



GUIDE TO WATER GARDENING IN NEW YORK STATE



Native plants and animals can enhance your aquatic garden,
creating a beautiful and serene place for you to enjoy.



Department of
Environmental
Conservation

HOW YOU CAN HELP

PROTECT NEW YORK'S NATIVE PLANTS AND ANIMALS BY MAKING INFORMED CHOICES WHEN CREATING YOUR AQUATIC GARDEN:

- Place your garden upland and away from waterbodies to prevent storms or flooding from washing away any plants or animals;
- Before planting, always rinse off any dirt or debris—including potential eggs, animals, or unwanted plant parts and seeds—preferably in a sunny location away from water; and
- Choose native and non-invasive plants to create your aquatic garden.

RECOMMENDED SPECIES: floating plants



Chris Evans, University of Illinois, Bugwood.org

white water lily (*Nymphaea odorata*)

Bright green, round floating leaves are reddish to purple underneath and measure up to 10 inches across. Flowers are fragrant and have many rows of white petals. Sepals and stamens are vibrant yellow color in center of flower. Plants are rooted with a long stem with large rhizomes buried in the sediment. Perennial.



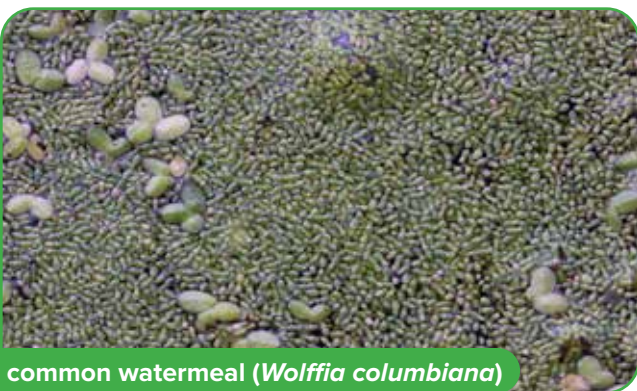
Steven Katovich, Bugwood.org

American lotus (*Nelumbo lutea*)



Peggy Romfh

Carolina mosquito fern (*Azolla cristata*)



Chris Evans, Bugwood.org

common watermeal (*Wolffia columbiana*)



Karan A. Rawlins, Bugwood.org

needle leaf Ludwigia (*Ludwigia alternifolia*)

Joy Viola, Bugwood.org



spatterdock (*Nuphar advena*)

Shaun Winterton, Bugwood.org



water purslane (*Ludwigia palustris*)

Troy Evans, Bugwood.org



watershield (*Brasenia schreberi*)

Alan Cressler



lesser duckweed (*Lemna minor*)

RECOMMENDED SPECIES: submerged plants

Fritz Flohreyolds



water stargrass (*Heteranthera dubia*)

Thin, grass-like branching stems. Can grow up to 6 feet long and form floating colonies. Bright yellow, star-shaped flowers appear in late summer. Valuable habitat for microinvertebrates. Perennial.

Kristian Peters



clasp-leaved pondweed (*Potamogeton perfoliatus*)



common waterweed (*Elodea canadensis*)

Thomas DeMayo

Robert Vicki, bugwood.org



dwarf sagittaria (*Sagittaria subulata*)



giant arrowhead (*Sagittaria montevidensis*)

Shaun Winterton, Bugwood.org

Graves Lovell, Bugwood.org



long-leaf pondweed (*Potamogeton nodosus*)



mermaid weed (*Proserpinaca palustris*)

Shaun Winterton, Bugwood.org

fredlyfish



wild celery (*Vallisneria americana*)

RECOMMENDED SPECIES: shallow-water plants



Wild Seed Project

cardinal flower (*Lobelia cardinalis*)

Grows 2–6 inches tall. Leaves are alternate and toothed. Flowers are fire-engine red and tubular in shape, growing 1–1.75 inches in length. Requires saturated to wet-mesic soils. Comparatively easy to grow. Hummingbirds are attracted to the nectar. Herbaceous perennial.



northern blue flag (*Iris versicolor*)

Narrow sword-shaped leaves stay attractive all season. Spring bloomer with several blue-violet flowers per stem. Prefers full sun to partial shade. With moist to wet soils, tolerant of standing water. Grows to a height of 24–36 inches. Perennial.



