

BREEDING SURVEY OF TRICOLORED BLACKBIRDS IN BAJA CALIFORNIA, MEXICO, 2013

Jon S. Feenstra, 556 South Fair Oaks Ave. Suite 108, Pasadena, CA 91105, USA

Summary/Abstract

During the first week of May 2013, twenty past or potential Tricolored Blackbird breeding sites in Baja California, Mexico were visited and surveyed. The sites were spread between the US border in the north and El Rosario in the south. Tricolored Blackbirds were found at three locations (El Rosario, Ojos Negros, and Cienega Redonda) and breeding was either confirmed or suspected at all three sites. El Rosario and Ojos Negros are locations where Tricolored Blackbirds had been observed repeatedly in the past and nesting documented. Cienega Redonda is a location of known potentially suitable nesting habitat, but first documented as a breeding colony with this work. The entire region continued to experience drought conditions and many sites that had previously been host to nesting colonies were dry and unsuitable.

Introduction

The Tricolored Blackbird (*Agelaius tricolor*) is nearly endemic to the state of California with small populations known in the neighboring states of Oregon, Washington, Nevada and Baja California. In the past few decades the species has shown a significant decline throughout its California range (see Beedy and Hamilton, 1999; Kelsey, 2008; Kyle and Kelsey, 2011). Somewhat less attention has been paid to areas outside of the core range in California's Central Valley, but the decline has been similarly documented in Southern California (Feenstra, 2010).

Accounts describing the status of Tricolored Blackbird in Baja California, Mexico date back to the late 1800s. Much like those from California in the same era these accounts convey a similar message of plenty: "rather common along the northwest coast, breeding in all fresh water marshes" (Bryant, 1889), "Fairly common resident locally in the northwestern section of the territory, north from about 30 degrees" (Grinnell, 1928), and "haunted the tules" of San Quintín Bay (Howell, 1911). A more recent review uses more sober language and describes the Tricolored Blackbird as "locally common in northwest Baja California south to El Rosario" (Wilbur, 1987).

Years later, the first modern documentation of Tricolored Blackbirds breeding in Baja California didn't surface until 1991 (Howell and Webb, 1992). Since then various sites have been found where Tricolored Blackbirds nest at least occasionally (Wurster et al, 2001; Erickson et al, 2007; and Erickson et al 2008). Focused surveys were conducted in 2007 and in 2008 covering the entire breeding range of the species in Mexico, and four nesting locations were found with a total count of about 440 individuals in 2008 (Erickson et al, 2007; Erickson and de la Cueva, 2008).

With northern Baja California sharing a general ecological similarity to Southern California, the breeding ecology of Tricolored Blackbirds is also quite similar. The nesting colonies tend to be small (rarely more than a few hundred birds) and are typically present in natural marsh vegetation in marginal wetlands (farm ponds, reservoir edges, sewage ponds, detention basins, etc.). As such, also as in Southern California, these colonies are vulnerable to threats simply because of their small size. A minor change in water or land usage or a climatic event could have a dramatic effect on the status of the entire population in the region.

Building on the surveys of the breeding range of Tricolored Blackbird in Mexico in 2007 and 2008, the Sonoran Joint Venture funded these surveys of Baja California in the spring of 2013.

Methods

The timing of the survey was chosen to coincide with the peak period of Tricolored Blackbird breeding behavior and to be consistent with similar breeding season surveys conducted previously in Southern California (see Feenstra, 2010) and Baja California (Erickson et al, 2007; Erickson and de la Cueva, 2008).

Most locations visited in this survey were those where historical data and previous investigators had either recorded Tricolored Blackbirds or the habitat thought suitable (see Erickson, 2007 for a summary). Further, some locations were chosen because of the presence of Tricolored Blackbirds as noted in the eBird database (Sullivan et al, 2009). Additional locations were investigated due to potential suitability as suggested by the presence of wetland habitat visible on satellite maps.

Surveys were conducted by first visiting the target site of prior or potential occurrence (often a specific pond or wetland feature). After verifying the presence or absence of Tricolored Blackbirds at the site any available roads throughout the immediate area were explored in order to locate additional suitable/potential sites that may be part of one occupied complex.

