File Copy

SCANNED 8-3-22 Dr

Town of Essex

Inland Wetlands and Watercourses Commission

Revised 3/9/2022

Application # 22-11 Date received by Office 7/29/22 Fee 130.00

Owner of Record Matthew and Jean Walston

Home Address 20 River Road, Essex, CT

Mailing Address: Same

Phone: Home/Cell 860-798-4528 Work: _____

Applicant's Name: Matthew and Jean Walston

Home Address 20 River Road, Essex, CT 06426

Mailing Address: Same

Phone: Home/Cell 860-798-4528 Work: _____

Applicant's interest in the land if the applicant is not the property owner _____

Location of Property by Street & Village Address: _____

Map 18 Lot 002 Lot Size 5.48 ac. District RU

Check applicable activities occurring in or within 100 feet of wetlands and/or watercourses:

Construction of a structure(s)	X	Discharge	
Other site development work	X	Pond creation/dredging	X
Deposition or removal of material		Tree removal	
Stream altering/channelization		Dam maintenance	
Subdivision/Resubdivision		Other	

Nature of Request: Explain in detail the extent of any activity checked above, the type of material, and the equipment to be used to complete project. (Use additional sheets if necessary.)

See Attached

Estimated length of time for project : **6 months**

Note:

1) TO BE ACCEPTED BY THE LAND USE OFFICE. THIS APPLICATION MUST BE COMPLETED, SIGNED, AND SUBMITTED WITH THE REQUIRED FEE(S) AND MAP(S) PREPARED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS.

2) THE SUBMITTAL OF THIS APPLICATION CONSTITUTES THE PROPERTY OWNER'S PERMISSION FOR THE COMMISSION OR ITS STAFF TO ENTER THE PROPERTY FOR THE PURPOSE OF INSPECTION.

3) I HERBY AGREE TO PAY ALL ADDITIONAL FEES AND/OR ADDRESS SUCH COSTS DEEMED NECESSARY BY THE LAND USE OFFICE AS DESCRIBED IN PART THREE OF THIS APPLICATION.

Explain what alternatives have been considered in connection with this application to avoid altering inland wetlands and/or watercourses?

Few alternatives exist as the existing pond needs to be restored and rejuvenated. The barn is being placed in an area accessible to the existing drive and the pool is being placed in a flat area adjacent to the existing house.

ACTIVITY LOCATION (Map with sufficient detail must be submitted as a part of the application)

Approximate number of acres of wetlands (or portion thereof) on the property: 2.1
Approximate area of inland wetlands to be altered: 0.16

Approximate length of watercourse(s) on the property: 425'
Approximate length of watercourse(s) to be altered: 0'

Approximate number of acres of upland review area on the property: 1.95
Approximate area of upland review area to be altered: 0.10

If known, are vernal pools or tidal wetlands located on the property? No
If yes, where and how many acres (or portion thereof) on the property?

Is property located within a Special Flood Hazard Area? Yes
If yes, where and how many acres (or portion thereof) on the property?

Has the property been flagged by a licensed soil scientist Yes
If yes, by who, and when? R. Richard Snarski 04-01-22

Will there be water discharge into wetlands? No

Discharge – Specify Type

Please complete the attached State Reporting Form

ADDITIONAL INFORMATION MAY BE REQUIRED DEPENDING UPON THE COMPLEXITY OF THE PROJECT.

State the names of all property owners adjacent to the subject property:

Name of Adjacent Property Owner	Street Address (include Mailing Address if Different
See Attached	

For large properties, please attach another sheet if necessary.

CERTIFICATION:

The applicant understands that this application is to be considered complete only when all information and documents required by the Commission have been submitted. The undersigned warrants the truth of all statements contained herein and in all supporting documents according to the best of his/her knowledge and belief. Permission is granted to the Town of Essex Inland Wetlands and Watercourses Commission and its agent(s) to walk the land, at reasonable times, and perform those tests necessary to property review the application, both before and after a final decision has been issued.