R. Routledge

American brooklime (*Veronica americana*)



Shaun Winterton, Bugwood.org

American frogbit (*Limnobium spongia*)



Troy Evans, Bugwood.org

American water willow (*Justicia americana*)



Graves Lovell, Bugwood.org

arrow arum (*Peltandra virginica*)

Troy Evans, Bugwood.org



bulrush (*Schoenoplectus* spp)



cattail (*Typha latifolia*)

Theodore Webster, Bugwood.org

Daniel Tyska



common horsetail (*Equisetum arvense*)



common milkweed (*Asclepias syriaca*)

John Ruter, Bugwood.org

Richard Gardner, Bugwood.org



common soft rush (*Juncus effusus*)



groundnut (*Apios americana*)

Adam Peterson

Becca MacDonald, Bugwood.org



marsh marigold (*Caltha palustris*)



northern arrowhead (*Sagittaria cuneata*)

Joy Viola, Bugwood.org

Steven Katovich, Bugwood.org



pickerel weed (*Pontederia cordata*)



pussy willow (*Salix discolor*)

Denis1978 iStock.com

Chris Evans, University of Illinois, Bugwood.org



sensitive fern (*Onoclea sensibilis*)



swamp milkweed (*Asclepias incarnata*)

David Cappart, Bugwood.org

Jack Greenlee



sweetflag (*Acorus americanus*)



three square rush (*Schoenoplectus americanus*)

Thomas DeMayo

Rob Routledge, Sault College, Bugwood.org



water arum (*Calla palustris*)



water sedge (*Carex aquatilis*)

Rob Routledge, Bugwood.org

RECOMMENDED SPECIES: bog plants

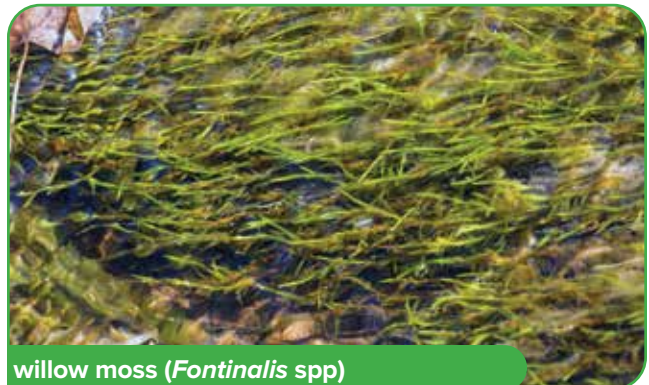


purple pitcher plant (*Sarracenia purpurea*)

Carnivorous plant found in peat bogs that are low in essential nutrients such as nitrogen, calcium, magnesium, and potassium. They photosynthesize but also capture small insects in their water-filled pitcher-shaped leaves and digest them with enzymes. Plants grow 8–12 inches high. Leaves vary in color from reddish-green to purple and red and grow up to 8 inches long. Leaves congregate around a single nodding flower with bright red, rounded petals. Herbaceous perennial.



sundews (*Drosera* spp)



willow moss (*Fontinalis* spp)

RECOMMENDED SPECIES: fish



golden shiner (*Notemigonus crysoleucas*)

Habitat-generalist fish, one of the most widespread in NYS. Juveniles are silver in color, but adults are gold or brassy with red fins. Adults are typically 5–7 inches long, but can grow as long as 10 inches. Reach maturity at age two. Spawn in late spring/early summer, eggs adhere to submerged vegetation. Habitat ranges from quiet ponds with submerged aquatic vegetation to large rivers. Popular bait fish.



Getty Images/Stockphoto

fathead minnow (*Pimephales promelas*)

INVASIVE SPECIES AND THEIR IMPACTS

Some plants and animals promoted or sold for water-gardening purposes are invasive, meaning they are non-native and can cause harm to the environment, economy, or even human health. Invasive plants and animals can escape from water gardens and can grow unchecked without native predators. Escaped invasive species can negatively impact your community by:

- Dominating your aquatic garden, limiting the growth of surrounding plants and animals;
- Forming dense patches of vegetation that cause flowing water to become stagnant and prevent boating, fishing, and swimming;
- Causing die-off of invasive vegetation, which can decrease dissolved oxygen and harm fish;
- Shading out native plants that provide food, shelter, and oxygen for a wide array of wildlife;
- Increasing erosion along the banks of waterways, reducing water clarity, and making bankside habitat unstable.