If Tricolored Blackbirds were located they were counted as accurately as possible, either by taking a straight count or by estimating their numbers as they moved to and from the colony site. Observations were long enough to use the behavior of the birds to determine the stage of the breeding process.

Results

Twenty potential and/or historic breeding colony areas were visited over the four days from May 2 to May 5, 2013. In addition, most accessible (drivable) roads surrounding those sites were, at least cursorily, explored for the presence of additional suitable or occupied habitat. Within those twenty areas Tricolored

Blackbirds were detected at three locations: El Rosario, Ojos Negros, and Cienega Redonda. Nesting was either suspected or confirmed at all three occupied sites.

On 3 May 2013, approximately 20 Tricolored Blackbirds were found near the town of El Rosario. Adult birds, males and females, were making return trips carrying fibers of nesting material from downstream near the estuary to a clump of dense cattails southwest of the town in the wide wash (30.05408° N, 115.72343° W). The cattail clump was 2-3 meters in height and situated over and surrounded by standing water. Birds were heard vocalizing from within the nesting area and one was seen chasing away a Great-tailed Grackle that approached the area. A Tricolored Blackbird was also heard vocalizing from a similar dense cattail patch about 50m to the northeast but no other activity was detected there.

East of Ensenada near the town of Ojos Negros, approximately twenty Tricolored Blackbirds were seen on 4 May 2013. The birds were foraging in the short-cropped grass of an agricultural field adjacent to a moist depression containing a small patch of cattails near the intersection of the access road to town and Highway 3 (31.89385° N, 116.27315° W). There were two adult males present in the flock, the remainder being a mix of adult females and recently fledged young. The young were still being fed, though apparently also foraging on their own.

Between Tecate and Mexicali just south of the international border, 200-300 Tricolored Blackbirds were found on 5 May 2013 occupying a colony in a tule/cattail edged pond in the residential/resort community of Cienega Redonda (32.53227° N, 116.31729° W). A roughly equivalent number of males and females were present and both were making return trips to the southwest beyond the nearby hills. Some birds were commuting beyond Highway 2 (700m distant at its nearest point). The males did not appear to be returning carrying anything, but the females were carrying either long fibrous strands of nesting material or insects. There were occasional vocalizations audible from the colony, but it was relatively quiet given the number of birds present.

No Tricolored Blackbirds were found at the other locations visited, including those where breeding had been documented in the past. Two locations visited in prior surveys and sites of confirmed nesting, Rancho Tres Posos in the north central part of the survey area and the Baja Country Club on the Maneadero Plain, were not surveyed due to access issues. It is reported that the Baja Country Club pond was dry this season (Erickson, pers. comm.). The results of the survey and a summary of Tricolored Blackbird activity at each of the visited sites is compiled in Table I.

Discussion

Though historical data suggests that Tricolored Blackbirds were reasonably common and widespread in northwestern Baja California, modern surveys, much like those recently conducted in California, show that a significant population

decline has occurred in the intervening century. Interestingly, those modern surveys of Baja California and the compiled results of numerous attentive birders do not seem to indicate any radical changes to the numbers or distribution in the past few decades. At present, the Tricolored Blackbird is an uncommon and local year-round resident in the region. Moreover, there are locations, such as El Rosario, the Manaedero Plain, and Ojos Negros that have a rather consistent presence of Tricolored Blackbirds in winter and occasionally host them as breeding birds.

The majority of previously occupied and potential Tricolored Blackbird breeding locations visited during this survey were found to be dry. The winter of 2012-2013 marks the second consecutive rainy season of below average rainfall for the region (the average is approximately 10 inches; see Figure 2). Rancho Japá, Parque de la Amistad, La Salina, La Misión, and El Descanso maintained lush wetlands – the latter three being part of coastal estuaries. The river courses of San Telmo, San Vincente, and Santo Tomás did not have standing water but were still fairly lush and green in surrounding parched countryside. Presa Rodriguez, a reservoir with a thickly vegetated edge, had receded to the point that the vegetation where blackbirds had nested in 2002 and 2008 was dry and well away from the waterline. Other documented sites of previous breeding colonies at Heroes de la Independencia, on the Manaedero Plain, and the San Quintín Plain were completely dry. The three occupied locations where breeding behavior was observed during this work (Cienega Redonda, Ojos Negros and El Rosario) consisted of natural wetlands with standing water.

