

1999 STATUS OF VEGETATION IN THE UPPER MISSISSIPPI AND ILLINOIS RIVERS, AS COMPILED FROM A SURVEY OF RIVER MANAGERS AND RESEARCHERS

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INTRODUCTION

This is the third year the Vegetation Ad Hoc Committee of the Upper Mississippi River Conservation Committee (UMRCC) has asked its members of managers and researchers to document the status of the vegetation on the Upper Mississippi and Illinois Rivers. This qualitative information is compiled below, broken up into pools, and further into vegetation class. The survey asked managers and researchers in various areas along the Mississippi and Illinois Rivers for a comparison (relative up to the past three growing seasons) of the status of submersed, floating-leaved, emergent, terrestrial, and forest vegetation. Species of special interest were also included. They were asked to rate the different vegetation types, and species of interest from 1 to 5. These indicate population levels with 1 being greatly decreasing, 2 - decreasing, 3 - static, 4 - increasing, and 5 - greatly increasing. They were also asked to comment on any specific observations. This report can be obtained online at <http://www.mvr.usace.army.mil/forestry/forestry.htm> . Follow the UMRCC Veg Ad Hoc link to this report.

CONTRIBUTORS

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VEGETATION OBSERVATION RESULTS

MISSISSIPPI RIVER

POOL 4

SUBMERSED VEGETATION

Rated as 4, increasing. Lower pool 4 shows tremendous increase in submergent aquatic vegetation (SAV), specifically in Peterson, Robinson and Big Lakes. Above Lake Pepin, no improvement in quantity or diversity of SAV. Upper pool 4 remains depauperate of SAV.

FLOATING-LEAVED VEGETATION

Rated as a 2, decreasing. Known beds of yellow pond lily (*Nuphar variegatum*) and Lotus (*Nulembo lutea*) are now absent in Robinson Lake where they were abundant in 1996.

EMERGENT VEGETATION

Rated as 2, decreasing. Continued loss of arrowhead (*Sagittaria spp.*) and bullrush (*Scirpus spp.*) in Big Lake Area. Also, a loss of Wild Rice (*Zizania aquatica*) pool wide.

ARROWHEAD

Rated as 2, decreasing. Loss of arrowhead in Big Lake and Robinson Lake in lower pool. Also a loss in Dead Slough and Catherine Pass in the upper pool since 1996.

WILD RICE

Rated as 2, decreasing. Becoming scarce with single individuals popping out of bullrush or arrowhead beds. Hard to locate extensive beds.

WILD CELERY (*Vallisneria americana*)

Rated as 4, increasing. Great rebound since 1996 in Robinson and Big Lakes. Some improvement in Peterson Lake. None located in upper pool 4.

SAGO PONDWEED (*Potamogeton pectinatus*)

Rated as 3, static. Lost in some areas of upper pool, seems stable in lower pool.

PURPLE LOOSESTRIFE (*Lythrum salicaria*)

Rated as 5, greatly increasing. Easy to spot newly invaded locations near Robinson Lake, Wilcox Wildlife Management Area. Also in Coulee Ponds along Highway 61, River Mile MN767.

EURASIAN WATERMILFOIL (*Myriophyllum spicatum*)

Rated as 3, static. Present but not changing noticeably since 1996.

POOL 5

WILD RICE

Rated as 5, greatly increasing. At the McCarthy Lake Wildlife Management Area in 1998, rice was almost non-existent. In 1999, the rice is so thick and extensive that a canoe cannot penetrate much of it.

POOL 6

WILD RICE

Rated as 5, greatly increasing. In Trempeleau National Wildlife Refuge (NWR), the pools south of Highway 35 near the new dike and water control structure is extensive with wild rice.

PURPLE LOOSESTRIFE

Rated as 5, greatly increasing. There was a controlled release of 20,000 *Galerucella spp.*, leaf-eating beetles, on Trempeleau NWR to start a field insectary.

