and Scenic River Stewardship Council and the League of Women Voters.

*Dave Griffin has brought his many and varied talents to honor and protect the Sudbury, Assabet and Concord Rivers. As President of the Board of OAR and now OARS, Dave has skillfully guided the organization through important and challenging transitions including the expansion of mission to include all three rivers in the watershed. His leadership has enabled the organization to grow and strengthen its successful advocacy, education and scientific programming. Dave’s keen eye, as revealed through his river photographs and presentations, has brought the river, its natural and human history, to life for many people.*

### Watching the river flow (or not)



Have you ever wanted to know what the levels of our rivers are? The USGS on-line gauges give you real-time river flow (in cubic feet per second) and height (in feet).

Sudbury River (in Saxonville): [http://waterdata.usgs.gov/ma/nwis/uv?site\\_no=01098530](http://waterdata.usgs.gov/ma/nwis/uv?site_no=01098530)

Assabet River (in Maynard): [http://waterdata.usgs.gov/ma/nwis/uv?site\\_no=01097000](http://waterdata.usgs.gov/ma/nwis/uv?site_no=01097000)



## Eagles page 1

With great fanfare two eaglets arrived in Massachusetts. They were taken from nests in the Upper Peninsula of Michigan, flown to Logan Airport, and then flown again to Quabbin. The 5-pound eaglets were taken from their crates, subjected to a bit of a media photo session, and then placed in their cages where, after settling down from all the commotion they began to nibble on the fish that was provided for them. (Wildlife biologists normally do not name the animals they work with, but given the historic nature of their arrival the pair were dubbed “Betsy” and “Ross.”) The MassWildlife team repeated this process, minus most of the fanfare, for seven years—and succeeded in releasing 41 eagles who now saw Quabbin as their home.

It should be noted that the effort that went into this program was immense, but it was also a labor of love for those involved. Raising eagles in a wild setting, in all manner of weather year-round, is a difficult task. Each growing eaglet consumed several pounds of fish or meat per day, which had to be caught, prepared, and hauled up the hacking tower. At the program’s peak, eight eagles were being cared for at one time. When it came time to release the eagles they were banded and outfitted with radio trackers and the team was tasked with following them and later identifying the banded birds from sightings.

It takes four to five years for an eagle to reach maturity and begin breeding. In 1987, five years after starting the program, the team noted the beginnings of an eagle

### High velocity courtship

“Courtship occurs in mid- to late winter and is a spectacular sight consisting of aerial loops, cartwheels, dives, and ending with the prospective mating pair locking their talons together and diving straight downward for hundreds of feet while spinning head over heels. . . . They mate for life [up to 30 years], but if one member of a pair dies or is killed, the other will actively court another mate.”

MESA Fact Sheet



Dave Griffin

nest site near the Quabbin Reservoir and in 1989 that site became an active nest with two chicks. Banding showed that the male was Ross (one of the original eaglets) and the female was from a 1985 release. The chicks were banded and over the next twenty years more than 375 eagle chicks would be banded by MassWildlife biologists.



Bill Byrne (Mass Wildlife)

From that point on the Bald Eagle population in Massachusetts has grown and eagle territories now span the Commonwealth. Removed from the Federal endangered species list in 2007, it is still listed on the Massachusetts list as Threatened. Nests first appeared along the Connecticut River, then in Middleborough, along the coast, Brookfield, and, closer to us, the Wachusett Reservoir in Boylston, and then the Merrimack River. In 2010 there were 32 active Bald Eagle nests in Massachusetts and during the 2011 annual Eagle Count, a record 104 Bald Eagles were wintering in the Bay State.

How many eagles can Massachusetts support in the 21st century? Nobody really knows, but the statistics indicate that we haven’t yet reached a plateau. During his OARS talk Tom French noted that some eagle deaths are now occurring due to

the competition between eagles for prime nesting sites. Eagles were long thought to be incapable of living near human influence, but like the osprey they are showing a remarkable tolerance. Indeed, there are eagle nests in people’s backyards in West Newbury and Lunenburg.

Due to the 30 years of dedication and expertise of the MassWildlife team, coupled with cleaner and healthier waters and protected habitat, I look forward to the day when we spot our first eagle nest somewhere along the Assabet, Sudbury and Concord Rivers. We hear there is one there. So keep an eye out for one of the more skilled masters of the skies—our nation’s symbol since 1782.

### Lofty eagle nests

Bald Eagle nests are built of large sticks and lined with soft pine sprigs and grasses and can measure 12 feet high and 8.5 feet wide. The male eagle collects the materials and the female does most of the construction. She builds the nest 30-120 feet above the ground in tall hardwood or conifer trees, ideally placing it below the crown where it has some protection from the weather but still commands a good view. She lays one to two eggs in March or early April; eaglets take their first flights 15 weeks later.

*For a detailed account of the restoration read “Bringing Back Magnificence: 30 Years of Bald Eagle Restoration” by Bill Davis—one of the MassWildlife team members ([www.oars3rivers.org/river/wildlife/birds](http://www.oars3rivers.org/river/wildlife/birds)). See also the Department of Fish and Game’s List of Rare Species in Massachusetts and linked fact sheets at [www.nhesp.org](http://www.nhesp.org). We are deeply grateful to Dr. Tom French for sharing his story of the eagle restoration project at our Annual Meeting in May.*



Bill Byrne (Mass Wildlife)

## Welcome, New Members!

John Aberhart  
Donald Shobrys and Carol Aronson  
Azusa Matsubara  
Mr. and Mrs. Douglas Bajgot  
Deborah Blicher  
Bradford Mill, LLC  
Catherine Scholz and Paul Brient  
Melanie Britton  
Doug and Aviva Brooks  
Mr. William Burke  
Linda Butler  
Bill Chiarchiaro  
David Cole  
David and Priscilla Cotter  
Carol Crawford  
Patricia Dubay  
Mr. and Mrs. Bob Ellsworth  
Margaret Espinola  
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In Memory of Gobind Khorana  
Judy and Howard Blatt  
Julia Blatt and Ken Siskind  
Bette Pounders  
Pam Rockwell  
MetroWest Nonprofit Network

In Memory of Carol Holley  
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# OARS

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Make checks payable to OARS  
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Go to [www.oars3rivers.org](http://www.oars3rivers.org), click  
on "join or renew." Then follow  
the instructions. OARS will be  
automatically notified.

- If your employer has a matching  
gift program, please include the  
company's form.
- Your membership dues are tax  
deductible and include a subscription  
to the *OARS Newsletter*.

**Thank you for your support!**

## OARS 26th Annual River Cleanup

**Saturday, September 15  
9am to noon**

Join us clean up the Assabet, Sudbury, and Concord Rivers!

With your help we will haul trash, tires, bottles, car parts, bicycles - whatever  
we find that shouldn't be there - to shore for more appropriate disposal.

The morning of hard but rewarding work will be followed by  
pizza celebrations along the rivers.

Details at [www.oars3rivers.org](http://www.oars3rivers.org).

To volunteer, call 978-369-3956 or email [office@oars3rivers.org](mailto:office@oars3rivers.org).

# OARS

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# OARS

OARS is your local river conservation organization. Established in 1986 to protect the Assabet River, OAR added the Sudbury and Concord Rivers to its mission in 2011 and became OARS.

OARS has over 900 members, a dedicated board of directors, a small professional staff, and a large corps of active volunteers. Our work benefits all communities in the Sudbury-Assabet-Concord watershed.

Please visit us at [www.oars3rivers.org](http://www.oars3rivers.org)

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## Sudbury-Assabet-Concord Watershed