The occupied sites were also surrounded by extensive open space where birds were seen commuting to forage or gather nesting material, a typical and characteristic sight at any active breeding colony. Recent work has confirmed the dependence of Tricolored Blackbird nesting success on a suitable load of nearby insect forage (Meese, 2013). Interestingly, most of the sites visited (the urban Parque de la Amistad and Presa Rodriguez in Tijuana excepted) were surrounded by extensive open space and, perhaps following a few years of average rainfall, any or all could be rendered suitable for breeding Tricolored Blackbirds. Since many of the past and potential colony sites do not appear to be under an imminent threat of habitat destruction, the ongoing drought is probably the greatest standing threat to the continuing presence of Tricolored Blackbirds breeding in Mexico.

The areas visited in this survey include the locations with the most potential and precedent of breeding Tricolored Blackbirds. The presence of a breeding colony at Cienega Redonda, first documented by this study, underscores the importance of thorough coverage. The small size of the colony sites, the speed at which marsh vegetation can re-grow following a wet season, and the effects of climatic events like the current drought makes visiting all historic and potential nesting areas an imperative of any breeding survey. It is possible that Cienega Redonda, and other small wetlands scattered throughout the region, serve as important reserve breeding sites utilized as conditions warrant. Fortunately, most of the known previously occupied sites are accessible by drivable roads. Undoubtedly, there are

breeding colony sites in areas that will likely never be surveyed until a road is cut near them. The observation of 200 birds, including hatch-year individuals, at Ojos Negros in July 2013 (Erickson, pers. comm.) suggests that larger scale breeding occurs in that area at some nearby yet heretofore unknown location.

As is seen in the ecologically similar Southern California, no wetland in Baja California, seemingly regardless of how suitable it appears, ever seems to be occupied by breeding Tricolored Blackbirds consistently year after year. In any year, some sites will be suitable and occupied, others unsuitable and vacant, and perhaps others a reserve in the event of failure at one of the more usual sites. The hardy wetland sites found occupied in the May 2013 surveys during the ongoing drought should flag them as some of these important reserve sites and critical to the survival of Tricolored Blackbirds in the region. A complex of numerous small sites (with necessary surrounding open space) spread throughout the region are all at once important to the breeding population and the key matter of conservation concern.

Acknowledgements

This work was supported by a grant from the US Fish and Wildlife Service/Sonoran Joint Venture. Special thanks go to Dick Erickson for invaluable assistance in locating some of the historical colony sites and for his comments on a draft of this manuscript.

Literature Cited

- Beedy, E. C. and W. J. Hamilton III. 1999. Tricolored blackbird (*Agelaius tricolor*). In A. Poole and F. Gill (eds.), *The Birds of North America*, No. 423. Philadelphia, PA: Academy of Natural Sciences and Washington, DC: American Ornithologists Union.
- Bryant, W.E. 1889. A catalogue of the birds of Lower California, Mexico. *Proceedings of the California Academy of Sciences*, series 2, 2: 237–320.
- Erickson, R.A., R.A. Hamilton, E. Palacios, R. Carmona, M. Iliff, and G. Ruiz-Campos. 2000-2013, series Baja California accounts in *North American Birds*.
- Erickson, R.A., H. de la Cueva, and M.J. Billings. 2007. Nesting Tricolored Blackbird Survey: Baja California 2007. Report submitted to the US Fish and Wildlife Service. <http://tricolored.ice.ucdavis.edu/reports>
- Erickson, R.A. and H. de la Cueva. 2008. Nesting Tricolored Blackbird Survey: Baja California 2008. Report submitted to the US Fish and Wildlife Service. <http://tricolored.ice.ucdavis.edu/reports>
- Erickson, R.A., R.A. Hamilton, R. Carmona, G. Ruiz-Campos, and Z.A. Henderson. 2008. Value of perennial archiving of data received through the *North America Birds* regional reporting system: Examples from the Baja California Peninsula. *North American Birds* 62: 324-331.
- Feenstra, J. 2010. Results of the Southern California Tricolored Blackbird survey 2009. Report submitted to the US Fish and Wildlife Service. <http://tricolored.ice.ucdavis.edu/reports>
- Grinnell, J. 1928. A distributional summation of the ornithology of Lower California. *University of California Publications in Zoology* 32: 1–300.
- Howell, A.B. 1911. Some birds of the San Quintin Bay region, Baja California. *Condor* 13: 151–153.
- Howell, S.N.G. and P. Pyle. 1990. Additional Notes on Birds in Baja California, May 1989. *Aves Mexicanas* 2: 90–91.
- Howell, S.N.G. and S. Webb. 1992. Noteworthy bird observations from Baja California, Mexico. *Western Birds* 23: 153–163.
- Huey, L.M. 1926. Notes from northwestern Lower California, with the descriptions of an apparently new race of the screech owl. *Auk* 43: 347–362.
- Kelsey, R. 2008. Results of the Tricolored Blackbird 2008 Census. Report submitted to Audubon California.