Applicant's Signature Robert L Doane Jr. Date 7-29-22

Agent for Applicate: Robert L. Doane, Jr., P.E., L.S., Doane Engineering

Owner's Signature Robert L Doane Jr. Date 7-29-22

Agent for Owner: Robert L. Doane, Jr., P.E., L.S., Doane Engineering

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Commission Action	_____ Approved	_____ Denied	_____ Date
Agent Action	_____ Approved	_____ Denied	_____ Date

PROJECT DESCRIPTION
20 RIVER ROAD
ESSEX, CT
July 26, 2022

Matthew and Jean Walston recently purchased the house and property at 20 River Road in Essex. The property is a 5.4 acre parcel on the Falls River. In addition to the Falls River crossing the property, the property also has a house, garage, and a pond. The Walstons are proposing to construct a barn, restore and rejuvenate the pond and construct an inground swimming pool together with regrading of the lawn area to correct a saturated lawn condition. The modifications to the pond will include excavation and removal of the sands, organics, leaves and other deleterious materials that have accumulated in the pond. Approximately 800 cy of material is proposed to be removed from the pond creating a maximum depth in the center of approximately 12 feet and creating an aquatic shelf to support a controlled emergent growth along the western side of the pond. It is also proposed to install a dock on the western side, as shown on the attached site plans. The proposed improvements to the pond will allow the pond to be used for recreational purposes as it was several years ago.

The sequence of the work will include the installation of silt fence, as shown on the plan. Excavation and dredging of the pond utilizing the stockpile area to allow the excavated material to dry. Suitable organic soils that are removed from the pond will be used to regrade the lawn on the western and northern side of the pond. Excess material will be removed from the site.

Construction of the pool will involve excavation for the pool, stockpiling of the material in the location shown on the plan and installation of the pool followed by regrading, installation of the patio and the safety fence. Then removal of excess material, regrading the lawn area and placing topsoil on the regraded lawn followed by seeding, fertilizing, and mulching as required.

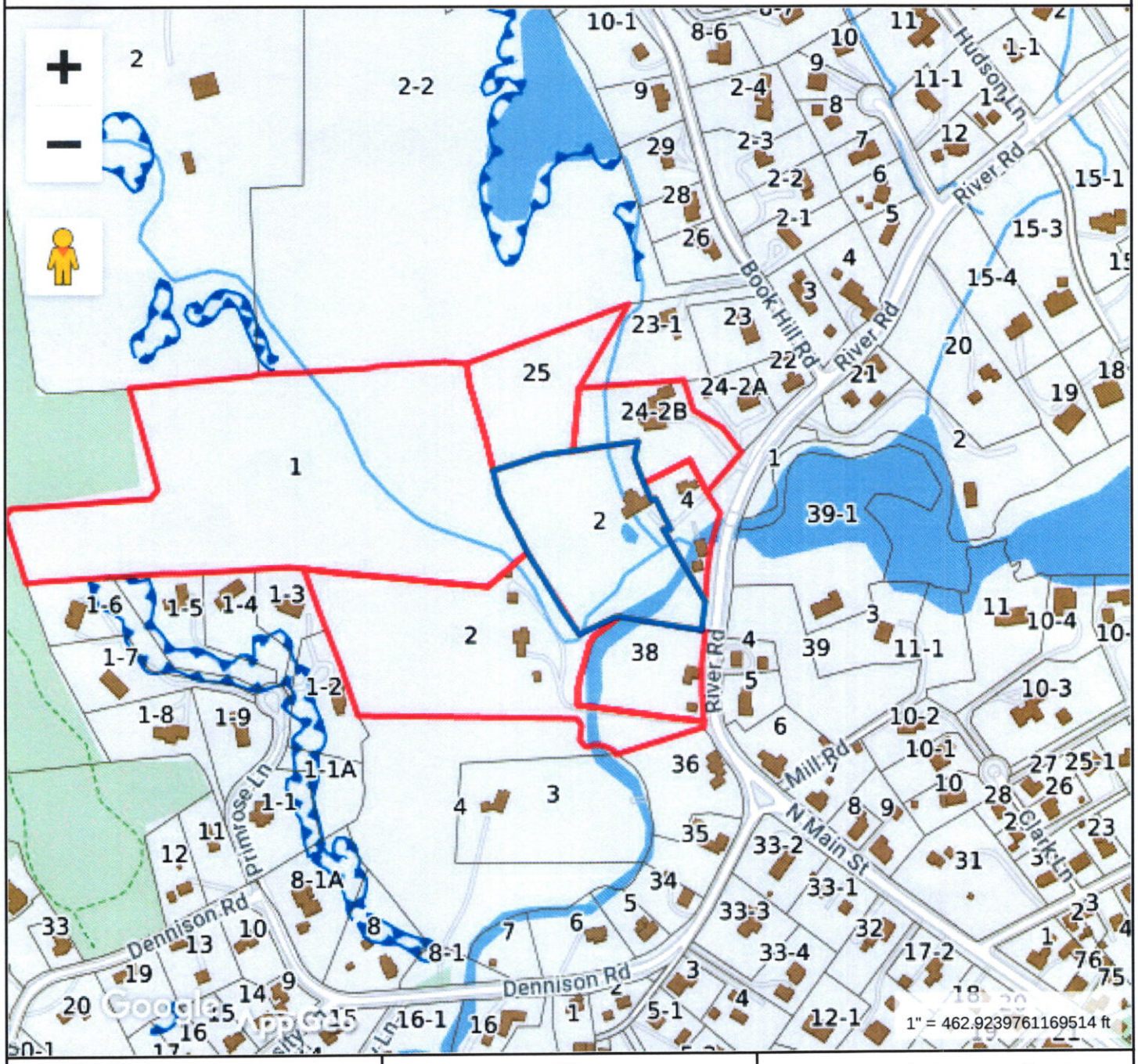
The plantings on the aquatic shelf and along the edge of the pond as detailed by Richard Snarski will be installed when the lawn is stabilized. This work will be done with assistance from Richard Snarski for placement and planting of the plants that he has specified. Mr. Snarski will inspect the plants in approximately one year to assess and modify the plantings as required. If necessary, the pond will be aerated to maintain a suitable oxygen level.

