

**Legacy America Center Open Space Preserve
Burrowing Owl Mitigation Monitoring
Year 3 Annual Report
San Jose, Santa Clara County, California**

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1.0 INTRODUCTION

In 2002, Legacy Partners constructed a burrowing owl mitigation habitat site on the Legacy Terrace Development Open Space Preserve, also known as the America Center. The project site is located west of the intersection of Gold Street and Channel Drive in the Alviso District of the City of San Jose, Santa Clara County, California (Figure 1). San Tomas Aquino Creek is approximately 200 feet south of the burrowing owl mitigation site, and a service road lies between the mitigation site and the San Francisco Bay salt ponds to the north.

The burrowing owl mitigation habitat consists of 25.3 acres of open space preserve managed as foraging habitat, and includes 6.5 acres of potential burrowing owl breeding habitat. Four sets of artificial burrows were constructed within the constructed breeding habitat. Each set is comprised of six individual burrows. A total of 24 artificial burrows are present within the burrowing owl breeding habitat.

2.0 METHODS

According to the *Draft Burrowing Owl Habitat Management Plan*, prepared by H.T. Harvey & Associates in July 2000, nesting habitat for burrowing owls must be monitored by a qualified biologist 3 to 4 times annually; minimally, once during the non-nesting season (September through January), and three times during the nesting season, preferably once at the beginning of the season (March-April), once at the height of the season (May-June), and once at the end of the season (July-August). All artificial burrows must be maintained on an annual basis prior to the start of the nesting season in February. An annual report is submitted to the City of San Jose at the end of each year.

Monitoring events consists of performing reconnaissance level surveys to determine the presence or absence of burrowing owls. Prior to each site visit, a search of the California Department of Fish and Game Natural Diversity Database (CNDDB) is conducted to determine if burrowing owls have been reported to have occurred within or adjacent to the burrowing owl mitigation habitat. During each site visit, the burrowing owl breeding habitat is initially observed from a distance with the aid of a spotting scope or binoculars. The site is then traversed on foot and observations are made around the artificial burrows for signs of potential use, such as owl pellets, owl feathers, prey remains, eggshell fragments, and/or excrement. Observations are also made for signs indicating owl absence such as spider webs and debris inside of the entrances of the burrows.

Maintenance is conducted on an annual basis in February. Each burrow is inspected, and burrows requiring cleaning or clearing are excavated, cleaned, and reinstalled. Vegetation surrounding the burrows is maintained throughout the year to have a height no greater than five inches. Minor repairs, such as replacing and relabeling posts, and clearing surface debris, are performed throughout the year during monitoring events.

Dec 30, 2004 - 9:49am L:\Acad 2000 Files\13000\13004\LOCATIONMAP.DWG (Figure 1 (a))