Kyle, K. and R. Kelsey. 2011. Results of the 2011 Tricolored Blackbird statewide survey. Audubon California. Sacramento. <http://tricolored.ice.ucdavis.edu/reports>

Meese, R.J. 2013. Chronic Low Reproductive Success of the Colonial Tricolored Blackbird from 2006 to 2011. *Western Birds* 44: 98-113.

Sullivan, B.L., C.L. Wood, M.J. Iliff, R.E. Bonney, D. Fink, and S. Kelling. 2009. eBird: a citizen-based bird observation network in the biological sciences. *Biological Conservation* 142: 2282-2292.

Thayer, J.E. and O. Bangs. 1907. Catalog of birds collected by W.W. Brown, Jr. in middle Lower California. *Condor* 9: 135-140.

Wilbur, S.R. 1987. *Birds of Baja California*. University of California Press, Berkeley.

Wurster, T.E., R.A. Erickson, R.A. Hamilton, and S.N.G. Howell. 2001. Database of selected observations: An augment to *New information on migrant birds in northern and central portions of the Baja California Peninsula*. *Monographs in Field Ornithology* 3: 204-237.

Table I. Results of the 2013 survey for each area visited and historical summary for reference. [NAB refers to the Baja California account in *North American Birds* (Erickson et al, 2000-2013); eBird refers to the eBird database (Sullivan et al, 2009)]

Locations visited in 2013 survey	2013 survey visit date	Tricolored Blackbirds found in 2013	History and additional notes
El Rosario	3-May	20 males and females bringing in nesting material	Male collected on 11 Nov 1906 (Thayer and Bangs, 1907). Multiple observations mostly in fall and winter 2001-2007 with maximum of 80 on 4 Nov 2003 (eBird). Multiple observations between 1995-1999 with maximum of 250 on 26 Sep 1999 (Wurster et al, 2001). 12 on 6 Jun 2007 (Erickson et al, 2007). Approximately 100 pairs were nesting on 5 May 2008 (Erickson and de la Cueva, 2008) Multiple observations 2000-2006 with 19 juveniles present in May 2003 (in Erickson et al, 2007).
El Socorro	3-May	None	One on 23 Oct 1995 (Wurster et al, 2001); an unspecified number on 22 Oct 1994 (eBird). Conditions dry and unsuitable for nesting during 2013 survey.
San Quintín Plain	2-May	None	Common in the bay (Howell, 1911). 25 nesting 19-20 May, 2003 (NAB). 55 were present 12 Oct 2003 (eBird). Dry and unsuitable for breeding during 2013 survey.
San Telmo vicinity	2-May	None	200+ on 20 Apr 2002 (NAB). 150 showing no evidence on breeding behavior on 10 May, 1989 (Howell and Pyle, 1990). 10 on 3 Jul 1993 and 30 on 23 Mar 1996 (Wurster et al, 2001). 50 on 19 Jun 1986, 5 on 3 Mar 2009, and an unspecified number on 2 Mar 2011 (eBird).
Maneadero Plain	3-May	None	20+ nesting on 26 Mar 2000 (Erickson et al, 2007). 110-130+ nesting pairs at the golf course 24 May 2001; 175 birds including fledglings on 24 Jun 2009 (NAB). Multiple observations 1973-2000 with maximum of 250 on 5 Jun 1994 (Wurster et al, 2001). Multiple observations 2002-2008 with nesting colony observed 7 Jul 2003 and 27 Mar 2004 (eBird). Dry and unsuitable in 2013 survey.
San Vicente	2-May	None	50 on 17 Mar 1984 (Wurster et al, 2001). 20 on 11 Jan 1992 (in Erickson et al, 2007).
Santa Tomás vicinity	3-May	None	11 on 24 May 2001 (NAB); 10 on 8 May 2004 (in Erickson et al, 2007).

