Treatment of Aquatic Weeds

Aquatic weed	Treatment	Rate	Comments
FLOATING			
algae	copper sulfate (pentahydrate)	1 to 2 ppmw	Toxicity to fish and algae increases with temperature but decreases with water alkalinity. For water with less than 50 ppm total alkalinity, do not use copper sulfate. For water above 50 ppm, determine the amount of copper to use by dividing total alkalinity (ppm) by 100. This equals the desired copper concentration in the water. Catfish are not very tolerant to copper. Always leave untreated aquatic areas for fish to move into.
	copper complex	0.67 to 0.75 gal/A foot water 1.25 to 1.5 gal/A foot water	Complexed forms of copper are more active in alkaline water than the sulfate. For water with less than 50 ppm alkalinity, catfish may be killed. Apply a surface spray. Apply when algae begin to grow and water temperature is above 60°F. Best results when applied on sunny days. Apply when total alkalinity is above 50 ppm
duckweed	diquat	1 gal/surface acre	Inject or spray in non-flowing water. Do not apply diquat to muddy water. Spraying along the margins reduces reinfestation. Retreat if necessary.
SUBMERGED			
elodea	diquat	2 gal/A	Inject or apply on surface of non-flowing water. Do not apply diquat to muddy water.
Eurasian watermilfoil	2,4-D amine	10 to 40 lb/A	Do not treat more than 1/2 lake or pond at one time to avoid oxygen depletion and fish kill. In large lakes leave 100-foot buffer strip. Do not treat within one half mile of potable water intakes. Treat in spring when milfoil starts to grow. Spray on or inject under water.
	diquat	1 to 2.0 gal per surface acre	Distribute evenly over infested area. Inject or apply on surface of slow-flowing water. Do not apply diquat to muddy water.
	endothall (Aquathol K and Aquathol granular)	0.5 to 2.5 ppmw	Safer to fish than dimethyalkylamine salts. Spray or inject liquids under water. Apply granules evenly with cyclone seeder. Apply as soon as possible after weeds begin to grow and water temperature is above 65°F. When treating in sections, treat on 5- to 7-day interval. Use higher rates when spot treating.
	florpyrauxifen-benzyl (ProcellaCOR EC)	1 to 4 prescription dose units per acre-foot of water	This product has relatively short exposure requirements for in-water treatments (hours to days), but treatments with high exchange and short exposure periods should be carefully planned to achieve best results.

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SUBMERSED AND EMERSED			
Eurasian watermilfoil	2,4-D (20% granules)	100 lb/A	Best results when applied in spring to early summer during early growth stage. Apply uniformly using portable spreader (cyclonic seeder). Rate depends upon weed species, weed mass, water depth, and water pH. Repeat application if needed. Do not use water for agricultural purposes, watering dairy animals, or domestic purposes.
bladderwort waterlily watershield coontail	2,4-D (20% granules)	150-200 lb/A	Rates are based on type of water body treated and average water depth. See label for details. Do not use water for irrigation from ponds for 30 days or lakes for 7 days after treatment.
elodea hydrilla naiad	Sonar AS	0.5-4 quarts/A	Fluridone requires a long contact time (>60 days) to be effective. A test available from the manufacturer may be advisable for some water bodies to ensure that adequate concentrations of herbicide remain in the waterbody for effective control.
pondweed	Sonar PR	10-80 lb/A	
coontail Eurasian watermilfoil, waterprimrose, waterpurslane	Sonar SRP		
EMERSED (SHORELINE)			
arrowhead	2,4-D	4 to 8 lb/A	Spray on foliage. Use only formulations labeled for aquatics.
cattail	Rodeo	3 to 5 quarts/A	Spray on foliage. See Rodeo entry below.
cattail pondlily waterlily	Habitat 2 lb ae/gal	2-3 pints/A or 1% solution	Spray on foliage. Add 1 quart aquatic approved nonionic surfactant per 100 gallons spray solution.
actively growing (floating or emersed) grasses, broadleaves and brush	Rodeo (glyphosate)	1.5 to 7.5 pints/A or spot treatments use 0.75 to 1.5% solution	For application to floating or emerged vegetation, undesirable shoreline weeds and brush by air, booms, or handheld equipment using 3 to 20 gal spray per acre. Do not expect control of vegetation that has a majority of the leaf surface submerged. Add 1 to 2 quarts nonionic surfactant to 100 gal spray but use only X-77 if applications are made to aquatic sites. For hand guns, use 3 to 6 quarts Rodeo in 100 gal water depending upon weed species. Spray to wet. For broadcast application use 1.5 to 2.5 pints for small annuals and 3 to 4.5 pints for perennial weeds and brush.
emerged broadleaves	2,4-D (amine), 2,4-D Amine, and 2,4-D Amine No. 4	1.2 to 2.1 lb ai/A	For control of aquatic weeds in lakes, ponds, drainage ditches, and marshes. Apply 2.5 to 4.5 pints/A of 3.8 lb/gal or 1.67 to 3.0 pints/A of 5.64 lb/gal formulation in 50 to 100 gal water. Spray to wet foliage thoroughly. Apply when leaves are fully developed, actively growing, and are above the water level. Restrict applications to 1/3 to 1/2 of lake or pond. Repeat treatment once if needed.