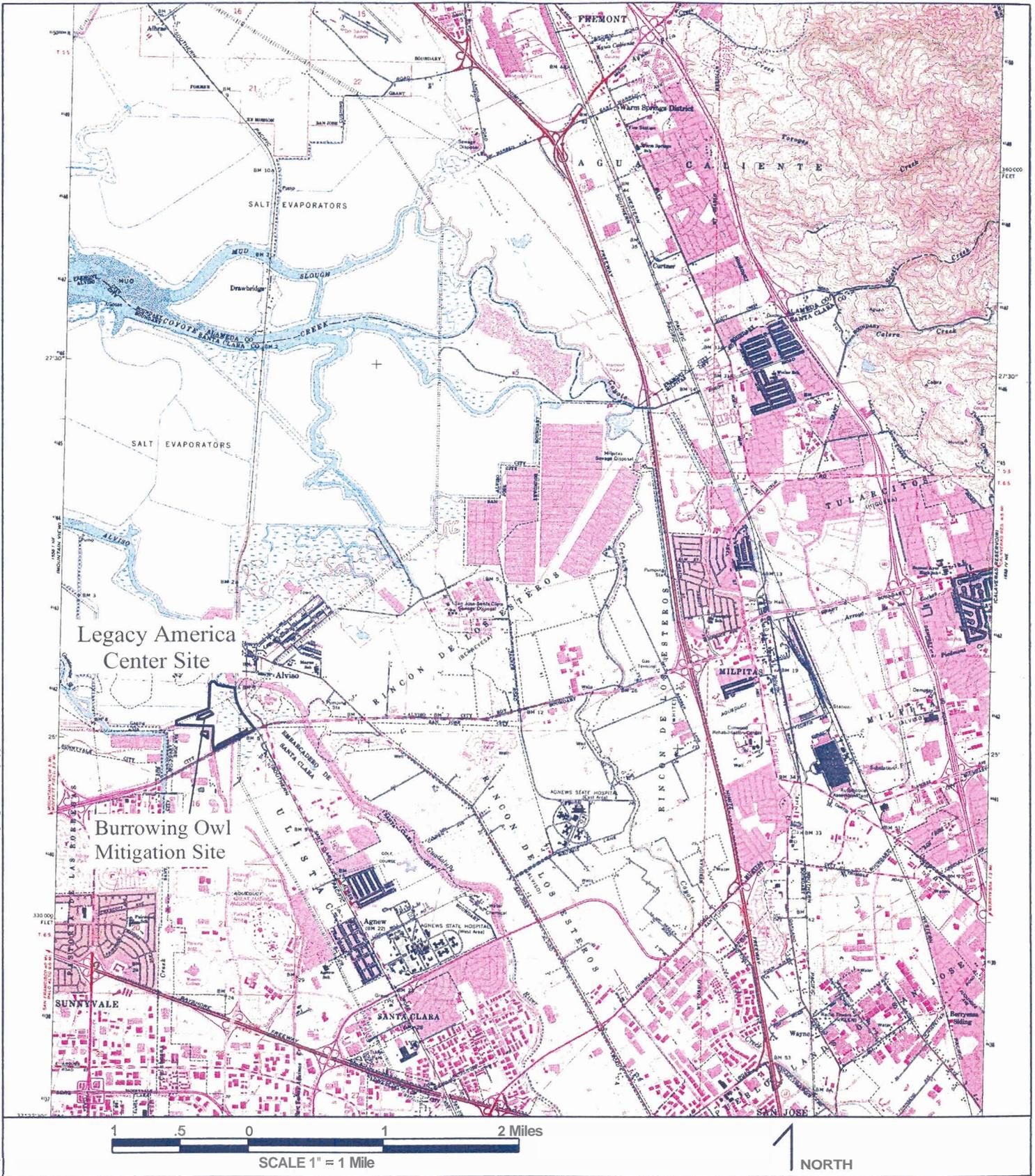


Figure 1

Legacy America Center Site
Site Location Map
San Jose, Santa Clara County, CA

Directions: Highway 237, north of Great America Pkwy Exit.
Basemap: USGS DRG Milpitas Quad



Wetlands Research Associates, Inc.

3.0 RESULTS AND DISCUSSION

Burrowing owl monitoring was performed by Wetlands Research Associates, Lnc. (WRA) wildlife biologist David Cowell on April 26, August 12, and December 1 in 2004 (Appendix A). No burrowing owls were observed within or adjacent to the owl breeding habitat during the 2004 monitoring efforts. Owl pellets found outside of burrow #1 on August 12, 2004 were determined to be barn owl (*Tyto alba*) pellets. Excrement found on the posts outside of many of the holes is likely attributable to common grassland songbirds, such as western meadowlark (*Sturnella neglecta*) and Say's phoebe (*Sayornis saya*), witnessed perched on the posts during site visits. Many of the burrow entrances exhibited signs that they were not in use by owls, such as spider webs, debris, and terrestrial snails. Searches of the CNDDDB prior to each site visit indicated that no burrowing owls have been reported to occur within proximity to the project area in 2004.

On January 30, 2004, maintenance was performed on the artificial burrows by WRA biologists Jeff Dreier and Dana Riggs. Installed burrows were located and cleared of vegetation from the burrow entrances. According to comments provided by H.T. Harvey & Associates in 2002, the burrows had been constructed using larger than optimal diameter tubing for the entrances. The burrows were retrofitted in accordance with this criteria through inserting one foot lengths of appropriate four inch diameter tubing into the entrances.

Light maintenance was performed throughout the year during monitoring visits. On April 26, 2004 vegetation taller than five inches was cleared in a four to five foot radius around the entrance of each burrow. Fallen and broken wooden posts were replaced and relabeled. Cobwebs and debris were removed from the entrance of each hole. During the site visit performed on December 1, 2004, burrow #1 was excavated to determine the extent that the burrows had filled with soils in the past year. Burrow #1 was found to be entirely filled and unsuitable for habitation by burrowing owls. The soil filling burrow #1 was excavated and the burrow was rebuilt.