Colnett vicinity	2-May	None	3 on 28 May 1994 (Wurster et al, 2001). 12 males on 2 Mar 1925 (Huey, 1926). Unspecified number on 16 Jan 1981 (Wilbur, 1987). Dry and unsuitable during 2013 survey.
Ojos Negros	4-May	20 total birds including 2 adult males. Females were feeding fledged young.	Territorial singing on 27 April 2010; 200+ on 8 Feb 2001; 300 on 16 Mar 2002 (NAB). Five observations 1984-2000 with maximum of 250+ on 22 Feb 1998 (Wurster et al, 2001). Large breeding colony May 1885 (Bryant, 1898). 80 on 15 May 2007 (Erickson et al, 2007). 200 including hatch-year birds on 25 July 2013 (Erickson, pers. comm.). 150 on 6 Feb 2003 (eBird).
Heroes de la Independencia	4-May	None	30-50 pairs nesting on 19 Jun 1991 (Howell and Webb, 1992). 50 nesting pairs on 25 May 2001 and 80 birds nesting 15 May - 18 Jun 2007 (Erickson et al, 2007). Approximately 40 nesting on 5 May 2008 (Erickson and de la Cueva, 2008). Two reports 1992-1997 with 50+ pairs nesting on 11 May 1997 (Wurster et al, 2001). 60 on 22 Jan 2012 (eBird). Dry and unsuitable during 2013 survey.
Leyes de Reforma	4-May	None	10 on 30 Jan 2007 and 1 on 15 May 2007 (Erickson et al, 2007). 10 on 5 Mar 2008 (Erickson and de la Cueva, 2008). 60 on 23 Feb 2008 (eBird). Dry and unsuitable during 2013 survey.
La Salina	4-May	None	10 on 2-3 Oct 2007 (eBird; in Erickson et al, 2007).
La Misión	2-May	None	1000-1200 nesting on 1 May 2002 (NAB). 15 on 14 May 2007 (Erickson et al, 2007). An unspecified number on 2 Feb 1992 and 1 on 6 Apr 2004 (eBird).
Mesa la Misión	2-May	None	Up to 20 birds including singing males on 7 Feb - 1 Mar 1998 (Wurster et al, 2001). 30 on 1 Mar 1998 and 30 on 6 Apr 2004 (eBird). Dry and unsuitable during 2013 survey.
El Descanso	5-May	None	15 on 27 Feb 2007 and 25 on 26 Aug 2007 (Erickson et al, 2007). Five reports 1989-1994 with maximum on 50+ on 23 Oct 1994 (Wurster et al, 2001). Multiple reports 2003-2005 with maximum of 100 on 3 Oct 2004 (eBird).
Río Tecate	5-May	None	20 on 18 Nov 2003 (eBird; in Erickson et al 2007). Dry and unsuitable during 2013 survey.

Rancho Japá	5-May	None	50 on 14 May 2007; 2 on 19 May 2005; 15 on 20 Nov 2006 (Erickson et al, 2007; eBird). Approximately 80 pairs nesting 13 May 2008 (Erickson and de la Cueva, 2008). Approximately 30 individuals observed on 25 Jul 2013 (Erickson, pers. comm.).
Parque de la Amistad	2-May	None	1 on 8 May 2007; reported 2005-2006 with maximum of 8 on 30 Jul 2006 (Erickson et al, 2007). 1 on 13 May and 12 on 5 Jun, 2008 (Erickson and de la Cueva, 2008).
Presa A. Rodriguez	2-May	None	10+ nesting on 9 May 2002 (NAB). Approximately 20 pairs nesting on 6 May 2008 (Erickson and de la Cueva, 2008). Dry and unsuitable during 2013 survey.
Cienega Redonda	5-May	200 - 300 birds observed, males and females. Females were carrying nesting material and food into colony.	2013 survey was first known documented presence of TRBL at this site

Figure 1. Map of the survey area of northern Baja California. Circles indicate areas visited on the survey. Filled circles are placed on the locations where Tricolored Blackbirds were found. Empty circles indicate unoccupied sites.

