



SECTION

8



FISHERIES MANAGEMENT

People have been catching fish for over 40,000 years. Why not? Fish are great to eat and fun to catch. But what happens when people keep too many fish? The fish that remain can't reproduce fast enough to sustain their population and few if any fish are left to catch. Fish populations can also be reduced by habitat destruction. Very simply, if you destroy the places where fish live, there will be fewer fish. Fisheries management involves protecting fish and their habitat in order to keep fishing great today and for generations to come.

Fish populations are commonly managed through:

1. Fishery assessments
2. Protective regulations
3. Stocking
4. Habitat protection and improvement

Let's take a closer look at each.

FISHERY ASSESSMENTS

Biologists check the condition of a fishery by conducting fish population surveys or collecting information from anglers. During surveys they use nets alone or with electrofishing gear to capture fish (see cover). Electrofishing uses electricity to temporarily stun fish. Fish are then identified by species, measured, weighed and released. When biologists want to know the age of a fish, they take some of its scales. Like a tree, fish grow a new scale ring each year. The number of rings tells the age of the fish.

Information biologists gain during a survey may include the types of fish present in a waterbody, how abundant and large they are, and how fast they are growing. Such information is useful in determining the condition of a fishery. Depending on what they find, biologists may use one or more of the following management actions to maintain or improve a fishery.

REGULATIONS

Fishing regulations prevent overfishing, allow fish to grow to larger sizes, and help spread the catch out to more anglers.

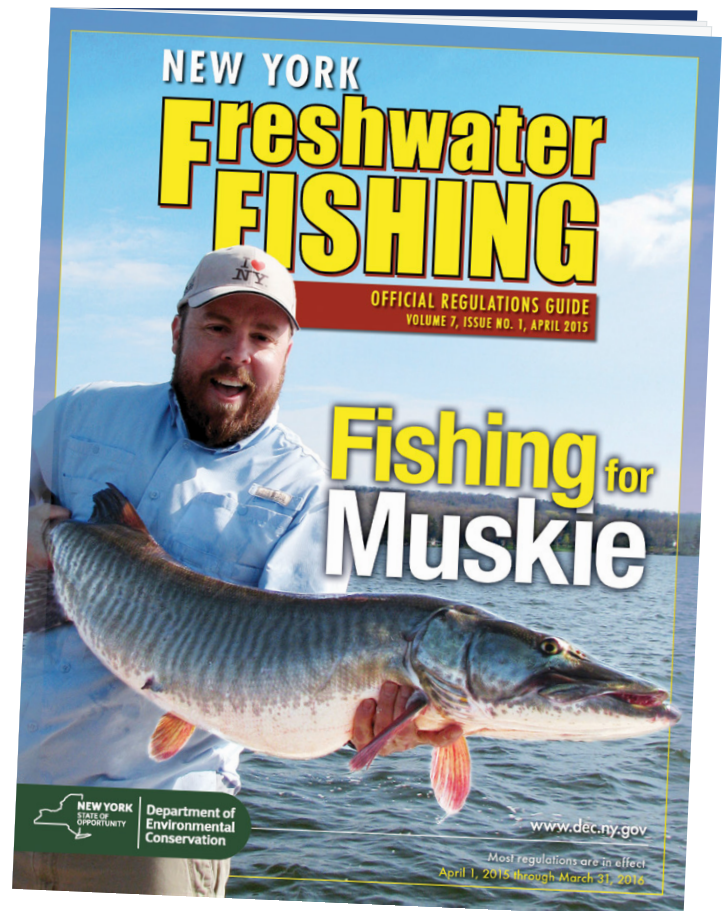
Fishing regulations fall into five categories:

- **Gear Restrictions** – Specify the kind of equipment you can use to catch fish. For example, on some waters, you can only use artificial lures.
- **Daily Limits** – Specify how many fish you can keep per day of certain species. Daily limits are designed to prevent overfishing.
- **Size Regulations** – Specify the smallest size fish or size range of a species that you can keep. Size limits are designed to allow a fish to reach the age at which they can spawn (reproduce) and also allow fish to get bigger.
- **Open Seasons** – Specify when you can fish for certain species. Some species are much easier to catch when spawning. To protect them, fishing is not allowed during spawning periods.
- **Bait Restrictions** – Specify the kind of natural bait that can be used or prohibits the use of all or some forms of bait. The use of baitfish is regulated in New York, as they can spread diseases and damage native fish communities if illegally released in a water body.

Fishing regulations are enforced by DEC Environmental Conservation Officers (ECOs). Several hundred ECOs patrol the woods and waters of New York annually.



