WHITWORTH, D.L., HARVEY, A.L. CARTER, H.R., YOUNG, R.J., KOEPKE, J.S. & MAZURKIEWICZ, D.M. 2015. Breeding of Cassin’s Auklets *Ptychoramphus aleuticus* at Anacapa Island, California, after eradication of Black Rats. *Marine Ornithology* 43: 19-24.

APPENDIX 1

Details of Cassin’s Auklet nest searches in eight monitored areas at Anacapa Island, California, 1991-2012. Details of searches for Cassin’s Auklet nests at Anacapa Island in 1991-2012 are valuable for researchers documenting the future growth of this colony after rat eradication. To assure that information provided in Table 1 can be clearly interpreted by others, we provide a description of searches in each area below:

**Rat Rock-West Anacapa**

Prior to rat eradication, no nests were found during searches conducted in 1994 and 1997. Since eradication in 2002, 18 auklet nests (including 6 “confirmed” nests) were found during searches in 2003-2005 and 2009-2012. Breeding at Anacapa was first confirmed in May 2003 when we found chicks in two crevices on the north-central shore of the peninsula. Near the isthmus where Rat Rock joins West Anacapa, we noted 13 crevices suitable for nesting but which showed no signs of recent use.

Only one nest on the north-central shore of Rat Rock was occupied in 2004, but it was abandoned soon after egg-laying. Both nest sites occupied in 2003 were occupied again in 2005. We did not land on Rat Rock in 2006-2008 to avoid disturbing Brandt’s Cormorants *Phalacrocorax penicillatus* breeding above the auklet nests. We resumed searches after cormorants stopped nesting on Rat Rock in 2009 and found a third auklet nest on the north-central shore. Unfortunately, this burrow nest was found after the site had been partially collapsed during our search. We attempted to repair the damaged burrow, but this site was not used in subsequent years.

We recorded an increase in the number of auklet nests in 2010 (11 nests; 5 confirmed), and 2011 (17 nests; 4 confirmed). All new nests were located near the isthmus, about 50 m from auklet nests on the north-central shore. We recorded 16 nests (3 confirmed) at the isthmus in 2012, but nests on the north-central shore were not checked because large numbers of cormorants were roosting there at the time of our visit.

**Landing Cove-East Anacapa**

Prior to rat eradication, no nests were found during searches conducted in 1991, 1994 and 1997. Despite thorough and frequent searches each year since 2003, the first two nests at Landing Cove were not discovered until May 2008; one crevice with an incubating adult and one usurped murrelet nest where auklet guano and odor was detected. A third nest containing an incubating adult was discovered in 2009. Although visibility was difficult in these crevices, incubating adults were observed at least once in all three sites in 2010. Searches were not conducted in this area in 2011-2012.

**Portuguese Cove-West Anacapa**

No searches were conducted prior to eradication, but we doubt auklets nested in this area because rodent caches and mouse-depredated (or scavenged) auklet eggs found since 2009 (see below) indicated that rats were able to access this shoreline despite the steep surrounding cliffs. No searches were conducted from 2003 to 2008. We found five nests, including a mouse-depredated auklet eggshell in a crevice, during the first and only search of Portuguese Cove in 2009, a post-breeding season visit in October.

Ten nests (3 confirmed) were found during two visits in 2010. This area was not visited during the breeding season in 2011, but a minimum of 10 nests were estimated in August. We found at least 12 nests (4 confirmed) in 2012, although it was difficult to determine the exact number of nests because sites were not marked and crews differed between trips. One depredated egg and two auklet feather piles left by avian predators, were also recorded in 2012.

**Cat Rock-West Anacapa**

Prior to rat eradication, no nests were found during searches conducted in 1991, 1994, 1997 and 2000. Despite thorough annual searches in 2003-2010, an auklet nest was not discovered until June 2010 when a partly-feathered chick was observed in a crevice located on the edge of the south rock face. Cat Rock was not searched in 2011-2012.

**Lighthouse-East Anacapa**

Prior to rat eradication, no nests were found during searches in 1994 and 1997. After eradication, we conducted thorough searches of the rock wall below the lighthouse in 2003 and 2009 without success. In June 2011, we found seven nests (2 confirmed) in crevices formed between the large rocks used to construct this wall. This wall was not checked in 2012, but an auklet carcass was found near a building on upper East Anacapa in August.

**Garbage Cove-East Anacapa**

Prior to rat eradication, no nests were found during searches conducted in 1994, 1997 and 2000. After eradication, this area was searched thoroughly in 2003 without success. A weathered auklet eggshell fragment was found in a suitable nesting crevice during a thorough search in July 2011.

**Sea Caves-Middle & West Anacapa**

Prior to eradication, no nests were found during searches in 1994, 1996, 1997 and 2000-2002. A small white eggshell fragment (<1/8 of an egg) was found on the floor of a sea cave in October 1997, but we could not identify the egg to species. After eradication, auklet nests were not discovered in any of the 10 sea caves during frequent and thorough searches from 2003 to 2012.

**Rockfall Cove-Middle Anacapa**

Nest searches were not conducted prior to 2005. No auklet nests were found during frequent searches in 2005-2012.