POOL 7

SUBMERSED VEGETATION

Rated as 5, greatly increasing. Dramatic comeback in Lake Onalaska. Huge vegetation beds cover the Lake.

FLOATING-LEAVED VEGETATION

Rated as 4, increasing. Some populations have moved into the Long Term Resource Monitoring Program (LTRMP) wild celery transects on the west side of Lake Onalaska.

EMERGENT VEGETATION

Rated as 4, increasing. In Lake Onalaska, it seems to have moved into LTRMP wild celery transects that get sediment deposition, which may indicate the area is getting shallower.

TERRESTRIAL VEGETATION

Rated as 3, static.

FOREST VEGETATION

Rated as 3, static.

ARROWHEAD

Rated as 4, increasing. On the west side of Lake Onalaska, in deposition area, the beds seem to be getting bigger

WILD RICE

Rated as 3, static. Not much present in pool.

WILD CELERY

Rated as 5, greatly increasing.

SAGO PONDWEED

Rated as 4, increasing.

PURPLE LOOSESTRIFE

Rated as 4, increasing. It is showing up in new places. Neither of the areas that loosestrife-eating beetles were released shows a decline in numbers or vigor of the plant.

EURASIAN WATERMILFOIL

rated as 2, decreasing. Wild celery has taken over former milfoil areas. In Lake Onalaska, it is reduced to just a few sprigs, where in 1993-4, it was a huge, monotypic bed.

OTHER

Shadow areas behind Environmental Management Program (EMP) islands are booming with SAV. Also, around Red Oak Island and west up to Sommers Chute is a very large bed.

POOL 8

SUBMERSED VEGETATION

Rated as 5, greatly increasing. Lawrence Lake had a very thick coontail (*Ceratophyllum demersum*) beds in the upper end as well as a substantial increase in waterweed (*Elodea canadensis*). Water crowfoot (*Ranunculus longirostris*), a species rarely recorded, also showed a substantial increase in Lawrence Lake. Wild celery and water stargrass (*Heteranthera dubia*) increased in the Goose Island area and lower pool 8. A small amount of wild celery was also found in the upper end of the pool.

FLOATING-LEAVED VEGETATION

Rated as 3, static. Floating-leaved beds appeared to be about the same as the last three years. Lotus leaves and pods showed considerable insect damage again this year, however the damage doesn't appear to be affecting the size of the beds.

EMERGENT VEGETATION

Rated as 5, greatly increasing. Several emergents appear to be increasing including wild rice and pickerelweed (*Pontederia cordata*) in Lawrence Lake as well as river bullrush (*Scirpus fluviatilis*) and smartweeds (*Polygonum spp.*) in the Goose Island area.

TERRESTRIAL VEGETATION

Rated as 3, static. Cardinal flower (*Lobelia cardinalis*) appears to be increasing on the islands. Several new spits of land have been exposed in the Goose Island area and are being colonized mainly by rice cutgrass (*Leersia oryzoides*), smartweeds, river bullrush, and sandbar willow (*Salix exigua*).

FOREST VEGETATION

Rated as 3, static. For a number of years, there was a noted gradual expansion of reed canary grass (*Phalaris arundinacea*) into some adjacent forest stands. It appeared that when mature trees died off along the edge of some stands or within them, reed canary moved in to replace the trees and prevented establishment of new seedlings through natural regeneration. It was thought that, once the reed canary grass became established on a site, it would persist there for many years. However, in 1999 it was noted that an area in Pool 8 where it appears that early successional forest (i.e. sandbar willow, black willow (*Salix nigra*) and cottonwood (*Populus deltoides*)) is taking over a site which had been in reed canary. Observations on this will continue.

ARROWHEAD

Rated as 3, static. Pool 8 beds appear stable.

WILD RICE

Rated as 5, greatly increasing. Wild rice increased and was very thick in the east and upper portions of Lawrence Lake. A great increase was also noted in Blue Lake.