Biologists measure a muskellunge during a fisheries survey.



The freshwater fishing regulations guide provides a summary of New York's fishing regulations.

STOCKING FISH

Releasing or “stocking” fish is another common way to manage fisheries. DEC stocks millions of fish annually throughout New York. That’s a lot of fish! It is likely some of them are stocked near you.

DEC does three kinds of stocking for the following reasons:

- **Put-and-take:** Fish are stocked at a legal size to provide immediate fish catching opportunities. In NY, put-and-take fish are almost always trout. Each spring millions of catchable-size brook, brown and rainbow trout ranging in size from 9 to 14 inches are stocked throughout the state for anglers to enjoy.
- **Put-grow-and-take:** Fish are stocked smaller than the legal size and then grow to a size anglers can keep. For example, millions of walleye less than one-inch-long are stocked annually to enhance walleye populations in New York.
- **Restoration:** These fish are stocked to restore native fish populations, including endangered species, which have become rare or completely disappeared from waters where they originally thrived. Native fish populations are fish that were originally found in a body of water.

Depending on fish management goals, DEC stocks fish at various life stages:

- Fry (about 1-inch-long),
- Fingerling (2 to 5-inches-long),
- Yearling (8 to 10-inches-long), and
- Two-year-olds (12 to 15-inches-long).

YOU NEED A PERMIT TO STOCK FISH

While stocking fish can greatly improve fishing, the wrong species stocked in the wrong place can seriously damage a fish community and destroy the fishery. That is why stocking fish without a DEC permit is illegal. DEC stocking permits also help ensure that stocked fish are free of harmful fish diseases.



Yearling and two-year-old trout are stocked each spring to provide good fishing right after stocking.



These sauger fry will help restore sauger in New York.

FISH HATCHERIES

Fish that are stocked are raised in a place called a fish hatchery before stocking. Hatchery fish are raised from eggs to stocking size. The eggs come from fish captured in the wild or adult fish kept at the hatchery.

DEC operates 12 fish hatcheries that annually raise between 800,000 and 900,000 pounds of fish for stocking in public waters. Nine hatcheries raise cold-water fish and three raise cool-water fish.

Cold-water hatcheries raise:

- Brook, brown and rainbow trout
- Steelhead
- Lake trout
- Splake (a brook/lake trout hybrid)
- Atlantic, coho and Chinook salmon

Cold-water fish grow best in water temperatures in the high 50s (°F). Most of DEC's hatcheries are cold water and raise most of the catchable-size fish that are stocked.

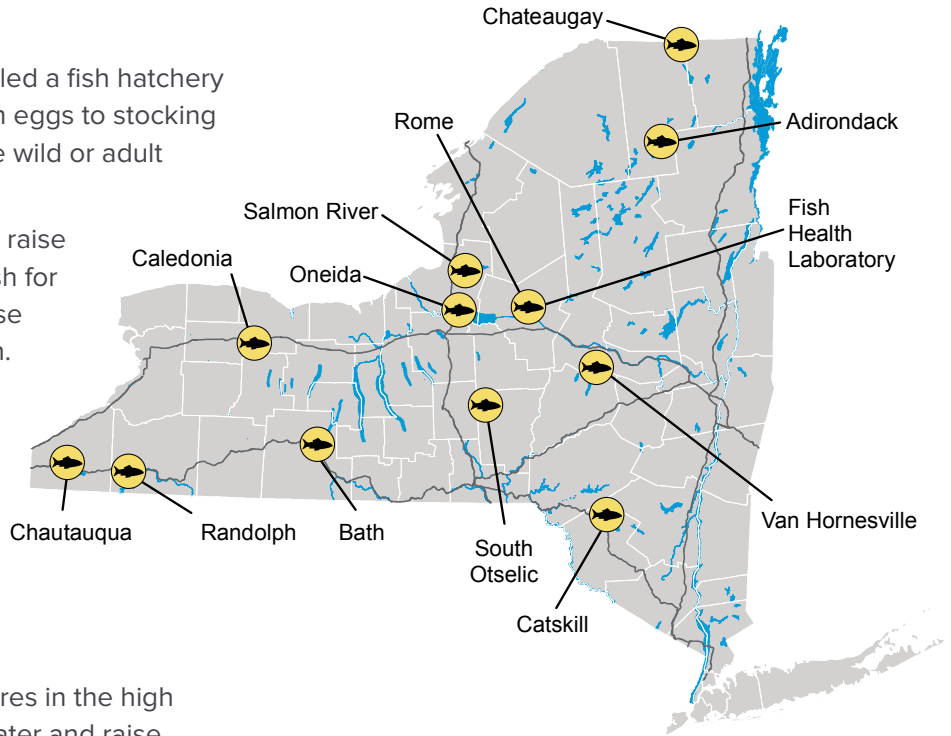
Cool-water hatcheries raise:

- Walleye
- Muskellunge
- Tiger muskellunge (a northern pike/muskellunge hybrid)
- Sauger
- Lake sturgeon (threatened)

These fish grow best in warmer water. New York has fewer cool-water hatcheries, but they raise the most fish because the fish are usually very small when stocked.