Once the excess materials have been removed, the barn will be constructed with the western side of the barn supported by piers. The lower area under the barn in the flood plain will be left open to avoid impacts on the flood carrying capacity of the Falls River. A schematic section of the proposed barn is shown on the site plan. The barn will be constructed in the location shown on the site plan to provide access to the barn from the existing driveway.

It is anticipated that the proposed activity will take approximately 6 months to complete.

ADJOINERS
20 RIVER ROAD
ESSEX

ID	Site Address	Owner Name	Owner Address	Owner City	ST	ZIP
18-004	18 RIVER RD	BEVERIDGE JOHN P	18 RIVER RD	ESSEX	CT	06426
10-024-2B	22 RIVER RD	LUSTER STEVEN M & MARY E	22 RIVER ROAD	ESSEX	CT	06426
18-001	RIVER RD	SHANE DANIEL CHRISTOPHER TRUSTEE	89 MAIN STREET	IVORYTON	CT	06442
10-025	BOOK HILL RD	SHANE DANIEL CHRISTOPHER TRUSTEE	89 MAIN STREET	IVORYTON	CT	06442
17-038	4 RIVER RD	SURDAM ROBERT M JR & ELLIS PATRICIA A	4 RIVER RD	ESSEX	CT	06426
25-002	2 RIVER RD	LOVELACE LEAH O	2 RIVER RD	ESSEX	CT	06426



Property Information

Property ID	18 2
Location	20 RIVER RD
Owner	WALSTON MATTHEW & JEAN

MAP FOR REFERENCE ONLY
NOT A LEGAL DOCUMENT

Town of Essex, CT makes no claims and no warranties, expressed or implied, concerning the validity or accuracy of the GIS data presented on this map.

Geometry updated 4/13/2021
Data updated daily

Print map scale is approximate. Critical layout or measurement activities should not be done using this resource.

Connecticut Department of
ENERGY & ENVIRONMENTAL PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

GIS CODE #: _____
For DEEP Use Only

Statewide Inland Wetlands & Watercourses Activity Reporting Form

Please complete this form in accordance with the instructions on pages 2 and 3 and mail to:
DEEP Land & Water Resources Division, Inland Wetlands Management Program, 79 Elm Street, 3rd Floor, Hartford, CT 06106
Incomplete or incomprehensible forms will be mailed back to the inland wetlands agency.

