

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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Triploid Grass Carp in New York Ponds

What is a grass carp?



photo courtesy of US Fish & Wildlife Service

The grass carp (*Ctenopharyngodon idella*) is one of the largest members of the minnow family, commonly reaching weights in excess of 25 pounds. Native to the rivers of eastern China and the Soviet Union, it has been introduced into over 50 countries worldwide due to its uncanny ability to control a wide variety of aquatic plant species. Although grass carp are related to both common carp and goldfish, distinct differences exist both in appearance and feeding habits. Grass carp lack the barbels and spiny dorsal and anal fin rays characteristic of goldfish and common carp, bearing a

Important Links

[Grass Carp Stocking Permit Application Form \(57 kb pdf\)](#)

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closer resemblance to a large creek chub or common shiner. Coloration of the fish ranges from dark grey to golden brown on the back, blending to white on the belly. Grass carp feed strictly by grazing on aquatic vegetation and do not share the bottom feeding habits typical of common carp and goldfish.

Although fertile (diploid) grass carp have seen widespread use abroad, the majority of states in the US presently prohibit the fish. This is due to concerns over the potential impact fertile grass carp could have on sensitive aquatic habitats should uncontrolled reproducing populations of the fish become established. **In New York State, use of diploid grass carp is prohibited!**

What is a Triploid Grass Carp?



In 1983, US grass carp producers began production of a sterile (triploid) form of grass carp, mitigating the reproductive concerns associated with the diploid fish. Triploid grass carp are created through shocking grass carp eggs immediately after fertilization with either hot or cold water. This temperature shock results in the retention of an extra chromosome set, rendering the fish incapable of producing viable young. With the

exception of this extra chromosome set, triploid grass carp are identical to their diploid counterparts. Triploid grass carp are the only form of grass carp legal in New York State.

Policy and Procedures Pertaining to the Use of Triploid Grass Carp in New York

Statement of Policy

It will be the policy of the New York State Department of Environmental Conservation, Division of Fish, Wildlife & Marine Resources to approve and issue permits for stocking of up to 15 United States Fish and Wildlife Service certified triploid grass carp per surface acre for aquatic plant management purposes in ponds five (5) acres or less in size which lie wholly within the boundaries of lands privately owned or leased by the individual making or authorizing such treatments if:

- Aquatic plants targeted for control significantly impair the intended use(s) of the pond.
- The subject pond harbors no species of wildlife, fish, shellfish or crustacea identified by the Department as being endangered, threatened or special concern; or any species of plant identified as being endangered, threatened or rare.
- The subject pond is not contiguous to or part of a New York State regulated freshwater wetland.
- The subject pond is not an impoundment or natural pond on a permanent stream or a source of a

permanent stream as designated by the most recent United States Geologic Survey (USGS) or New York State Department of Transportation (DOT) quadrangle covering the application site.

- At least two (2) years have elapsed since the last stocking of triploid grass carp, unless it can be demonstrated that a significant portion of the permitted fish were subject to mortality within the stocked pond.

Permit applications for waters other than those meeting these criteria, including waters greater than five (5) acres will not be acted upon until evaluated on a site-specific basis in accordance with the State Environmental Quality Review Act (SEQRA) and guidelines established by NYSDEC Division of Fish, Wildlife & Marine Resources.

Stocking Triploid Grass Carp to Control Aquatic Vegetation in New York Waters



Triploid grass carp are a new and exciting aquatic vegetation control available to New York pondowners. However, as with any method of vegetation control, triploid grass carp

must be used properly to achieve optimal results. The following stocking recommendations should assist you in getting the most out of the fish you purchase.

Aquatic Plant Preferences of Triploid Grass Carp

Triploid grass carp have distinct feeding preferences, preferring tender, succulent plant species over those that are tough and fibrous. Triploid grass carp will not control emergent species such as cattail or bulrush or floating leaved species such as water shield or water lily. Even among preferred submergent plant species, selectivity and consumption rate varies widely according to a vast array of factors including water temperature, dissolved oxygen and presence or absence of attached algae.

Triploid Grass Carp Stocking Rates

Triploid grass carp are extremely potent plant consumers. If overstocked, they are capable of eradicating all plants from a pond for periods exceeding 10 years. Besides the obvious impact such complete plant removal will have on vegetation-dependent fish and wildlife, total devegetation of a pond can also result in the development of severe algae blooms, foul smells and an overall decline in water clarity. To minimize or prevent such adverse impacts, plant populations should be maintained at approximately 20-30% of the pond's surface area.

Due to various factors that impact triploid grass carp feeding, it is impossible to precisely predict the exact number of fish

to stock to achieve the 20-30% plant coverage target. The only way to prevent excessive plant control is through use of an incremental approach. This approach involves the stocking of triploid grass carp at the stocking rates suggested below, followed by a two-year waiting period for the fish to achieve maximal control. Then, if needed, more fish are added in small increments at two-year intervals until plant populations are reduced to the 20-30% threshold. Remember, be patient. Plant control with triploid grass carp is a slow process. However, once control is achieved, it will last a number of years. If more rapid control is desired, other plant control methods such as mechanical harvesting or chemical applications can be integrated with triploid grass carp use.

Recommended Initial Triploid Grass Carp Stocking Rates

Average Plant Density / Stocking Rate (# of fish per acre)

Low Plant Density / 5 fish per acre

Medium Plant Density / 10 fish per acre

High Plant Density / 15 fish per acre

When to Stock

Plant control with triploid grass carp is most successful when the fish are stocked just as plants begin growing in the pond (late spring). Stocking of fish during the late summer, when the pond is already clogged with vegetation often leads to unsatisfactory results. The high water temperature and low dissolved oxygen typical in weedy ponds during this period can result in a substantial loss of grass carp.

Procedures for Obtaining

a Permit to Stock Triploid Grass Carp

Individuals desiring to stock triploid grass carp in New York must first obtain a triploid grass carp stocking permit from the Department of Environmental Conservation (DEC). You can obtain a [Stocking Permit Application](#) (57 kb pdf) at any DEC Regional Bureau of Fisheries office, or download it here using the link above.

Procedures for obtaining a stocking permit in waters either meeting the listed criteria or approved after SEQRA review are as follows:

- Applicant or representative of applicant should completely fill out the permit application and return it to the [Regional Fisheries Manager](#) covering the region in which the stocking will occur.
- Regional Division of Fish and Wildlife staff will review the application and verify that it meets the DEC stocking criteria.
- Approved applicants will receive three copies of a stocking permit along with a listing of approved triploid grass carp suppliers. Permit conditions will be listed on or attached to the permit.
- Permit will authorize the purchase and stocking of up to 15 triploid grass carp per pond acre. Triploid grass carp may only be purchased from approved suppliers possessing a valid permit to import and sell triploid grass carp in New York State.
- At the time of purchase, the permit holder must provide all three copies of the stocking permit to the selected

approved triploid grass carp supplier.

The supplier will fill in the appropriate information on the bottom of the permit, keep one copy for his records, send one copy to the DEC office listed on the permit, and provide the buyer with a copy of the permit.

- Stocking permits will expire on November 30 of the calendar year of issue.
- If a stocking permit is not approved, the applicant will receive a letter describing the reason(s) for permit denial.

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