Road trip!

Stocking fish is a lot of work. Many different forms of transportation are used to get fish into the water. Most are stocked with special trucks that have large tanks filled with oxygenated water to keep the fish alive. Some are flown into remote ponds in the Adirondacks by helicopter or plane! Hatchery staff drive over 350,000 miles to bring fish to a place near you each year. That's enough to go around the world 14 times!



Locations of DEC's 12 fish hatcheries.



Aerial view of DEC's Rome Fish Hatchery.



HABITAT PROTECTION AND IMPROVEMENT

The area where fish live is called their habitat. What happens when this habitat is damaged or destroyed? Simple: No habitat = No fish.

Damaged Habitats

Fish habitat can be damaged by nature and by people. Natural damage is caused by floods, landslides, drought or other natural phenomena. People can damage habitat in various ways, including filling a stream or other water body with soil and debris or cutting trees from the water's edge. Allowing runoff to enter a water body from an over-fertilized lakeshore property can also damage fish habitat. Even letting cows graze too close to a stream bank can cause damage. In streams and rivers, dams and culverts can prevent fish from being able to move from one place to another. The habitat might not be "damaged," but if the fish can't get to where they need to go, the habitat is lost to them. DEC staff review projects that have the potential to damage habitat and impose conditions designed to protect aquatic habitats.

Fixing the Damage

Although it is often difficult to completely fix damaged habitat, fisheries managers often conduct habitat improvement programs in an effort to repair it as best they can. Projects can be simple and cheap, such as planting trees along a stream. However, most projects are complex and expensive, such as dredging or digging out a pond that has been filled in. If fish cannot move through a stream culvert, it can be replaced with a culvert or bridge that they can move through.

Sometimes structures are placed into streams or lakes as habitat improvement. Tree stumps can be sunk into lakes to add structure. Pool diggers, wing dams, and "lunker" structures can be placed into streams for the same reason. They also help stabilize eroded stream banks. These projects are usually expensive, but the rewards can be great. Just ask anyone who has ever caught a fish near one of these structures.

ELIMINATING THE BARRIER



Fish can't swim through this culvert because the water coming through it and onto the rocks is too shallow.



Fish can now swim through because both the culvert and downstream pool were modified to increase water depth.



Installing lunker structures



After installation

WHAT CAN I DO TO HELP KEEP FISHING GREAT?

Follow Fishing Regulations: They are designed to protect fish populations.

Limit your take:

- Don't keep your limit every time you fish. Keeping fewer fish increases the possibility of catching fish in the future, and lets fish grow larger.
- Release the largest fish you catch. The genes that enabled them to survive and grow larger, contribute more to strengthening future fish populations than smaller fish. Maybe you can catch the same fish again when it is even bigger!
- Keep more panfish than gamefish to help keep the fish population balanced. Panfish may be smaller, but are generally much more abundant.

Catch-and-Release: Fishing is fun. Releasing your fish allows them to be caught another day.

Report Violations: Anglers can be the eyes and ears of DEC. If you see someone violating fishing regulations or harming the environment, call DEC's 24-hour toll-free dispatch number 1-844-DEC-ECOS (1-844-332-3267). Be prepared to tell the dispatcher where you are, what you have seen, and what the violators look like. License plate numbers and vehicle descriptions are particularly helpful. DO NOT try to confront the violator yourself; leave that to the professionals.

Do Not Move or Stock Fish: Moving fish from one water body to another can spread diseases and hurt fishing quality. Never stock fish without a DEC stocking permit. Also, never release (stock) your unused baitfish unless you collected them from the water body where you are fishing.

Improve Habitat: If you or your family owns property adjacent to a pond or stream, you can improve fish habitat by not mowing up to the water's edge and planting trees near the water's edge. You can also protect fish habitat by not fertilizing near the water. For more suggestions on how to improve habitat, contact your local DEC office.



