
**SAN DIEGO GAS & ELECTRIC COMPANY AND SOUTHERN CALIFORNIA GAS COMPANY'S
PIPELINE SAFETY & RELIABILITY PROJECT
ARROYO TOAD PROTOCOL SURVEY REPORT
ADDENDUM**

OCTOBER 2016

PREPARED FOR:



PREPARED BY:



TABLE OF CONTENTS

1 – INTRODUCTION..... 1
2 – METHODOLOGY 1
 2.0 Protocol Survey..... 1
 2.1 Survey Limitations..... 1
3 – RESULTS 2
 3.0 Survey Site 2 (San Luis Rey River)..... 2
 3.1 Survey Site 7 (Sandy Hill Road)..... 3
4 – CONCLUSION 3
5 – REFERENCES..... 3

LIST OF TABLES

Table 1: 2016 Arroyo Toad Protocol Survey Schedule 2

LIST OF ATTACHMENTS

Attachment A: 2016 Arroyo Toad Survey Sites Map

1 – INTRODUCTION

This report is an addendum to the Arroyo Toad Protocol Survey Report prepared for the Pipeline Safety & Reliability Project (Proposed Project) in September 2015. In 2015, Insignia Environmental (Insignia) and Borchers Environmental Management conducted a protocol-level arroyo toad (*Anaxyrus [=Bufo] californicus*) survey for the Proposed Project in accordance with the United States (U.S.) Fish and Wildlife Service (USFWS) survey protocol for arroyo toad (USFWS 1999). Eleven sites with potential to support arroyo toad were surveyed. After the 2015 surveys, nine of the 11 sites surveyed were determined to not support or have the potential to support arroyo toad. Two of the sites were determined to have the potential to support arroyo toad habitat. These two sites were re-surveyed in 2016. This report summarizes the field methods and results of the 2016 protocol-level surveys for arroyo toad. The Arroyo Toad Protocol Survey Report provides for a detailed description of the Proposed Project, site descriptions for the survey sites, and the results of the 2015 surveys.

2 – METHODOLOGY

2.0 PROTOCOL SURVEY

Surveys for arroyo toad were conducted in accordance with the USFWS protocol. Specifically, arroyo toad surveys were conducted as follows:

- at least six surveys were conducted during the breeding season (generally March through July), with at least seven days between surveys;
- at least one survey was conducted per month during April, May, and June; and
- surveys included both daytime and nighttime components within the same 24-hour period.

The additional surveys conducted in 2016 were performed at two sites that were determined in the Arroyo Toad Protocol Survey Report (Insignia 2015) to have the potential to support arroyo toad. The two survey sites—Survey Site 2 (San Luis Rey River) and Survey Site 7 (Sandy Hill Road)—are shown in Attachment A: 2016 Arroyo Toad Survey Sites Map and described in detail in the Arroyo Toad Protocol Survey Report. Observations from the 2016 protocol survey are detailed in this addendum. A summary of the survey dates and observed weather is listed in Table 1: 2016 Arroyo Toad Protocol Survey Schedule.

2.1 SURVEY LIMITATIONS

Both the 2015 and 2016 arroyo toad surveys for the Proposed Project were conducted within the Biological Resources Survey Area (BRSA) during drought conditions.¹

¹ The BRSA includes the Proposed Project components, plus an approximately 150-foot buffer on each side of the components.

Table 1: 2016 Arroyo Toad Protocol Survey Schedule

Biologists	Survey Type/#	Dates	Weather/Visibility
Andrew Borchert and Rachel Borchert	Survey 1	April 12, 2016	Clear, 68 to 60 degrees Fahrenheit (°F), winds up to 5 miles per hour (mph)
Andrew Borchert and Rachel Borchert	Survey 2	April 25, 2016	Partly cloudy, 60 to 55°F, winds up to 2 mph
Andrew Borchert and Rachel Borchert	Survey 3	May 9, 2016	Clear, 68 to 62°F, winds up to 6 mph
Andrew Borchert and Rachel Borchert	Survey 4	May 24, 2016	Partly cloudy, 67 to 61°F, winds up to 6 mph
Andrew Borchert and Rachel Borchert	Survey 5	June 2, 2016	Clear, 75 to 69°F, winds up to 1 mph
Andrew Borchert and Rachel Borchert	Survey 6	June 10, 2016	Clear, 66 to 58°F, winds up to 3 mph

The USFWS identifies drought as a high threat to arroyo toads due to the possibility that it reduces foraging and breeding success and alters the processes that create and maintain suitable breeding habitat (USFWS 2014). The USFWS cautions that negative surveys during a year of severe weather, including drought, can be inconclusive. Unfortunately, because rainfall totals in 2015 and 2016 were below normal, determination of presence/absence within the BRSA was inconclusive for the two sites potentially supporting arroyo toad. However, as discussed below in Section 4 – Conclusion, presence of arroyo toads is unlikely and additional arroyo toad surveys are not warranted.

3 – RESULTS

No arroyo toad individuals or their sign (e.g., vocalizations, breeding calls, or egg deposition sites) were observed during the 2016 protocol surveys. Amphibians detected during the 2016 surveys included western spadefoot (*Spea hammondi*) and Baja California treefrog (*Pseudacris hypochondriaca hypochondriaca*). The following subsections detail the 2016 survey results.

