Landing Exotic/Invasive Species Inspections
Balsam Lake WBIC: 2620600
Polk County, Wisconsin

Balsam Lake Aerial (2015)

Purple loosestrife in bloom

Project Initiated by:

Balsam Lake Protection and Rehabilitation District, and the
Wisconsin Department of Natural Resources

Eurasian water-milfoil (Berg 2007)

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TABLE OF CONTENTS

LIST OF FIGURES

INTRODUCTION:

Balsam Lake (WBIC 2620600) is a 2,054 acre stratified drainage lake in central Polk County, Wisconsin in the Towns of Balsam Lake, Milltown, Georgetown, and Apple River (T34N R17W). It reaches a maximum depth of 37ft north of Cedar Island in the western basin and has an average depth of 20ft (Hopke et al. 1964). The lake is mesotrophic bordering on eutrophic in nature, and water clarity is fair with historical summer Secchi readings averaging 5ft in East Balsam, 6ft in Little Balsam, and 8ft in the deep hole north of Cedar Island (WDNR 2020). Bottom substrate is variable with organic muck in most bays, and rock/sand in the Big and Little Narrows and around the lake's many islands.

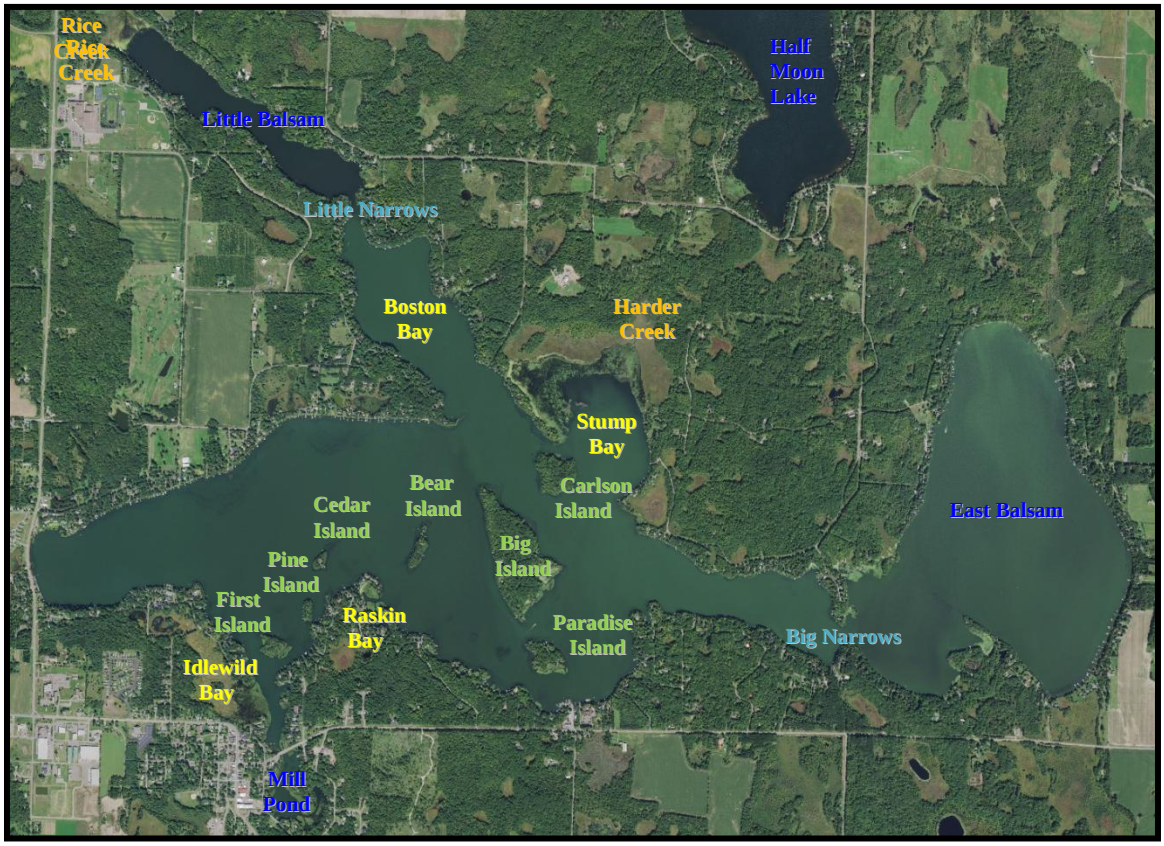

Figure 1: Aerial Photo of Balsam Lake

The Balsam Lake Protection and Rehabilitation District (BLPRD) and the Wisconsin Department of Natural Resources (WDNR) commissioned a series of 2020 boat landing/ exotic invasive plant species surveys in accordance with the lake's 2015 Aquatic Plant Management Plan (Clemens 2015). This report is the summary analysis of the five landing inspection surveys conducted on June 4th, July 2nd, August 7-8th, September 7th and October 3rd, 2020.

METHODS:

Landing Inspection Survey

Throughout the 2020 growing season, we conducted landing inspections at the four main public landings, two unimproved public landings, and the private landing at Paradise Landing/Sunnyside Marina (Figure 2). Using three 100-150m parallel transects approximately 15, 30 and 45m from shore; we motored at idle speed looking for any evidence of Eurasian water-milfoil's (*Myriophyllum spicatum*) characteristic red growth top, or any other exotic/invasive plant species we might encounter. Once we had finished the three transects, we returned to our starting point using a stitch pattern that crossed back and forth over all three lines to look for any plants we may have missed between the transects.