PART I: Must Be Completed By The Inland Wetlands Agency

1. DATE ACTION WAS TAKEN: year: _____ month: _____
2. ACTION TAKEN (see instructions - one code only): _____
3. WAS A PUBLIC HEARING HELD (check one)? yes ☐ no ☐
4. NAME OF AGENCY OFFICIAL VERIFYING AND COMPLETING THIS FORM:
   (print name) _____ (signature) _____

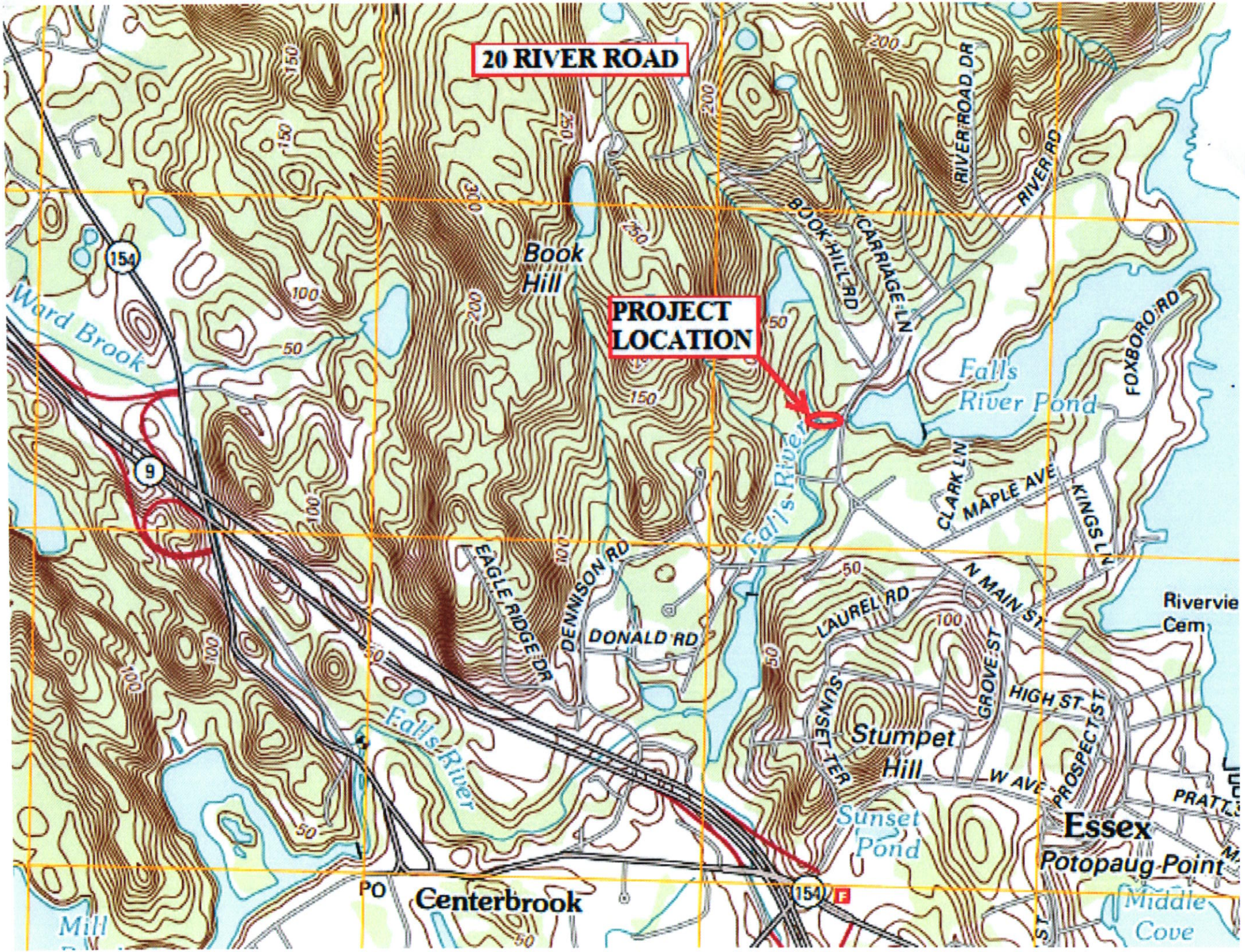
PART II: To Be Completed By The Inland Wetlands Agency Or The Applicant