3.0 SURVEY SITE 2 (SAN LUIS REY RIVER)

No toads were observed within the San Luis Rey River survey site. Amphibians detected were limited to Baja California treefrog, which was observed in a small pool that persisted throughout the survey in the northeastern corner of the survey BRSA.

According to the California Natural Diversity Database, the San Luis Rey River is known to support arroyo toad, including a population approximately 1.1 miles upstream and 0.4 mile downstream. The surveyed section of the San Luis Rey River consists of the constituent elements needed to support arroyo toad. However, five consecutive years of drought combined with upstream impoundments have led to a lack of scouring, or persistent surface flow, which has further degraded arroyo toad habitat. There are no historic records of arroyo toad in this

section of the river. Due to upstream impoundments and the lack of underground aquitards, it is possible that water may only flow during extreme rainfall years in this section of the river. During the 2016 surveys, water was observed both upstream and downstream of the survey site, but never in the survey site. Arroyo toads in the San Luis Rey River may have migrated to/stayed in the areas with persistent surface flow upstream and downstream from the survey site. Arroyo toad use of the survey site may only occur during years of extremely wet conditions when the dense vegetation is washed out and surface flow is sufficient to support breeding.

3.1 SURVEY SITE 7 (SANDY HILL ROAD)

During the 2016 surveys, one individual western spadefoot was observed east of the drainage. No other amphibians were detected. As described in the Arroyo Toad Protocol Survey Report, this drainage is characterized as a wide (up to 15 feet wide), sandy channel. The majority of the drainage within the BRSA is incised, and the sand is restricted the drainage bed. In general, the soils located outside of the drainage bed do not contain the sand or gravel needed for arroyo toad estivation or that are typically found in occupied arroyo toad habitat. This drainage also appears to have a somewhat limited watershed given that surface water was never observed in 2015 or 2016 within the BRSA or immediately upstream or downstream. Furthermore, this drainage lacks a connection to known arroyo toad populations upstream and downstream. Therefore, even during extremely wet years, it would not likely be appropriate for arroyo toad breeding or dispersal.

4 – CONCLUSION

Although drought conditions persisted in 2016, additional arroyo toad surveys are not warranted. Survey Site 2 (San Luis Rey River) should be considered occupied habitat, though encounters are unlikely unless extremely wet conditions are present. However, potential impacts to arroyo toad will be minimized with implementation of the following applicant-proposed measures (APMs):

- APM-BIO-01 – Conduct pre-construction biological surveys.
- APM-BIO-10 – Minimize construction night lighting in habitat for special-status wildlife species.
- APM-BIO-11– Limit vehicle speeds in unpaved areas.
- APM-BIO-12 – Halt work if a special-status species is identified during construction.

Survey Site 7 (Sandy Hill Road) does not consist of the hydrology regime necessary to support arroyo toads and does not have a nearby (i.e., within five miles) connection to known arroyo toad populations that would allow for dispersal into the survey site during extremely wet years.

5 – REFERENCES

California Department of Fish and Wildlife. 2015. California Natural Diversity Database Maps and Data. Online. <https://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>. Site visited July 10, 2015.

Insignia. 2015. San Diego Gas & Electric Company and Southern California Gas Company's Pipeline Safety & Reliability Project Arroyo Toad Protocol Survey Report.

USFWS. 1999. Arroyo Toad (*Bufo californicus*) Survey Protocol. Online.
<http://www.fws.gov/pacific/ecoservices/endangered/recovery/documents/ArroyoToad.1999.protocol.pdf>. Site visited February 25, 2015.

USFWS. 2014. Arroyo Toad (*Anaxyrus californicus*) Species Report. Online.
<http://www.fws.gov/ventura/docs/species/at/Arroyo%20Toad%20Final%20Species%20Report.pdf>. Site visited June 18, 201

ATTACHMENT A: 2016 ARROYO TOAD SURVEY SITES MAP



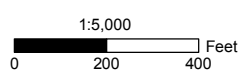
Attachment A: 2016 Arroyo Toad Survey Sites Map 1 of 2

Pipeline Safety & Reliability Project

- Milepost
- Proposed Project Route
- Proposed Trenchless Construction
- Temporary Impact
 - Bore Pit
 - Horizontal Directional Drill Workspace
 - Laydown Area
 - Workspace
- Biological Resource Survey Area
- ARTO Survey Site

Note: Survey route not shown due to large map scale. Meandering transects were walked within suitable habitat during protocol surveys.

- Please note survey route not shown due to large map scale, meandering transects were walked within suitable habitat during protocol surveys



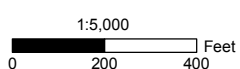


Attachment A: 2016 Arroyo Toad Survey Sites Map 2 of 2

- Milepost
- Proposed Project Route
- - - Proposed Trenchless Construction
- Temporary Impact
 - Bore Pit
 - Horizontal Directional Drill Workspace
 - Laydown Area
 - Workspace
- Biological Resource Survey Area
- ARTO Survey Site

Note: Survey route not shown due to large map scale. Meandering transects were walked within suitable habitat during protocol surveys.

- Please note survey route not shown due to large map scale, meandering transects were walked within suitable habitat during protocol surveys



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