WILD CELERY

Rated as 5, greatly increasing. Increasing in lower pool 8 for the last three years. A large, dense bed is located between Boomerang Island and the main channel and extends south along the main channel. Extensive beds are also located within the Stoddard Bay Island project. Coming in all around EMP islands and spreading south.

SAGO PONDWEED

Rated as 3, stable. Stable over the last 3 years.

PURPLE LOOSESTRIFE

Rated as 4, increasing. Appears to be increasing slightly on the islands in the lower Goose Island area and lower Pool 8. No large areas were noted. Most is in scattered small beds. Increasing on EMP islands, growing right in the rip-rap. Beetles were released on Horseshoe Island, and monitoring is continuing.

EURASIAN WATERMILFOIL

Rated as 3, static. Continues to be a part of the aquatic vegetation community, but has not taken over any backwaters.

OTHER

Crown vetch is spreading over Horseshoe, Boomerang, Grassy and East Islands, and killing almost all other vegetation in its path.

POOL 9

EMERGENT VEGETATION

A small-scale drawdown was initiated in Peck Lake in pool 9 on July 6. Response of Arrowhead was excellent. Monitoring continues

POOL 13

SUBMERSED VEGETATION

Rated as 5, greatly increasing. Population densities depend on where you are in the pool. Populations in the impounded area are extensive. Water levels here seem to be more stable this year, if not a few inches higher. Mid to upper areas in the pool area pretty barren. Water levels here were high from March to mid-August and recently attained more normal levels. Turbidities in these areas have also been high for an extended period of time.

FLOATING-LEAVED VEGETATION

Rated as 5, greatly increasing. Dependent upon where you are in the pool. The most noticeable and dramatic decline is in Brown's Lake (upper-mid pool) where lotus beds now cover less than 5% of the total area.

EMERGENT VEGETATION

Rated as 3, static. *Phragmites spp.* is becoming more prevalent in mid and lower pool but densities are still too low (<1 acre) to document on aerial photography for LTRMP.

TERRESTRIAL VEGETATION

Rated as 4, increasing. Many islands were flooded during April-June. Populations of rose mallow (*Hibiscus spp.*) and cardinal flower seem to be more noticeable this year.

FOREST VEGETATION

Rated as 4, increasing. There was a bumper crop of silver maple (*Acer saccharinum*) seedlings during July sampling. The water finally receded off the islands and over 120 seedlings about 8cm tall were discovered in most of the meter square plots. Mid July and August sampling yielded a dramatic decline in the number of seedlings present, probably due to compaction of clay as it dried. Northern Pecan (*Carya illinoensis*) had an average to light seed year, while Burr Oak (*Quercus macrocarpa*) had a very poor seed year in this pool.

ARROWHEAD

Rated as 4, increasing. Populations seemed to be on the increase. *S. rigida* populations are increasing in number and size on the edge of *S. latifolia* beds.

WILD CELERY

Rated as 5, greatly increasing. It has taken over areas where dense stands of water star grass occurred the year before.

SAGO PONDWEED

Rated as 2, decreasing. Sago populations were dramatically low again this season. Water temperatures may have been too high this year. Very few plants were observed with seed heads yet this year and the ones that are left are dying off quickly.

PURPLE LOOSESTRIFE

Rated as 5, greatly increasing. There are four stands of 1 acre or more now evident on the aerial photographs, and there seems to be more developing.

EURASIAN WATERMILFOIL

Rated as 2.5. Seems at a standstill. Doesn't seem to be able to compete with the large influx of wild celery.

POOL 14

SUBMERSED VEGETATION

Rated as 4, increasing.

FLOATING-LEAVED VEGETATION

Rated as 3, static.

EMERGENT VEGETATION

Rated as 3, static.

TERRESTRIAL VEGETATION

Rated as 3, static.

FOREST VEGETATION

Rated as 3, static.

ARROWHEAD

Rated as 4, increasing.

PURPLE LOOSESTRIFE

Rated as 4, increasing.