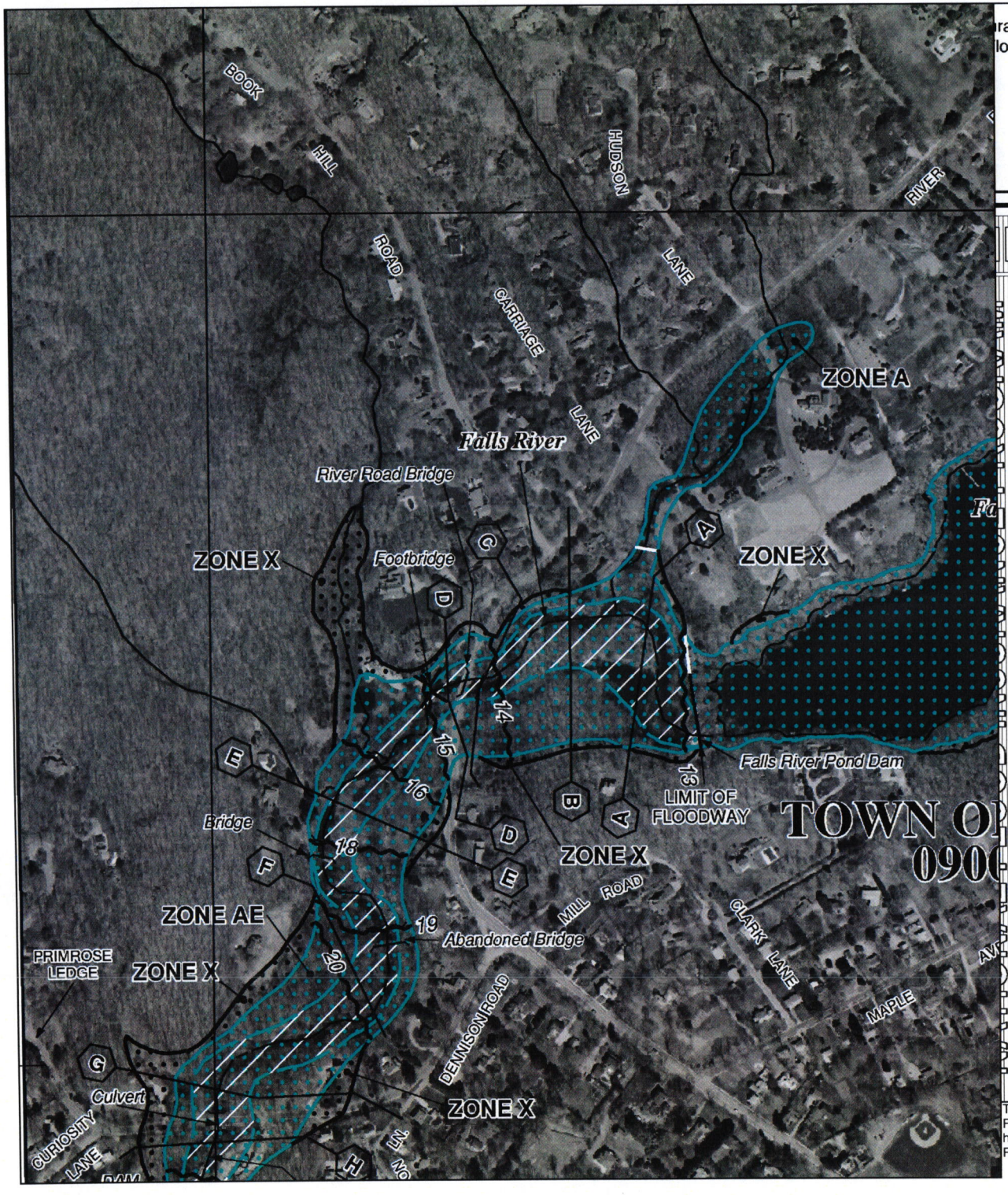
5. TOWN IN WHICH THE ACTIVITY IS OCCURRING (print name): Essex
   does this project cross municipal boundaries (check one)? yes ☐ no ☒
   if yes, list the other town(s) in which the activity is occurring (print name(s)): _____, _____
6. LOCATION (see instructions for information): USGS quad name: Essex or number: 99
   subregional drainage basin number: _____
7. NAME OF APPLICANT, VIOLATOR OR PETITIONER (print name): Matthew and Jean Walston
8. NAME & ADDRESS OF ACTIVITY / PROJECT SITE (print information): 20 River Road, Essex CT
   briefly describe the action/project/activity (check and print information): temporary ☐ permanent ☒ description:
   Proposed to construct barn, renovate pond, construct swimming pool, dock and regrade lawn area
9. ACTIVITY *PURPOSE* CODE (see instructions - one code only): A
10. ACTIVITY *TYPE* CODE(S) (see instructions for codes): 2, 10, 12, _____
11. WETLAND / WATERCOURSE AREA ALTERED (see instructions for explanation, must provide acres or linear feet):
    wetlands: 0.03 acres open water body: 0.13 acres stream: _____ linear feet
12. UPLAND AREA ALTERED (must provide acres): 0.10 acres
13. AREA OF WETLANDS / WATERCOURSES RESTORED, ENHANCED OR CREATED (must provide acres): 0.13 acres

