Nest Watch Report 2016

Capital City and Baker Sanctuaries

Eastern Bluebird Hatchlings
By nest box monitor Lindsay Ross

Black-capped Chickadees Pre-fledge
By Rachelle Roake

Tree Swallow Chicks
By Rachelle Roake

Season summary:

This year marked the second year of the Capital City Bird Sanctuary nest box trail and the inaugural year for nest boxes at Baker Sanctuary. Overall, nest success was slightly higher at Baker Sanctuary (site average of 69%) than at Capital City (site average of 61%), but Capital City was much improved from 2015 (site average 47%). This site-wide improvement at Capital City was likely influenced by the addition of predator guards on nearly all boxes, but was largely driven by a huge increase in nesting success of house wrens. Plans for next year include the installation of predator guards on all boxes at Capital City and potential installation of purple martin houses at each site. Removal of invasive birds will continue.

	Baker Sanctuary	Capital City Bird Sanctuary
Number of boxes	12	30
Number of nesting attempts	14	27
Number of eggs	65	136
Number of chicks fledged	43	73
Number of non-native chicks fledged	0	0
First egg date	4/28 (EABL)	4/13 (EABL)

Volunteers are responsible for nearly all nest box monitoring. This year, 4 monitors volunteered to check boxes once every 3-4 days from April 18 through August 12, when the last clutch fledged. These volunteers donated roughly 120 hours towards monitoring and managing boxes at these two sanctuaries. All data was entered into Cornell Lab of Ornithology's NestWatch program and contributed towards continent-wide research.

Chart 1: Nest Success

In the simplest terms, average nest success describes the proportion of nests that fledged at least one chick. In 2016, Baker Sanctuary (BA) had the most successful species: Eastern Bluebirds at Baker Sanctuary experienced the greatest nesting success (100%). Tree Swallows at Capital City experienced the lowest nesting success, with just 1 out of 4 nests fledging at least 1 young. Estimates of overall nest success at the sanctuaries are likely biased due to small sample size. Accurate estimates come from analyses using >50 nests per species, and our sites have substantially fewer nests

Compared to 2015 nation-wide averages (NestWatch data) nesting success at Baker Sanctuary and especially Capital City Sanctuary, is low. Capital City (CA) experienced issues with invasive House Sparrows that were known to cause several nest failures of Eastern Bluebirds and Tree Swallows. One male House Sparrow was permanently removed and no nest attempts were seen after. Two European Starling nests were destroyed at Capital City with no breeding behavior observed after. There was no evidence of native bird nest destruction by European Starlings.

Capital City has had many incidences of predation throughout 2015 and 2016. While predator guards installed in early 2016 were expected to increase nest success, 3 out of 4 nesting species experienced lower nesting success. Predator guards can help deter ground predators like squirrels, raccoons, and snakes, but do little to protect nests from jumping squirrels or other birds. Installing cameras may help to identify specific predators which would allow us to effectively combat these attacks.

