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|  **Table 1. Treatment Response of Common Aquatic Plants to Registered Herbicides****EWF-004****Revised November 2013** |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | **bispyribac** | **carfentrazone** | **copper & copper complexes - *algecides*** | **copper complexes - *herbicides*** | **diquat** | **endothall** | **fluridone** | **flumioxazin** | **glyphosate** | **imazamox** | **imazapyr** | **penoxsulam** | **sodium carbonate peroxy-hydrate** | **triclopyr** | **2,4-D** |   |
| **Aquatic Group& vegetation** | **Aquatic Herbicide1** | **Grass Carp9** |
| **Algae** |
| ***Chara/Nitella*** | P |   | **E** |   | P | **G2**-P3 | P | P | P |   |   |   |   |   | P | **G** |
| **filamentous** |   |  | **E** |  | **G** | **G2**-P3 | P | **G** | P |   |   |   | **G6** |   | P | F |
| **planktonic** |   |  | **E** |  | P | **G2** | P | F | P |   |   |   | **G6** |   | P |   |
| **Floating Plants** |
| **azolla** |   | **G** | P |   | **G** |  | **E** | **E** | F |  |   | **E** |  |   | F |   |
| **duckweeds** |   | **E** | P |   | **G** | P | **E** | **E** | P |  | P | **E** |  |   | F | F |
| **salvinia** | F | **G** | P |   | **G** |  | **E** | **E** | **G** | **E** |   | **E** |   |  |  | P |
| **water hyacinth** | **E** | **G** | P | **G4** | **E** |   | P | P | **G** | **E** | **E** | **E** |  | **E** | **E** | P |
| **watermeal** | F | **G** | P |   | F |  | **G** | **E** |   |  |   | **G** |   |   | F | P |
| **water lettuce** | **E** | **E** | P | **G4** | **E** |  | **G** | **E** | **G** |  | **E** | **E** |  | **G** | F |   |
| **Submerged plants** |
| **coontail** | P |   | P | **G4** | **E** | **E** | **E** | **G** |   |  |   |   |   |   | **G** | F-**G** |
| **elodea** |   |  | P | **G4** | **E** | F | **E** | **E** |   |  |   | **G** |  |   |   | **E** |
| **fanwort** |   |  | P | P | **G** | F | **E** | **G** |   |  |   | **G** |  |   | F | F |
| **hydrilla** | **E** |  | P | **G4** | **G** | **G** | **E** | **G** |   | **G** |   | **E** |  |  |   | **E** |
| **milfoils** | **G** | **E** | P | **G4** | **E** | **E** | **G** | **G** |   | **G** |   | **E** |  | **E** | **E** | F |
| **naiads** |   |  | P | **G4** | **E** | **E** | **E** | **E** |   |  |   | **G** |  |   | F | **E** |
| **parrotfeather** |   |  | P | P | **E** | **E** | **E** | **G** |   | **G** | **G5** | **G** |  | **G** | **E** | **G** |
| **pondweeds** | **G** |  | P | **G4** | **G** | **E** | **E** | **G** |   | **E** | **G5** | **G** |  |  | P | **E** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **1E= excellent control; G= good control; F= fair control; P= poor control; blank= unknown or no control****2Hydrothol formulations 6Best on blue-green algae****3Aquathol formulations 7E for sedge****4Specific copper complexes only- Nautique, Komeen, etc. 8F for rushes****5Spray only emergent portion 9Permit required from Texas Parks & Wildlife** |  |  |
|  | **bispyribac** | **carfentrazone** | **copper & copper complexes - *algecides*** | **copper complexes - *herbicides*** | **diquat** | **endothall** | **fluridone** | **flumioxazin** | **glyphosate** | **imazamox** | **imazapyr** | **penoxsulam** | **sodium carbonate peroxy-hydrate** | **triclopyr** | **2,4-D** |   |
| **Aquatic Group& vegetation** | **Aquatic Herbicides1** | **Grass Carp9** |
| **Emergent Plants** |
| **alders** |  |  | P |  | F | P | P |  | **E** |  | **E** |  |  | **E** | **E** |  |
| **alligatorweed** | **E** | **F** |  |  | P |  | F | **G** | **G** | **G** | **E** |  |  | **E** | F |  |
| **arrowhead** | **E** |  | P |  | **G** | **G** | **E** | **G** | **E** | **E** | **E** |  |  |  | **E** |  |
| **buttonbrush** |  |  | P |  | F | P | P |  | **G** |  | **G** |  |  |  | F |  |