PART III: To Be Completed By The DEEP

DATE RECEIVED: DATE RETURNED TO DEEP:

FORM COMPLETED: YES NO FORM CORRECTED / COMPLETED: YES NO


20 RIVER ROAD
PROJECT LOCATION
Book Hill
Ward Brook
Falls River Pond
Falls River
Stumpet Hill
Sunset Pond
Centerbrook
Essex
Potopaug Point
Middle Cove
Rivervie Cem
BOOK HILL RD
CARRIAGE LN
RIVER ROAD DR
RIVER RD
FOXBORO RD
CLARK LN
MAPLE AVE
KINGS LN
N MAIN ST
LAUREL RD
DONALD RD
DENNISON RD
EAGLE RIDGE DR
SUNSET TER
GROVE ST
HIGH ST
W AVE
PROSPECT ST
PO
154
9



rance is available in this community, contact your insurance lood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

0 500 1000 FEET

P

PANEL 0332G

FIRM

FLOOD INSURANCE RATE MAP

MIDDLESEX COUNTY, CONNECTICUT

(ALL JURISDICTIONS)

PANEL 332 OF 450

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ESSEX, TOWN OF	090065	0332	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
09007C0332G

EFFECTIVE DATE
AUGUST 28, 2008

Federal Emergency Management Agency

How To Maintain A Healthy Pond

By Peter V. Fossel

Jul 25, 2019

It might be pushing things to call our farm pond a "pond," because you can't actually see much water in summer. What you see instead is algae, weeds, and bullfrog eyes. "You don't have a pond, you have a wetland," says Fred Snyder, district specialist with the Ohio State University extension service, "and if that works for you, you're in business."

It doesn't work for many people, however, so Snyder's services are highly sought after by those who want their ponds "fixed."

"The main problems ponds have are too many weeds, too much algae, and not enough oxygen in summertime," he says. Depleted oxygen causes fish to die.

To keep a pond healthy, you've got to do several things, he says. The first is to reduce weed growth by eliminating nutrient sources such as lawn or farm fertilizer, livestock manure, or septic tank leachate (liquid produced by water trickling through the waste). "Pond weeds are a natural process, but we speed it up with fertilizer runoff," he explains.

"Autumn leaves are a double-whammy if you have trees around the pond," he says. Falling leaves contain 60 percent of the nutrients a tree takes in during a year, he explains, so those nutrients now feed pond vegetation. In decomposing, leaves also take up dissolved oxygen, thus competing with fish for the oxygen supply. This results in more nutrients to feed even more pond weeds.

"It's a natural ecosystem," Snyder says. "Mother Nature wants plants in a pond. People don't. There's been a change in our mindset since the days of bullfrogs on lily pads. Now people want ponds to be like a swimming pool, with crystal clear water full of 5-pound bass. But you can't have both."

To eliminate the shallow water where weeds thrive, a pond should have relatively steep sides and good depth. A good slope is 1 foot down to every 3 feet across, and Snyder recommends that 25 percent of the pond be more than 8 feet deep - both for fish habitat and weed reduction.

Oxygen depletion causes fish kills in summer because oxygen is less soluble in warm water, which is exactly when fish are most active and need more oxygen.
"Learn to spot the problem," Snyder says, "because if it's serious, it's immediate, and you have to act. You don't have time to price-shop for an aerator."

Farm Pond Maintenance

Caring for your farm ponds properly will ensure they remain a healthy, well-balanced water source. Learn how to prevent and troubleshoot some common pond problems to keep your ponds in good shape for years to come.

Ponds are a water source for livestock, a place to gather with friends and family, a relaxing addition to an already scenic view, and a potentially endless source of recreation and food.

Ponds aren't just passive bodies of water. They are living, breathing ecosystems that change not just as the seasons change, but as they age. Young or old, every pond is different, and each one needs to be tended like a garden. The plant communities, the fish, the frogs and turtles and bugs, even the water itself are all in a constant state of change. Left alone, that change could result in a gradual decline in health.