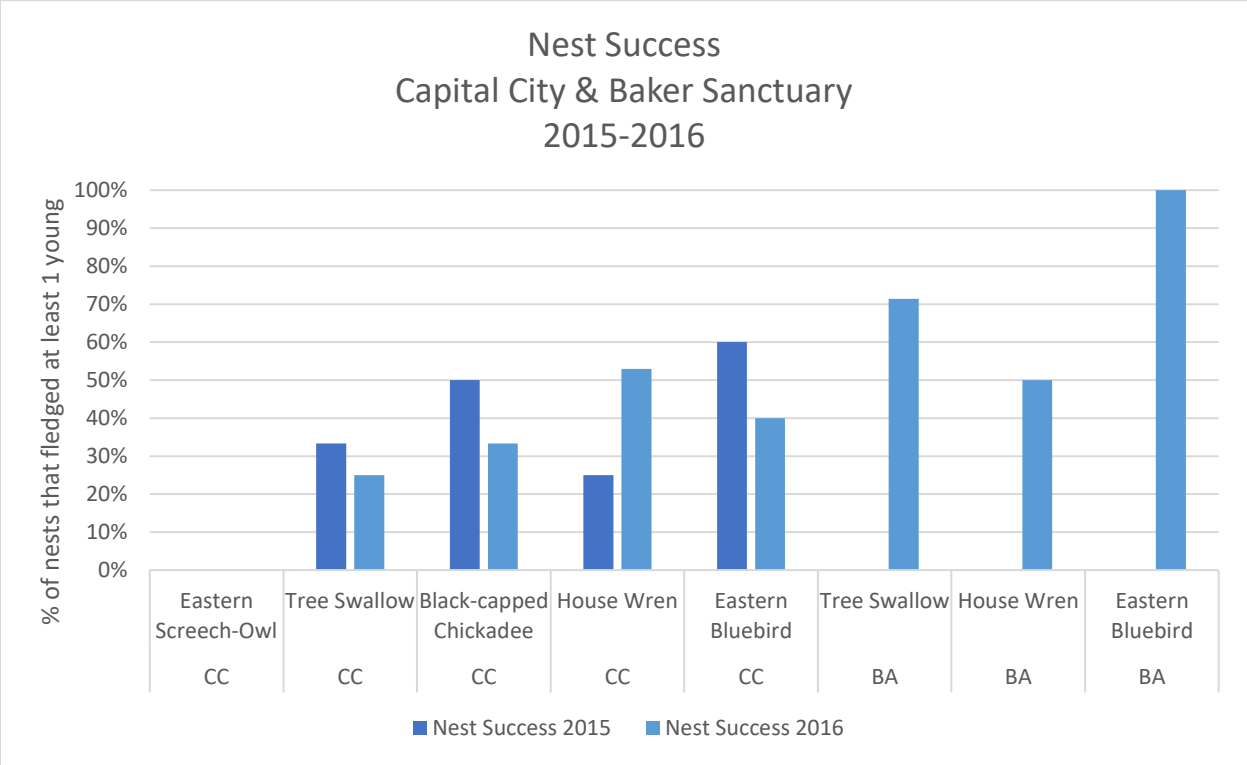

Chart 2: Number of chicks fledged

House Wrens at Capital City blew other species' productivity out of the water with a whopping 43 chicks fledged this season. Black-capped chickadee fledglings were down from last year, but this is more a reflection of fewer nesting attempts (10 attempts in 2015 versus 4 attempts in 2016). Several new boxes for chickadees were added to Capital City in what was assumed to be good habitat, so the reason for fewer attempts is unknown. It's possible that House Wrens outcompeted Black-capped Chickadees as many boxes that were used by chickadees in 2015 were used by wrens in 2016. House Wrens made 8 egg-laying attempts in 2015, but 12 in 2016. First egg dates were comparable for both Black-capped Chickadees and House Wrens in both years, which suggests that a change in arrival dates was not influencing the low number of Black-capped Chickadee attempts.

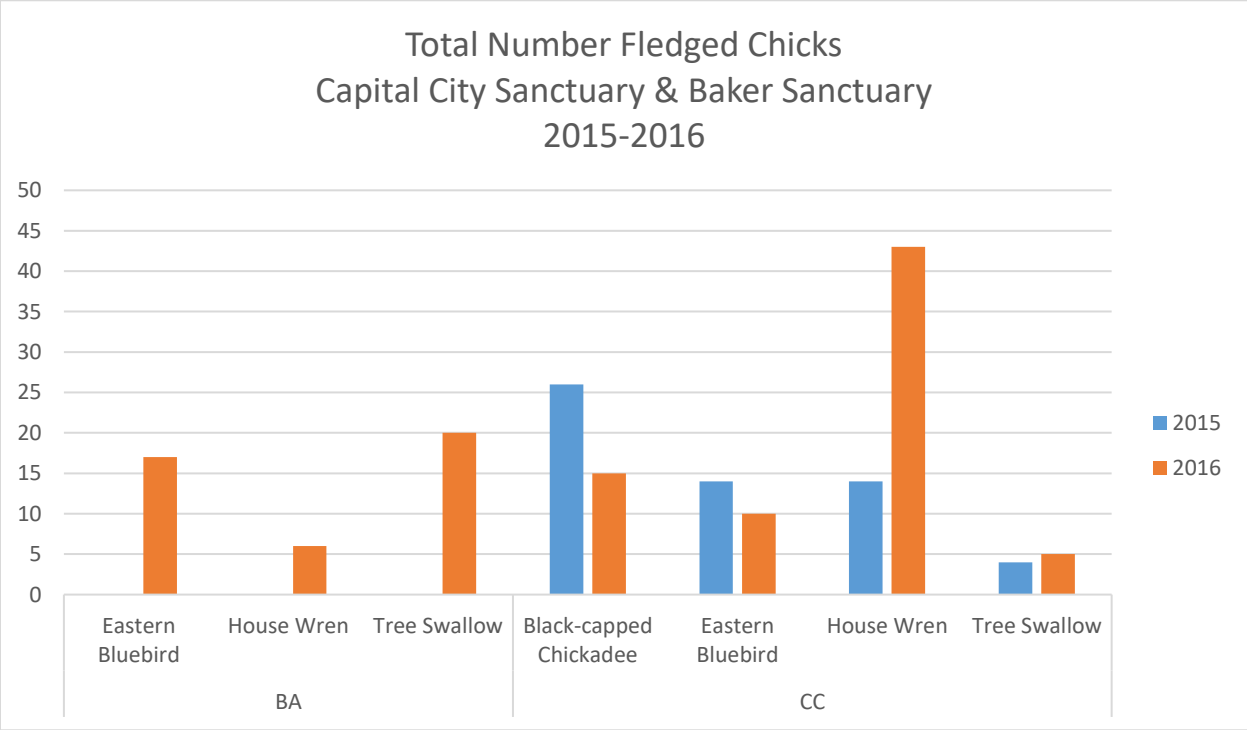

Chart 3: Average Productivity

Productivity is roughly defined as the number of chicks fledged per pair. Despite fewer nesting attempts and lower nesting success, Black-capped Chickadees produced slightly greater chicks per pair in 2016 (3.25 in 2015; 3.75 in 2016). Only Eastern Bluebirds experienced a decrease in productivity from 2015, which was likely due to aggressive House Sparrow activity at Capital City.