| **cattails** | P |  | P |  | **G** | P | F | P | **E** | **E** | **E** |  |  |  | F |  |
| **common reed** |  |  | P |  | F |  | F | P | **E** | **G** | **E** |  |  |  | F |  |
| **frogbit** | **E** |  |  | F4 | **E** |  |  | **G** | F | **E** | **E** |  |  | **E** | **E** |  |
| **pickerelweed** | F |  |  | F4 | **G** |  | P | P | F | **E** | **E** |  |  | **G** | **G** |  |
| **sedges & rushes** | F |  | P |  | F |  | P | F | **G** |  | **E7**F8 | **G** |  |  | F |  |
| **slender spikerush** |  |  | P |  | **G** |  | **G** | P | P |  | F |  |  |  |  |  |
| **smartweed** | **G** |  | P | F4 | F |  | F | P | **E** | **E** | **E** | **G** |  | **E** | **E** |  |
| **southern watergrass** |  |  | P |  |  |  | **G** |  | **E** |  | **E** |  |  |  | P |  |
| **waterlilies** | F |  | P |  | P |  | **E** | F | **G** | **G** | **G** | **G** |  | **G** | **E** |  |
| **water pennywort** | **G** |  | P |  | **G** |  | P | **G** | **G** |  | **E** | **G** |  | **E** | **G** |  |
| **water primrose** |  | **F** | P |  | F | P | F | **G** | **E** | **E** | **E** |  |  | **E** | **E** |  |
| **watershield** |  |  | P |  | P |  | **G** | **G** | **G** | **G** | **E** |  |  |  | **E** |  |
| **willows** | P |  | P |  | F | P | P | P | **E** |  | **E** |  |  | **E** | **E** |  |

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| **Active Ingredients** | **Commonly Available Trade Names** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| bispyribac | Tradewind |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| carfentrazone  | Stingray |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| copper & complexes | Copper Sulfate, Cutrine, Cutrine Plus, K-Tea, Captain, Agritec,EarthTec, Clearigate |  |  |   |   |   |   |   |   |   |  |
| copper - herbicides | Komeen, Nautique |   |   |   |  |  |  |  |  |  |  |  |  |  |
| diquat | Reward, Harvester, Tribune, Tsunami DQ, Diquat SPC2L, Weedtrine D |   |   |   |   |   |  |
| endothall | Aquathol K, Aquathol Super K, Hydrothol 191 |  |  |  |  |  |  |  |  |  |
| flumioxazin | Clipper |   |   |   |   |  |  |  |  |  |  |  |  |  |  |
| fluridone | Sonar, Avast, WhiteCap, Restore |   |  |  |  |  |  |  |  |  |  |  |
| **Active Ingredients** | **Commonly Available Trade Names** |
| glyphosate | Rodeo, Aquamaster, AquaNeat, Eraser AQ, Refuge®, others |  |  |  |  |  |  |  |
| imazamox | Clearcast |
| imazapyr | Habitat, Arsenal, Poloris |
| penoxsulam  | Galleon |
| sodium carbonate peroxyhydrate | Green Clean, PAK 27, Phycomycin |
| triclopyr | Renovate, Navitrol, Ecotriclopyr |
| 2,4-D | Navigate, Weedar 64 |  |

**\*\*\*Texas A&M University & Extension does not endorse any trade name herbicide**

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| **Table 2. Aquatic Vegetation Herbicide Control Water Use Restriction1 (number of days after treatment**  **before use in private waters only)**  |  |  |  |
|  |  |  |  |  |  |  |
|  |  **Human Use** |  **Livestock** |  **Irrigation** |  |
| **Common Name** |  | **Drinking** | **Swimming** |  | **Fish** |  |  **Watering** |  **Turf** |  |  **Crops** |  |
| **bispyribac** |   | **0** | **0** |  | **0** |  | **0** |  | **30** |  | **30** |  |
| **carfentrazone** |   |  **0 - 12** | **0** |  | **0** |  | **0 - 12** |  | **0 - 142** |  | **0 - 142** |  |
| **copper complexes 3** |   | **0** | **0** |  | **0** |  | **0** |  | **0** |  | **0** |  |
| **diquat** |   | **1-33** | **0** |  | **0** |  | **1** |  | **1-34** |  | **5** |  |
| **endothall5** |   | **7-25** | **1** |  | **0** |  | **7-25** |  | **7-25** |  | **7-25** |  |
| **flumioxazin** |   | **0** | **0** |  | **0** |  | **0** |  | **0-34** |  | **5** |  |
| **fluridone6** |   | **0** | **0** |  | **0** |  | **0** |  | **7-30** |  | **7-30** |  |