4.0 CONCLUSION AND RECOMMENDATIONS

Based on the degraded condition of burrow #1 observed in December 2004, it is recommended that some of the burrows be excavated and repaired during the February 2005 maintenance event in preparation for the 2005 breeding season. It is also recommended that the entrance tubing is replaced with appropriate four-inch diameter tubing. Studies show that burrowing owls select for four-inch diameter burrow entrances, and these smaller diameter entrances reduce the likelihood of predation by mammals (Smith and Belthoff 2001). According to comments provided by H.T. Harvey & Associates in 2002, the burrows were constructed with the burrow entrances located lower than surrounding topography, allowing eroding soils to obstruct the entrances. Burrowing owls also prefer entrances higher than surrounding topography for visual security in observing for predators. Replacing the tubing during the February 2005 maintenance event will permit the proper establishment of entrances higher than surrounding topography.

Continued monitoring and light maintenance will occur as scheduled in 2005 as outlined in the

management plan. Western burrowing owls are known to have occurred in the mitigation area. Adherence to the recommendations listed above may increase the potential for western burrowing owls to occur in the mitigation area.

5.0 REFERENCES

- California Burrowing Owl Consortium. 1993. Burrowing Owl Survey Protocols and Mitigation Guidelines. Sacramento, California.
- California Department of Fish and Game. 2004. Natural Diversity Database, Wildlife and Habitat Data Analysis Branch. Sacramento.
- H.T. Harvey & Associates. 2000. Draft Legacy Terrace Development Burrowing Owl Habitat Management Plan. San Jose, California.
- Small, A. 1994. California Birds: Their Status and Distribution. Ibis Publishing Company. Vista, California.
- Smith, B.W. and J.R. Belthoff. 2001. Effects of nest dimension on the use of artificial burrow systems by burrowing owls. *Journal of Wildlife Management* 65:318-326
- Wetlands Research Associates. 2004. Year 2 Legacy America Center Burrowing Owl Mitigation Monitoring Report. San Rafael, California.

APPENDIX A

FIELD NOTES

Field Notes
David Cowell
Wetlands Research Associates

LEGACY PROJECT, BURROWING OWL BURROW MONITORING
13004
April 26,2004

Purpose: Monitor BUOW burrows

Weather: Clear, sunny, hot, ~91F, calm

Participants: David Cowell

Methods: Observed burrows for owls from a distance through a scope. Located owl burrows, searched for signs of nesting owls (pellets, whitewash, feathers, etc.), and documented the condition of each burrow. Cleared vegetation and soil from each burrow entrance by hand. Cleared vegetation in a 4 to 5 foot radius around each hole with a weed whacker. Replaced fallen wooden posts and re-numbered each one clearly with a permanent marker.

Results: See map for burrow locations. No indications for the presence of owls were observed. Some posts were covered with whitewash, likely from other nesting grassland species of birds. 10 of 24 burrows were heavily overgrown with vegetation. Cobwebs, dirt, and terrestrial snails were observed in the entrances of most burrows. Some natural burrows were observed near the entrance of some of the artificial burrows. Small mammals were witnessed entering burrows #3 and 14. The entrance to burrow #5 was occupied by a female black widow spider. Burrows #8 and 20 are filled with dirt. No human trash from the nearby landfill was observed obstructing burrows.

Other Wildlife

RTHA
AMRO
AMHU
FOTE
MALL
CORA
MODO
TUVU
BASW
CLSW
SOSP
SAVS
WEME
KILL
WTKI

California jack rabbit

Field Notes
David Cowell
Wetlands Research Associates

LEGACY PROJECT, BURROWING OWL BURROW MONITORING
13004
August 12, 2004

Purpose: Monitor BUOW burrows

Weather: Clear, sunny, hot, ~88F, calm

Participants: David Cowell

Methods: Observed burrows for owls from a distance through a scope. Located owl burrows, searched for signs of nesting owls (pellets, whitewash, feathers, etc.), and documented the condition of each burrow. Cleared vegetation, soil, and spider webs from each burrow entrance by hand. Gently probed each hole with a small diameter stick to see if they were closed. Replaced fallen wooden posts and re-numbered each one clearly with a permanent marker.

Results: See map for burrow locations. No indications for the presence of burrowing owls were observed. Some posts were covered with whitewash, likely from other nesting grassland species of birds. Owl pellets were found outside of hole 1, but were identified as barn owl pellets. Site had been mowed since last visit, ground cover was cropped short. Posts were broken on holes 13, 15, 23, and 24. All holes were covered with spider webs. Hole 23 was severely degraded. The black tube had dropped into the burrow and the PVC tubing appeared cracked. No snails or trash from the nearby landfill was observed.