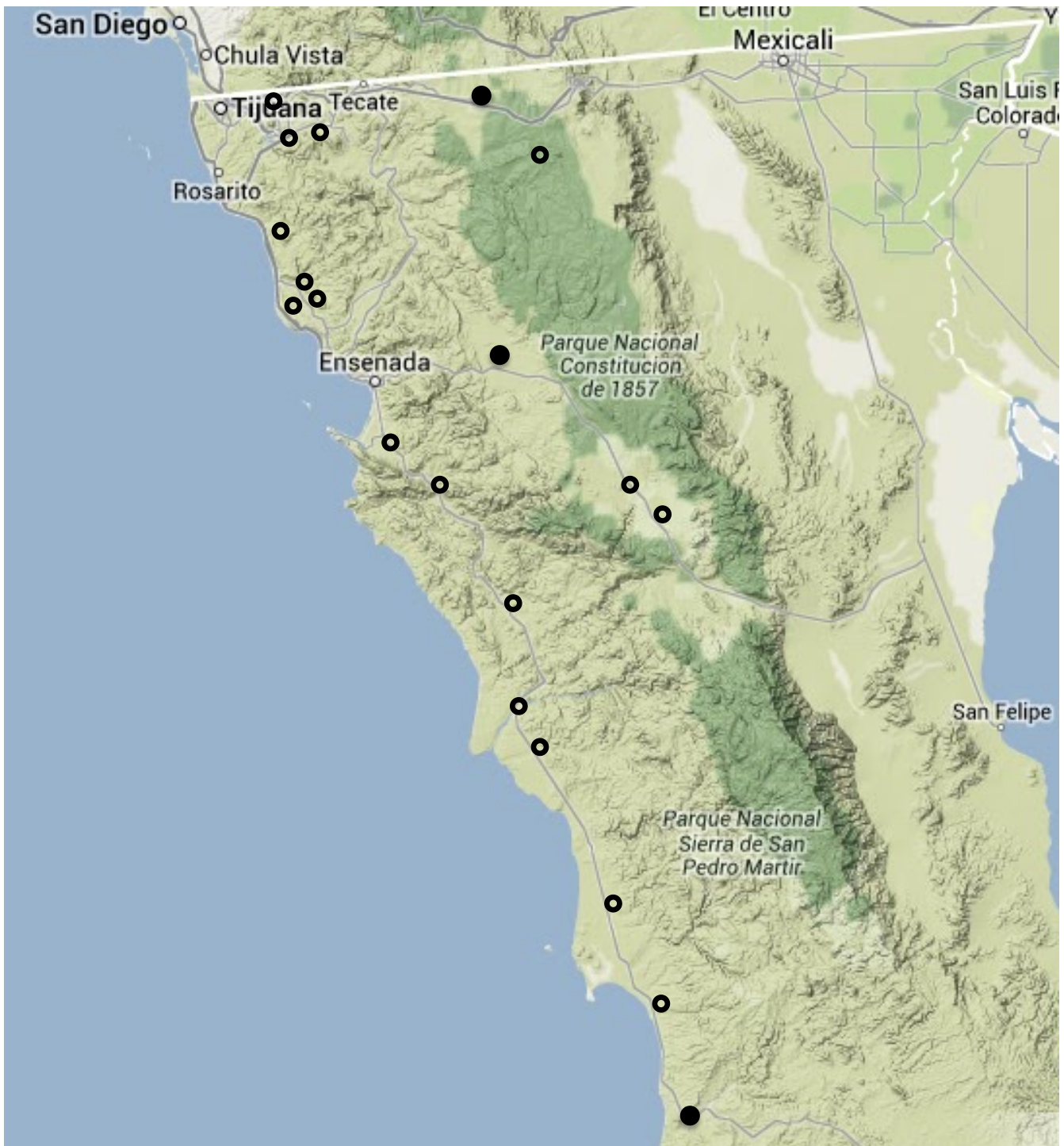


Figure 2. Rainfall in inches for San Diego for each rainy season (October 1 to May 31) 1999-2013. Data from www.wunderground.com