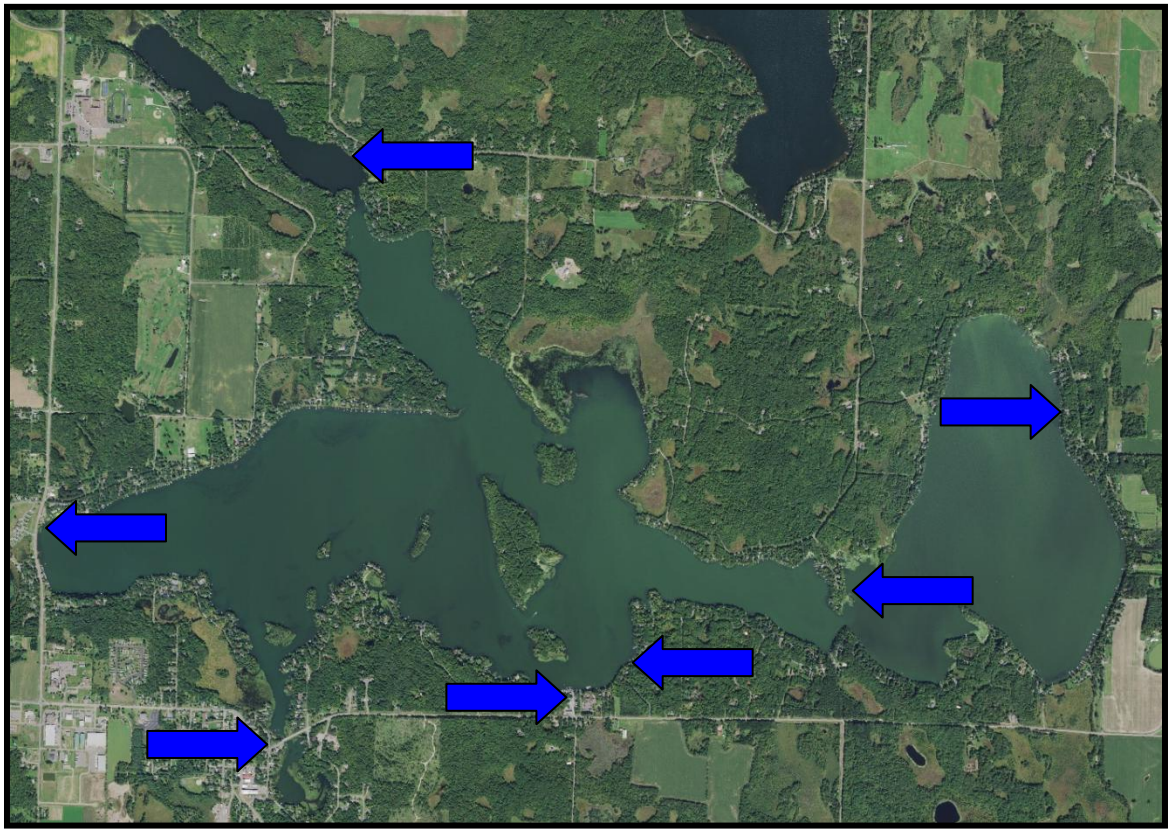

Figure 2: Balsam Lake Landings

RESULTS AND DISCUSSION:

During the 2020 growing season, **we saw NO evidence or Eurasian water-milfoil or any other new fully aquatic exotic species. However, we did find Common forget-me-not (*Myosotis scorpioides*) (CFMN) and Narrow-leaved/Hybrid cattail (*Typha angustifolia*) (NLC) on the lake for the first time.** They join Curly-leaf pondweed (*Potamogeton crispus*), Reed canary grass (*Phalaris arundinacea*), and Purple loosestrife (*Lythrum salicaria*) (PL) as the only other exotic plant species known to occur on the lake.

CFMN was present near the village beach landing. Plants were relatively few in number and could be hand pulled without too much effort. NLC was not found near a landing/was located on the southern shoreline southwest of Big/Paradise Island. The stand isn't huge, but it is well established and would take some effort to remove what's there. Neither of these discoveries are likely of significant concern, but could serve as volunteer opportunities if the BLPRD was interested in removing them.

Somewhat surprisingly, PL continues to be limited to the village beach landing area and Idlewild and Raskin Bays. We first noted a few PL plants on the lake near the village beach in 2009 when we completed a full point-intercept survey of the lake's plants. In 2013, we found a series of large beds had established in Idlewild Bay northwest of the beach. PL was common along the shoreline directly down the hill (north) from the Minit Mart station/store, and, since then, has spread all around the bay. Because the area is largely inaccessible to people/potential hand removal, at that time, we contacted the Polk County Land and Water Resources Department (PCLWRD), notified them of the infestations, and clarified that plans were in