WILD CELERY

Rated as 5, greatly increasing. Heavy growth in the last two years, particularly along main channel borders.

SAGO PONDWEED

Rated as 3, static.

PURPLE LOOSESTRIFE

Rated as 4, increasing.

EURASIAN WATERMILFOIL

Rated as 4, increasing. Common in the last two years in side channels and sloughs

POOL 15

SUBMERSED VEGETATION

Rated as 3, static. Overall, coverage static. Declines in Sago pondweed and water stargrass. Slight decline in observations of curlyleaf pondweed (*Potamogeton crispus*) & American pondweed (*Potamogeton nodosus*), American elodea (*Elodea canadensis*), and Naiad (*Najas spp.*).

FLOATING-LEAVED VEGETATION

Rated as 3, static. Only white water-lily (*Nymphaea odorata*) observed at survey sites.

EMERGENT VEGETATION

Rated as 3, static. May be a slight increase in purple loosestrife.

WILD CELERY

Rated as 4, increasing. Slight increase based on very gross observations.

SAGO PONDWEED

Rated as 2, decreasing. Slight but noticeable decline at survey sites.

WATER STARGRASS

Rated as 2, decreasing. Slight decline at survey sites.

PURPLE LOOSESTRIFE

Rated as 4, increasing. Slight increase based on very gross observations.

EURASIAN WATERMILFOIL

Rated as 3, static. Very hard to ID and keep separate from other species of milfoil.

POOL 16

SUBMERSED VEGETATION

Rated as 3, static. Small patches of coontail in Patterson Lake. Some milfoil near IA bank at Shady Creek.

FLOATING-LEAVED VEGETATION

Rated as 3.5, slightly increasing. Small patches of pondweed in the lower pool. In Patterson Lake, floating leaved species absent except for the occasional water lily.

EMERGENT VEGETATION

Rated as 4.5, greatly increasing. In Patterson Lake, Lotus beds returning since 1993, and are up in aerial extent over 1998, and there is more arrowhead present. In the lower pool, arrowhead and lotus are common along the shorelines.

FOREST VEGETATION

Rated as 3, static. High water in the early summer caused many nut bearing trees, particularly black walnut (*Jugulans nigra*) to abort their seed very early, with none being viable. A noted increase in number and size of silver maple seedlings in small canopy openings created from mortality from the flood of 1993. Many of these areas now have trees greater than 6 foot tall, and dozens of stems per square foot.

ARROWHEAD

Rated as 4, increasing. Seems to be more prevalent along protected shorelines. In Patterson Lake, there is a slight increase over 1998 population levels.

SAGO PONDWEED

None observed in lower pool. Very little, patchy along shoreline at inlets to Patterson Lake.

PURPLE LOOSESTRIFE

Rated as 3, static. Occasional plants observed. Not as numerous as in the past.

EURASIAN WATERMILFOIL

Rated as 3, static.

POOL 18

TERRESTRIAL VEGETATION

Rated as 3, static. Wild cucumber (*Echinocystis lobata*, & *Sicyos angulatus*) seems to have died out in many areas that it had overrun in the past several years.

POOLS 24, 25 & 26

FLOATING-LEAVED VEGETATION

Rated as 5, greatly increasing. Due to water level management.

EMERGENT VEGETATION

Rated as 5, greatly increasing. Due to water level management.

TERRESTRIAL VEGETATION

Rated as 5, greatly increasing. Due to water level management.

FOREST VEGETATION

Rated as 4, increasing. Lots of regeneration from 1993 flood.

ARROWHEAD

Rated as 4, increasing. Due to water level management.

PURPLE LOOSESTRIFE

Rated as 3, static.

ILLINOIS RIVER

LAGRANGE POOL

TERRESTRIAL VEGETATION

Rated as 5, greatly increasing

FOREST VEGETATION

Rated as 2, decreasing. Loss since 1993 has slowed, but continues.

PURPLE LOOSESTRIFE

Rated as 3, static. Very limited in occurrence.

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