

# Bald Eagle (*Haliaeetus leucocephalus*)

## NESTING TRENDS AND DISTURBANCE SOURCES IN THE EAST BAY REGIONAL PARK DISTRICT



### AUTHORS

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### ABSTRACT

The Bald Eagle (*Haliaeetus leucocephalus*) is an Endangered Species Act success story. Illegal shooting, habitat loss, and the pesticide DDT once threatened our national icon with extinction. Fortunately, the Bald Eagle population has recovered due to numerous conservation efforts. Specifically in the East Bay Regional Parks, established Bald Eagle nests have been protected at Lake Chabot and Lake Del Valle, two reservoirs open to public recreation. Since 2012, both nesting sites have been monitored by staff and trained volunteers. Analysis of the data collected between 2012 and 2017 provides an overview of their nesting trends and disturbance sources in urban-wildland interface. Their long-term breeding success, occurring within the East Bay Regional Park District, has averaged 1.27 fledglings per nesting pair. Disturbance sources such as Red-tailed Hawk (*Buteo jamaicensis*), Common Raven (*Corvus corax*), and American Crow (*Corvus brachyrhynchos*) make up 42% of disturbances at Lake Chabot and 36% at Lake Del Valle. This information will aid in the future management and protection of nesting Bald Eagles.

### INTRODUCTION

In recent years, the Bald Eagle population in the Pacific Northwest, California in particular, has increased (Millsap, Bjerre, Otto, Zimmerman, & Zimpfer; Fish and Wildlife Service 2016). Currently, nesting Bald Eagle pairs are found in 41 out of 58 counties within California, compared to only 8 counties in 1977 (CA Department of Fish and Wildlife, 2016). Proper management of active Bald Eagle nesting sites located near human activity will help to support their growing numbers and provide data as to how disturbances can influence Bald Eagle activity.

### STUDY AREA

Lake Chabot is located north of Castro Valley and east of Oakland in Alameda County (37.7283, -122.1135). Since 2012, the nest site has been in use each consecutive year by the same pair of Bald Eagles. The landscape surrounding the lake is covered by eucalyptus, with various types of grasses and shrubs. Lake Chabot is considered a near urban environment due to its close proximity to residential communities.

Lake Del Valle, which is 10 miles south of Livermore in Alameda County (37.5976, -122.1135) has had a nesting pair of Bald Eagles since 1991. Lake Del Valle is situated within a valley in a rural area. The Arroyo del Valle tributary extends from the lake towards the nest site, with the surrounding area covered mostly by oaks, pines, and various types of grasses and shrubs. The Del Valle Bald Eagle nest (Figure 1) is located approximately ¾ of a mile southeast of the reservoir, which is farther away from any possible human disturbances as opposed to the Chabot nest; which is closer to the main body of water.

### METHODS

Both locations were monitored using the same protocols to observe Bald Eagle activity. Surveys were conducted using binoculars and variable powered spotting scopes. Monitoring sessions lasted 1-1.5 hours (between 0700 and 1700) and typically involved 1-2 observers. Disturbances were recorded according to the following responses from the Bald Eagles: Body/head position changes, temporary agitation or vocalization, and flushing (Buehler et al. 1991, McGarigal et al. 1991, Brown and Stevens 1997).



Figure 1: Nesting Bald Eagle at Lake Del Valle. By Daniel I. Riensché ©

Table 1: The Lake Chabot nest has produced 8 fledglings in a 6-year period (2012-2018).

YEAR	NEST CONSTRUCTION	INCUBATION	HATCHED	FLEDGED
2012	2/23	3/7	4/21	7/5 (1)
2013	2/14	3/10	4/22	6/24 (1)
2014	2/10	3/12	4/24	6/27 (2)
2015	12/17	2/18	Nest Failed	(0)
2016	2/10	3/23	4/23	7/29 (1)
2017	2/15	3/20	4/20	6/28 (2)
2018	2/6	3/22	4/17	6/26 (1)
<b>Total</b>				<b>8</b>

Table 2: The Lake Del Valle nest has produced 6 fledglings in a 4-year period (2015-2018).