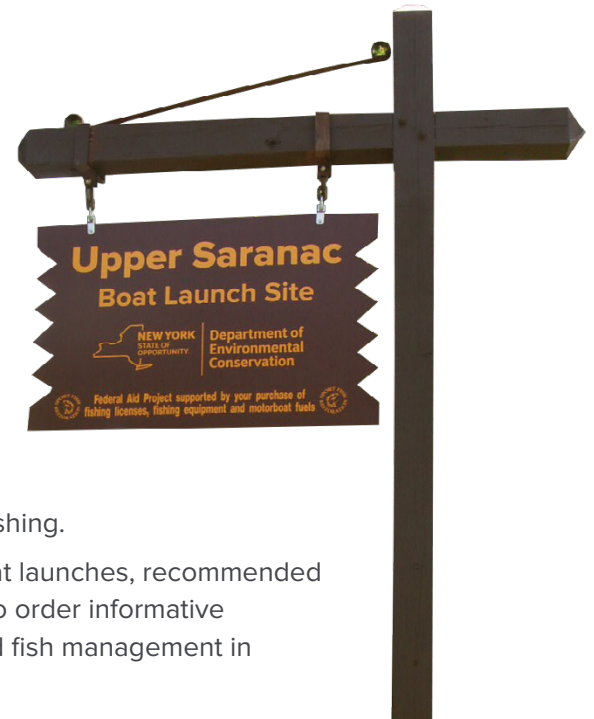
Practicing catch and release or releasing your largest fish can help keep fishing great.

DEC'S 24-HOUR TOLL-FREE DISPATCH NUMBER
1-844-DEC-ECOS (1-844-332-3267)

PUBLIC FISHING ACCESS

No matter how good fishing may be at a particular place, if you can't get there, you can't catch the fish. As a result, DEC manages 400 boat launches, fishing piers and shore-fishing locations. Some are on DEC property, others are developed in cooperation with public or private landowners. In addition, over 1,300 miles of fishing easements on private land are provided on NY trout streams as part of DEC's Public Fishing Rights Program. These easements provide access for the sole purpose of fishing.

DEC's website www.dec.ny.gov is a great location to find information on boat launches, recommended fishing locations, fish stocking and a host of other useful topics. You can also order informative brochures and sign up for the regular e-mail updates concerning fishing and fish management in New York State.



REFERENCES

Publications

- New York Freshwater Fishing Regulations Guide (current version). NYSDEC.

Websites

- NYSDEC – Fishing Regulations www.dec.ny.gov/outdoor/7917.html
- NYSDEC – Fishing Stocking www.dec.ny.gov/outdoor/7739.html
- NYSDEC – Places to Fish www.dec.ny.gov/outdoor/7749.html

ACTIVITIES

Can I keep that?

Congratulations! You caught a fish. Can you keep it? Let's find out.

There are five fish on this page and two things you need to find out about each:

1. What is the name of the fish?

Hint: Review the “Fishes of NY” chapter if you don't know.

2. Is the fish long enough to keep?

Hint: Review the Statewide Angling Regulations in your copy of the Freshwater Fishing Regulations Guide, or online at www.dec.ny.gov/outdoor/31421.html. Check the minimum length against the length of the fish is on this page.


Check for something special!

Some waters have “special regulations” that are different from statewide regulations. Always check your regulations guide to see if special regulations apply to the water you are fishing.

Pick a water where you go fishing. Then, note the length of each fish shown on this page. Using your copy of the Freshwater Fishing Regulations Guide, find out if each fish is long enough to keep on the water you chose by:


- Reviewing the Statewide Angling Regulations.
- Reviewing Special Regulations by County which include regulations for specific waters (i.e. Lake Champlain) or a group of waters (i.e. Great Lakes). If the water you selected is not listed in Special Regulations by County, Statewide Angling Regulations apply.

If you don't have a copy of the Freshwater Fishing Regulations Guide, visit www.dec.ny.gov/outdoor/7917.html and follow the “How to find freshwater fishing regulations” instructions.




Name of Fish:

Long Enough to Keep? **YES** **NO**




Name of Fish:

Long Enough to Keep? **YES** **NO**




Name of Fish:

Long Enough to Keep? **YES** **NO**



Name of Fish:

Long Enough to Keep? **YES** **NO**



Name of Fish:

Long Enough to Keep? **YES** **NO**

ANSWERS – CAN I KEEP THAT?
 Largemouth Bass, Yes; Chain Pickerel, Yes;
 Bluegill, Yes; Black Crappie, No; Brown Trout, Yes;