

# AMERICAN AVOCET (*RECURVIROSTRA AMERICANA*)

## RESPONSE TO CHANGING WATER LEVELS AT A MANITOBA SITE

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### Introduction

The American Avocet (*Recurvirostra americana*), hereafter 'avocet', is a large shorebird with long bluish-gray legs, a long, recurved bill, and a black and white chevron pattern on its back and wings (Figure 1). Avocets breed on sparsely vegetated shorelines, marshes and alkaline flats in central North America from Utah to the mid-latitudes of Alberta and Saskatchewan, in southern Manitoba and at locations along the west coast of California.<sup>1</sup> For Canada and the prairie/parkland pothole region of Manitoba, Saskatchewan and Alberta, Breeding Bird Surveys suggest that populations are increasing slowly (long-term trend 1970-2017 for Canada and prairie-potholes: +0.912 and +0.889 respectively).<sup>2</sup> The main breeding areas in Manitoba are across the prairie/parkland pothole region to the southern edges of the Boreal Taiga Plains north to Red Deer Point and the Interlake south of Ashern.<sup>3</sup> The probability of observation is very low overall, except for three concentrated areas in the western portion of the province: from Melita to Whitewater Lake, from Virden to Russell, and along the southern shore of Lake Winnipegosis.<sup>3</sup> Avocets are occasionally observed in Manitoba pothole habitat such as in the Erickson area, along the southern edge of Riding Mountain National



**FIGURE 1:** This adult American Avocet at Whitewater Lake, Manitoba accompanied the chick shown in Figure 3. Photo credit: Peter Taylor.

Park,<sup>4</sup> but I was unaware of any breeding site near Erickson during the period 1970–2012.

On breeding, migration and wintering grounds, threats to avocet populations involve loss of wetland habitat, especially loss of ephemeral wetlands with dynamic water level change. Avocets specialize in the use of ephemeral wetlands and wade to feed in shallow water  $\leq 15$ –20 cm, but also feed while swimming, at water depths up to approximately 25 cm.<sup>1</sup> However, in many areas of the prairie/parkland region, excessive draining of smaller, ephemeral wetlands has created larger, more permanent basins downstream with

reduced water-level fluctuation in response to climate cycles. The result, compared to undrained landscapes, has been fewer, relatively stable wetlands that have lower densities of invertebrate forage and less foraging habitat (shallow and muddy shorelines) for shorebirds.<sup>5</sup>

In this article, I describe changes to avocet numbers in response to rapid flooding followed by human-caused water-level lowering on a large, permanent, Class V wetland located at 50.473, -99.906, 2.9 km southeast of Erickson, Manitoba.<sup>6</sup> This area is not usually associated with breeding avocets (personal observations).

## Site Location and Water Level Change

The wetland is situated in the Aspen Parkland portion of the prairie pothole region of southwestern Manitoba (Figure 2). The topography of the area is rolling with numerous ponds and lakes. The area and changes over time are described in more detail by others.<sup>7-10</sup> Prior to the 2000s, this large wetland was a complex of three smaller, previously unconnected Class V wetlands with no islands. During the 2000s, water levels rose, peaking in 2011, and resulted in the three wetlands becoming one (21.7 ha, Figure 2). Emergent bulrush stands were flooded and destroyed and water, flooding onto cultivated fields, produced much bare shoreline. Four small grassy islands were created. A ditch, dug in early April 2012, caused the water level to drop ~60 cm (unpublished data), creating mud flats 3-10 m wide around much of the wetland and resulting in two grassy islands being reunited with the mainland but creating two new mud islands (0.07 and 0.19 ha in 2015, Figure 2). From 2012 to 2019, water levels fluctuated at this lower level, and the two new mud islands changed size annually, gradually becoming more vegetated with grasses and forbs. Lower water levels in 2019 resulted in the two islands merging and the distance to the mainland being reduced to approximately 3 metres.

## Avocet Response

I conducted waterfowl surveys at approximately weekly intervals from mid-May to early September (1970-1972 and 2008-2019) on a 680-ha block surrounding the wetland and opportunistically collected information on avocet numbers. I observed the wetland from several elevated positions 80-130 m from the mud islands. I never

visited the islands; thus, no detailed observations on nest numbers, clutch size, etc. were possible. No avocets were recorded on the wetland from 1970-1972 and from 2008-2010 (unpublished data). One pair of avocets was regularly observed at one location on the wetland during the breeding season in 2011, presumably in response to the wetland conditions created by the flood. Breeding was not confirmed. Maximum numbers recorded from 2012-2019 were: 2, 10, 10, 14, 24, 4, 14 and 3 respectively. The 2016 count in mid-May possibly included migrants, as later counts averaged 6-8 birds. Almost all individuals were observed on or near the two mud islands created in 2012. Breeding attempts were suspected some years (birds sitting on what appeared to be a nest scrape in open locations on the island). In 2015 and 2016, successful reproduction was confirmed (chicks observed) and I was always met by flying adults

repeating their characteristic predator alarm call.

Avocets often use islands (natural and manmade) for nesting, especially those with sparse vegetation.<sup>11,12</sup> The nest is typically located in areas on the island with the least amount of vegetation, often on exposed bare ground sites with 360° visibility. This nesting behaviour was observed at Erickson. Lone birds recorded sitting for the entire observation time (15-30 minutes) were assumed to be incubating and these nest sites were in exposed unvegetated sites. Interestingly, these islands provided a secure nesting environment (one or more eggs hatched) for at least two years and adults settled annually despite the presence of an active long-time raccoon (*Procyon lotor*) den located in abandoned farm buildings within 300 m of the islands (Figure 2). These islands may not have been far enough removed from the mainland to deter raccoons because on one occasion two



**FIGURE 2:** Location of wetland and two islands occupied by avocets near Erickson, Manitoba, 2011-2019. Long-dash line represents extent of 2011 flood. Short-dash line indicates mud islands formed after drawdown in 2012. Google Earth view taken fall 2015. Note that both islands have partially revegetated.



racoons were observed swimming near the islands. Avocets have high fidelity to breeding areas and they show little tendency to disperse in response to nesting failure.<sup>13</sup> Therefore, the continued existence of this isolated breeding colony may well be determined, not by the extent of egg or chick loss due to depredation, but by the presence of habitat, attractive to breeding pairs, which in turn will be determined by water level fluctuation and vegetative encroachment on the islands.

In conclusion, this pioneering effort by breeding avocets in prairie/ parkland wetlands near Erickson demonstrates the importance of fluctuating water levels in creating suitable avocet breeding habitat and the species ability to quickly locate and utilize same. This ability to colonize newly available habitats provides protection from the effects of locally changing patterns of habitat availability, but will not help them avoid the effects of permanent habitat loss.<sup>13</sup>



**FIGURE 3:** This American Avocet chick was feeding with a watchful parent near a partly flooded section road at Whitewater Lake, Manitoba, 24 June 2016. Photo credit: Peter Taylor.

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