WATCH OUT!

**Intentionally releasing aquatic plants and animals harms our waterways.
Help prevent unwanted releases by choosing native options when available.**

These non-native or invasive species are NOT recommended for use in your water garden. Many of the following species are subject to regulations that help control invasive species by reducing the spread of existing populations and avoiding new infestations.

- Prohibited species are plants or animals that are illegal to sell, import, purchase, transport, or introduce (release into the environment)
- Regulated species are plants or animals that can be sold (must be labeled as invasive) or owned, but cannot be released or planted in the outdoor environment

INVASIVE SPECIES: floating plants



water hyacinth (*Eichhornia crassipes*)

Leslie J. Mehrhoff, Bugwood.org



European frogbit (*Hydrocharis morsus-ranae*)

Alison Fox, Bugwood.org



water lettuce (*Pistia stratiotes*)

Troy Evans, Bugwood.org



yellow floating heart (*Nymphoides peltata*)

Leslie J. Mehrhoff, Bugwood.org

INVASIVE SPECIES: shallow-water plants

PROHIBITED



Leslie J. Mehrhoff, Bugwood.org

common reed (*Phragmites australis*)

PROHIBITED



Leslie J. Mehrhoff, Bugwood.org

great manna grass (*Glyceria maxima*)

PROHIBITED



iStock.com

Japanese knotweed (*Fallopia japonica*)

PROHIBITED



Rebekah D. Wallace, Bugwood.org

marsh dayflower (*Murdannia keisak*)

PROHIBITED



Steve Dewey, Bugwood.org

purple loosestrife (*Lythrum salicaria*)

PROHIBITED



Leslie J. Mehrhoff, Bugwood.org

yellow flag iris (*Iris pseudacorus*)

PROHIBITED



Jamie Nielsen, Bugwood.org

reed canary grass (*Phalaris arundinacea*)

INVASIVE SPECIES: submerged plants

USGS, US Geological Survey, Bugwood.org

PROHIBITED



Brazilian elodea or anacharis (*Egeria densa*)

PROHIBITED



curly-leaf pondweed (*Potamogeton crispus*)

Chris Evans, Bugwood.org

Alison Fox, Bugwood.org

PROHIBITED



Eurasian watermilfoil (*Myriophyllum spicatum*)

PROHIBITED



fanwort (*Cabomba caroliniana*)

Leslie J. Mehrhoff, Bugwood.org

John M. Randall, Bugwood.org

PROHIBITED



parrot feather (*Myriophyllum aquaticum*)



water soldier (*Stratiotes aloides*)

Shaun Winterton, Bugwood.org

Leslie J. Mehrhoff, Bugwood.org

PROHIBITED



water thyme (*Hydrilla verticillata*)



waterwheel plant (*Aldrovanda vesiculosa*)

Shaun Winterton, Bugwood.org

INVASIVE SPECIES: fish



Altin Osமானej

goldfish (*Carassius auratus*)



iStock.com

koi (*Cyprinus carpio*)

INVASIVE SPECIES: snails



iStock.com

apple snails (*Ampullariidae*)



Scott Bauer, Bugwood.org

ramshorn snails (*Planorbidae*)

Get started with native species today!



watershield (*Brasenia schreberi*)

Laura Costello

RESOURCES

- Take photos and report infestations of invasive plants or animals to isinfo@dec.ny.gov or to the iMapInvasives database: <http://www.nyimainvasives.org/>.
- Find more plants that are native to your area at the New York Flora Atlas: www.newyork.plantatlas.usf.edu.
- Check out the New York Botanical Garden's tips for starting your own water garden at <https://libguides.nybg.org/watergarden>.
- To see a list of invasive plants by state, visit the International Waterlily and Water Gardener's Society: www.iwgs.org/invasive-species/.



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