Other Wildlife

RTHA

TUVU

BASW

CLSW

California jack rabbit

Field Notes
David Cowell
Wetlands Research Associates

LEGACY PROJECT, BURROWING OWL BURROW MONITORING
13004
December 1, 2004

Purpose: Monitor BUOW burrows

Weather: Clear, sunny, mild, ~55F, calm

Participants: David Cowell

Methods: Observed burrows for owls from a distance through a scope. Located owl burrows, searched for signs of nesting owls (pellets, whitewash, feathers, etc.), and documented the condition of each burrow. Cleared vegetation, soil, and spider webs from each burrow entrance by hand. Gently probed each hole with a small diameter stick to see if they were closed. Replaced fallen wooden posts and re-numbered each one clearly with a permanent marker. Excavated burrow #1 and repaired.

Results: See map for burrow locations. No indications for the presence of burrowing owls were observed. Some posts were covered with whitewash, likely from other nesting grassland species of birds. Vegetation was short and did not require thinning. Relabeled all posts with black marker. Excavated burrow #1 was found to be entirely filled with dirt. Dirt was removed and burrow was repaired. All burrows will require similar treatment prior to the 2005 nesting season.

Other Wildlife Observed

RTHA

TUVU

AMKE

MODO

NOMO

WEME

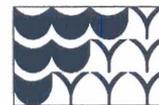
California jack rabbit

APPENDIX B
PROJECT AREA PHOTOGRAPHS



Above: Burrow # 1 was found to be entirely filled with soil on December 1,2004.

Below: Burrow # 1 excavated on December 1,2004.



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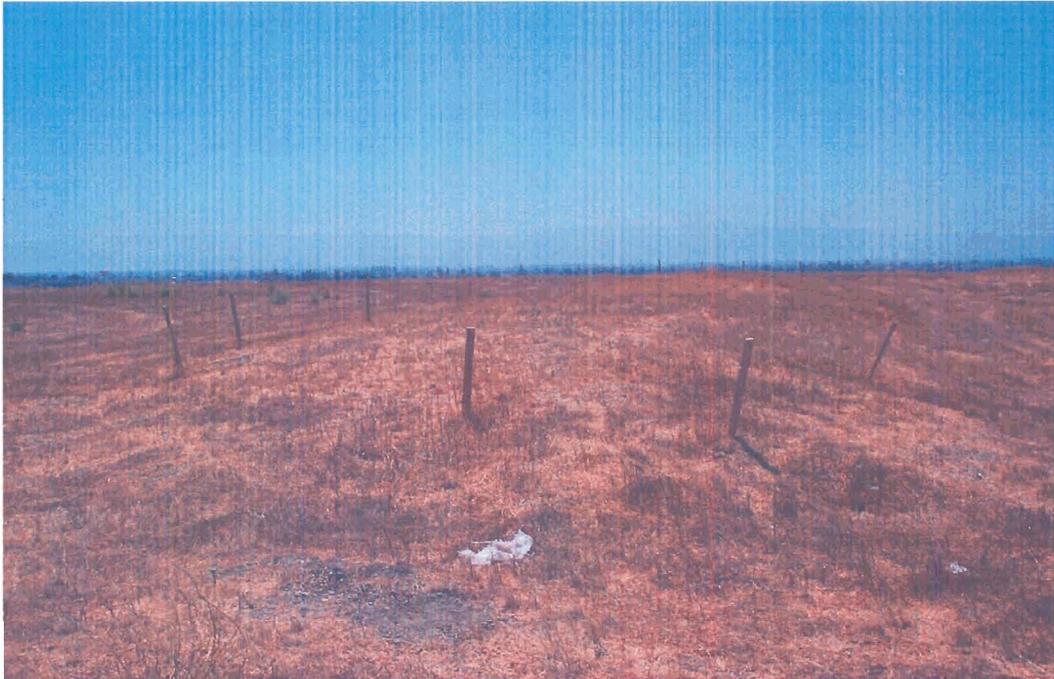


Above: Typical condition of burrow entrances not in use by owls observed on August 12, 2004.

Below: Owl pellets found outside of burrow # 1 on August 12, 2004 were identified as barn owl (*Tyto alba*).



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Above: Set of burrows # 1 through 6 on August 12,2004.

Below: Post found broken at burrow # 13 on August 12,2004.



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