"It's a rare pond that doesn't need some sort of care, especially older ponds," says Penn State Extension Water Resources Coordinator Bryan Swistock.

Choked with weeds

One of the most common problems is an overabundance of vegetation, either in the water or around the edge of the pond itself. Submerged or emergent aquatic vegetation by itself isn't necessarily bad. In fact, not only can aquatic plants add to the beauty of the water, they can benefit a variety of fish and wildlife and even the water quality itself. Shoreline vegetation, like cattails, catches sediment before it makes it into the water. Submerged vegetation, like pondweed and elodea, helps remove excess nutrients, resulting in clearer water.

The problem, says Swistock, is that many aquatic plants never stop spreading, and eventually swallow the shoreline or the entire body of water itself. Cattails can grow so thick they actually block easy access to the pond. Hydrilla, a non-native, highly invasive plant, can grow a foot or more per day. Left unchecked, it forms a dense, unsightly mat on the surface, making boating and fishing nearly impossible.

"The first thing you need to do is positively identify what's growing in or around your pond," says Swistock. "There are a number of good resources on the internet to help identify aquatic plants. You can also send a picture to your local extension office. If they don't have an expert on hand, they'll certainly know who to contact to get answers."

No matter what plants are growing in or around your pond, there are a number of ways to keep emergent and submerged aquatic vegetation in check. The simplest way is to use an herbicide, but make sure it's made specifically for ponds. Glyphosate-based products, among others, are harmful to fish and other aquatic organisms. Read the label before applying any chemical.

"Some chemicals only control specific types of plants, also, so it's important to know what you have before you start applying any chemicals, and whether that herbicide will control the plants you want to control," says Swistock.

If you don't want to use any chemicals, a handful of natural methods have shown good results. Cutting, raking, and pulling by hand can be an effective way to reduce or remove unwanted plants. Manual control can be

labor-intensive, especially if the weeds are abundant. Swistock also warns that cutting can actually make the problem worse.

"Some plants will actually grow from pieces, so if you cut one plant into many little pieces, you've just created a lot of plants that could spread to new areas," says Swistock.

Cutting or pulling aren't necessarily realistic in large ponds, which means you'll have to use chemicals, or grass carp. These non-native fish are available through licensed fish farms and are a common tool in aquatic weed control. They won't eat lily pads, cattails, and other above-surface vegetation. Nor will they eat filamentous algae. The thick, green, hair-like mats of filamentous algae are a common sight in some ponds in the summer. Like other plant life, filamentous algae can be raked out and tossed into the garden, but that's a temporary solution. In addition, pulling by hand may be a monumental task in larger, deeper ponds.

Coping with algae

"Some algae is actually beneficial to the health of a pond. It's the base of the food chain. A lot of pond owners in the South actually fertilize ponds to stimulate algae growth, which feeds the bottom of the food chain and can result in better fish populations. Unless you want what's essentially a swimming pool, you don't want to completely eliminate algae from your pond," says Swistock.

Too much of a good thing can lead to serious issues, though. A sudden die-off of a large amount of algae can deplete a pond's oxygen levels, and this can lead to a fish kill. Excessive algae also results in unsightly and foul-smelling water. No one wants to swim in a pond of "pea soup."

It's certainly possible to rake or otherwise manually remove filamentous algae, but suspended microscopic algae can't be controlled by hand. That is, you can't rake it or otherwise remove it from the water. Grass carp don't eat it, but blue tilapia do. A common food source now found throughout the world, tilapia are also becoming more popular as a biological algae control.

Check your state's biology regulations before you stock tilapia, though. Because they're native to parts of Africa and Asia, some states won't allow private citizens to stock them. What's more, tilapia aren't tolerant of cold water and will typically die when the water falls to the mid-to-low 50s, making them a poor choice for northern ponds. Check with your state fish and wildlife office to find out if tilapia are an option.

If you stock tilapia, you'll not only see a reduction in algae, you'll be able to net fish for dinner. (They're difficult, if not impossible, to catch on a baited hook.) They grow rapidly and will reproduce as frequently as every 30 days. Baby tilapia are outstanding forage for the bass and catfish in your pond. The fish you don't eat can be converted to fertilizer, giving your soil a tremendous boost of nutrients.