YEAR	NEST CONSTRUCTION	INCUBATION	HATCHED	FLEDGED
2015	1/30	2/21	4/15	7/6 (1)
2016	2/4	2/23	5/21	7/16 (2)
2017	1/23	2/22	4/19	7/27 (2)
2018	1/24	2/26	4/19	6/25 (1)
<b>Totals</b>				<b>6</b>

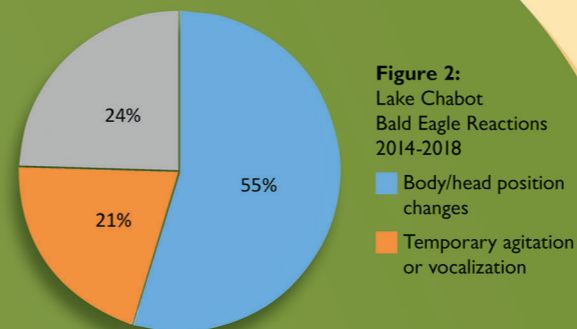


Figure 2: Lake Chabot Bald Eagle Reactions 2014-2018  
 ■ Body/head position changes  
 ■ Temporary agitation or vocalization  
 ■ Flushing

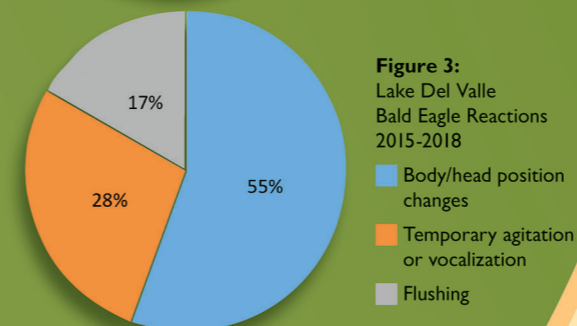


Figure 3: Lake Del Valle Bald Eagle Reactions 2015-2018  
 ■ Body/head position changes  
 ■ Temporary agitation or vocalization  
 ■ Flushing

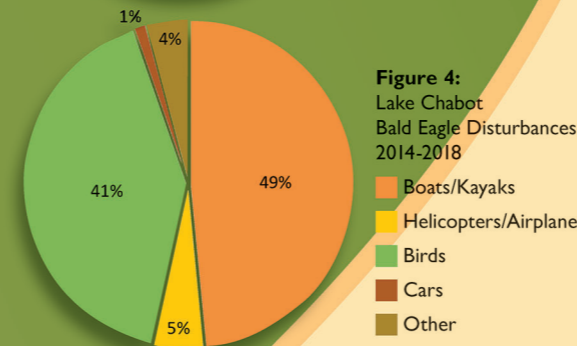


Figure 4: Lake Chabot Bald Eagle Disturbances 2014-2018  
 ■ Boats/Kayaks  
 ■ Helicopters/Airplanes  
 ■ Birds  
 ■ Cars  
 ■ Other

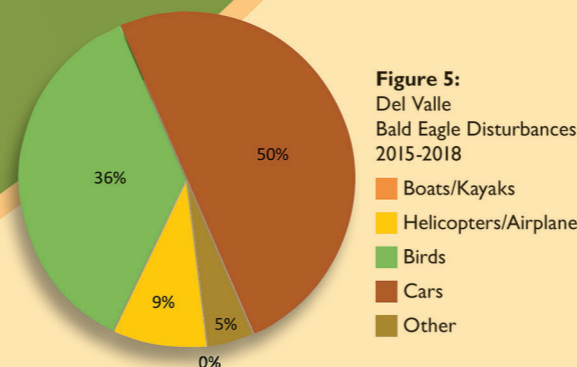


Figure 5: Del Valle Bald Eagle Disturbances 2015-2018  
 ■ Boats/Kayaks  
 ■ Helicopters/Airplanes  
 ■ Birds  
 ■ Cars  
 ■ Other

### RESULTS

Bald Eagle nesting trends at Lake Chabot and Del Valle can be found in Tables 1 and 2. Reactions to disturbances at both locations can be seen in Figures 2 and 3. Predatory birds such as Red-tailed Hawks, Ravens, and Crows make up 42% of disturbances at Lake Chabot and 36% at Del Valle; while boats make up 48% of disturbances at Lake Chabot and cars 50% at Del Valle as seen in Figures 4 and 5.

### DISCUSSION

The recovery of the Bald Eagle population has provided the opportunity for more nests to be established closer to human activity. One study conducted within California's Plumas County showed promising results for nesting Bald Eagle pairs near the Lake Almanor Region. Despite the level of human activity in the area, it was found that there was no detrimental impact on the Bald Eagle pairs with an overall population increase of 67% between the years of 1988 and 2006 (D. Airola, 2007). Comparably, the nesting pairs of Bald Eagles at Chabot and Del Valle have experienced similar success rates with no significant impact of human disturbance observed. The data seems to indicate that Eagles are adapting to and thriving in near urban environments. This trend of gradually increasing numbers of nesting pairs throughout the state of California is a welcomed sight and a tribute to the Endangered Species Act.

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