| **glyphosate7** |   | **0** | **0** |  | **0** |  |  **0** |  | **0** |  | **0** |  |
| **imazamox** |   | **0** | **0** |  | **0** |  | **0** |  | **1** |  | **18** |  |
| **imazapyr** |   | **\*9** | **0** |  | **0** |  | **0** |  | **12010** |  | **12010** |  |
| **penoxsulam** |   | **0** | **0** |  | **0** |  | **0** |  | **0** |  | **\*11** |  |
| **SCP12** |   | **0** | **0** |  | **0** |  | **0** |  | **0** |  | **0** |  |
| **triclopyr** |   | **\*13** | **0** |  | **0** |  | **0** |  | **014** |  | **12015** |  |
| **2,4-D** |   | **\*16** | **\*16** |  | **\*16** |  | **\*16** |  | **\*16** |  | **\*16** |  |
|   |   |   |   |  |   |   |  |   |  |  |  |   |   |  |  |

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| 1 Aquatic vegetation control can result in period of low dissolved oxygen which can stress and/or kill fish. It is best to treat most aquatic vegetation early in the growing season, when the plant is rapidly growing. Treating small areas (e.g. 1/4) of pond at a time at 10-14 day intervals will allow for decomposition usually without causing oxygen depletion. |  |   |   |   |   |  |  |  |  |  |  |  |  |  |
| 2 Variesif 20% or more of surface area is treated |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 If water is for drinking, the elemental copper concentration should not exceed 1.0 ppm (i.e. 4.0 ppm copper sulfate). |  |  |  |  |  |  |  |  |  |  |
| 4 Depending on formulation or rate - **Read label**. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 Length of use restriction for endothall varies with concentration used. **Read label**. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 Do not apply within 0.25 mile of a functioning potable water intake. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 Do not apply within 0.5 mile of a functioning potable water intake.  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 Do not use treated water to irrigate greenhouses, nurseries, or hydroponics |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 Greater than 1/2 mile from potable water intake |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 Or until <1.0 ppb |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 Do not use water from any treated site for food crop irrigation until residues are determined to be less than or equal to 1 ppb. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 Sodium Carbonate Peroxyhydrate13 Minimum setback distances from potable water intakes required and laboratory tests to determine < 0.4 ppm for use. **Read label**. |  |  |
| 14 No restriction on irrigating established grasses but do not harvest hay for 14 days after application. **Read label**. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 Or until non-detectable concentration in immunoassay analysis  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 Water restrictions on 2,4-D vary with formulation, location, rate, and time of year. **Read label.**  |  |  |  |
| **ONLY PRODUCTS LABELED FOR AQUATIC USE may be used in, over, or near the water** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Additional information is available through the following references and websites – **aquaplant.tamu.edu**, **srac.tamu.edu**, & **wildlife.tamu.edu** |  |  |  |  |  |  |
| Aquatic Vegetation Indentification Card Deck - Pub. #B6095, produced by Dr. Michael P. Masser are for sale for $12.00 + taxes & shipping, order for 10 or more or $7.00+ Plus taxes & shipping, order from the Texas AgriLife Bookstore, <agrilifebookstore.org> or fax 979/458-0172\*srac.tamu.edu website publication numbers, SRAC 0360-0369; 3600-3699 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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