place to release Galerucella beetles – a natural biocontrol that specializes in eating loosestrife – during the 2014 growing season. Although beetles were released and we found them to be doing a highly effective job at controlling PL in this area by late 2014, during the August 2015 survey, we found little evidence of beetle damage suggesting they may not have survived the winter and raising concern an additional release may be necessary. Fortunately, the beetles seem to have rebounded, and most PL plants in the Idlewild Bay area have shown at least some evidence of beetle herbivory each year since then including in 2020 (Figure 3).

Figure 3: Purple Loosestrife with Adult Beetles/Larvae/Holes in Leaves

Away from the source bay, we continued to find just a few individual plants and clusters along the eastern shoreline all the way to Raskin Bay. For the first time, several of these plants showed at least some evidence of beetle damage. Unfortunately, we again noticed than several shoreline owners continue to remove all the vegetation down to the lakeshore, but mowed around loosestrife plants or simply leave them as part of their landscaping (Figure 4). Although we again clipped the flowering heads off several of these plants that we could reach from the boat and gently pulled plants where we could, we can't trespass/dig roots without landowner permission. We again encourage the BLPRD to put out an annual reminder to its members in July/August to be on the lookout for loosestrife and remove it immediately if they find it. As in the past, we will continue to hand remove where we can, but any help from residents would go a long ways to help slow the spread of this beautiful, but highly invasive wetland plant.

Figure 4: Purple Loosestrife at the Village Beach Docks

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