Other methods, like chemical treatments and dyes, can also decrease the algae in a pond. Some pond owners have used barley straw to reduce algae growth. Scientists aren't exactly sure why barley straw prevents algae blooms, but various research has shown it to be fairly effective. It won't control filamentous algae, and adding and then removing it can be labor-intensive.

Like tilapia, though, barley, dyes, and even chemicals are only temporary fixes. You'll be fighting algae for the life of the pond if you don't get to the root cause.

Find the source

That root cause is almost always an excessive amount of phosphorous, nitrogen, or both. Find that source and reduce or eliminate it.

"One of the most common sources of those nutrients is from fertilizer, either from a lawn surrounding the pond or from a nearby agricultural operation. Fertilizer on crops or manure runoff can put a very high level of nitrogen and phosphorous in the water, which feeds the algae," says Swistock.

Preventing those nutrients from getting into your pond can be as simple as reducing or eliminating the use of fertilizer on the land directly around the pond, or as difficult as creating buffer strips along feeder streams. A strip of unfertilized vegetation adjacent to a stream or even along the pond itself can trap nutrients before they reach the water.

"Another option is to build a small, deep pond upstream from your main pond. That can trap sediment and reduce the level of nutrients that reach the main pond," says Swistock.

Drastic solutions

In the most extreme cases, you might need to drain, dredge, and refill the pond. Years of sedimentation can shrink a pond. So can decades of leaf litter and layer upon layer of dead aquatic vegetation. The muck created by decaying plant matter can result in a cycle of excessive nutrients that can only be solved by removing that muck.

There are biological tools that can work. Beneficial (and harmless) bacteria can be added to a pond to "eat" the muck. However, products such as MuckAway are expensive and can take months to have any impact, and they may never catch up to decades of accumulated organic debris on the bottom.

"Adding an aeration system is another viable solution. By oxygenating the entire water column, you help the good bacteria break down the muck where it might not be able to without adequate oxygen," says Swistock. "Diffused aeration is best, but surface aeration from a fountain can work in certain situations, as well."

Dredging and aerators may seem like an expensive fix, but when you consider all that your pond gives you, that cost is a little less painful. After all, that body of water down the hill from your house isn't just a nice addition to the view. It serves as a bond between you and your family and friends. It's a source of food and a place to relax and get back to nature. Take care of it, and it will take care of you.

Manage the Fish

Whether your pond is a source of food, a place to cast for trophy-sized bass, or a little of both, the fish need to be managed. Although every pond is different, there are some general rules that help create a healthy fishery. In most situations, that management includes removing fish, lots of them. Sunfish and crappie in particular are prolific breeders and can overpopulate a pond in just a few years if left unmanaged. An overabundance results in slow growth rates and thinner fish.

Although there are formulas for how many fish of various species to keep, Virginia Department of Game and Inland Fisheries biologist John Odenkirk says there are too many variables to use any concrete numbers.

"It depends on the water quality, the size of the pond, even the goals you hope to accomplish," he says. "One general rule is to keep 5 pounds of prey fish, like bluegills, for every pound of predator, like bass. Again, though, that depends on your goals."

Most biologists don't recommend adding crappie to ponds, but lots of ponds already have them. If yours does, keep every crappie you catch, says Odenkirk.

"They compete with the bass for forage, so if you have a lot of crappie, you will probably have a lot of small bass, too," he adds.

According to Odenkirk, catfish rarely repopulate, so they must be stocked regularly. That means they can be kept as soon as they're big enough to eat. Even better, channel catfish don't compete with bass and bluegill and are a good addition to almost any pond.

Resources

Your state cooperative extension service likely has a pond management expert who can offer advice. Most don't do onsite visits, but they can answer your questions over the phone or via email. A quick Google search can put you in touch with your local extension office.

"We also have organized, on-site, day-long workshops that cover a wide variety of pond-related management activities," says Swistock. "They're a great learning resource for pond owners."

The answers to most questions may be available online. The internet is filled with great pond management information, including everything from resolving water quality issues to basic fish management advice. The site www.Pondboss.com is a great starting point. It has a busy forum where you can get answers to most every pond question you might have.

If you still aren't sure, consider hiring a pond management consultant. They specialize in everything from new pond construction to water management, troubleshooting, and even fish stocking. They charge for their services, but it could be money well-spent.

Written by David Hart