

ARROYO TOAD SURVEY (2002)

Wildlife Biologist: Arthur Davenport, San Diego National Wildlife Refuge

Introduction

Surveys for arroyo toad (*Bufo californicus*) were conducted during the winter and spring of 2002.

The surveyed covered all of the Sweetwater River and Steele Canyon Creek located on the San Diego National Wildlife Refuge.

Methods

Surveys were conducted for calling arroyo toads at night between sunset and midnight. Calling arroyo toads were listened for at approximately 0.05 to 0.1 mile intervals. Where riparian appeared more open, or there was a broader flood plane, additional stops were made, as appropriate. Egg masses and tadpoles were searched for during the day. All pools and slow moving portions of the main channels were checked for egg masses and tadpoles. Surveys were initiated February 22 and continued until April 25, at which time they were stopped due to dry conditions. The stretch of the Sweetwater River located south of the HWY 94 bridge was surveyed six (6) times for calling arroyo toads. Pools and slow moving portions of this stretch were checked six (6) times for egg masses and/or tadpoles. All amphibians encountered were recorded.

Results

No arroyo toads were observed or heard on the refuge during 2002. However, conditions were poor due to the low amount of precipitation. Other amphibians found during the survey included Western spadefoot toad (*Spea hammondi*), California toad (*Bufo boreas*), and Pacific tree frog (*Hyla regilla*). Interestingly, no California toad or Western spadefoot toad tadpoles were encountered.

Discussion

Suitable habitat exists on the San Diego National Wildlife Refuge for Arroyo toads. Thus, surveys should be repeated if approximately normal rainfall is received during the coming rainy season (November-April). Also, the periodic clearing of vegetation due to normal flood events would likely benefit this species. Or, absent an adequate flood event, mechanical clearing of breeding pools may be appropriate in some locations. In addition, preventing horses and bikes from entering potential breeding pools would benefit arroyo toads that may occur on the refuge as well as other amphibians that use the pools for reproduction.

Arroyo Toad Survey (2002)

Wildlife biologist: Arthur Davenport

Field Notes

Date: 02/22/02

Start: 9:00PM

Stop: 11:30 PM

Conditions: Clear, no wind

Temperature: Start: 65° F Stop: 48° F

South of HWY 94 Reach

Surveyed for calling arroyo toads from the bridge on HWY 94 (over Sweetwater River) to the Sweetwater Authority gate. Conducted calling survey from the north side of the river. Stopped and listened at 0.1 mile intervals. Also, where riparian appeared more open, or there was a broader flood plane, additional stops were made.

Comments: Due to the closed canopy of willows, this area appears to currently contain marginal breeding habitat for arroyo toads along most of drainage. The suitability of the habitat increases in the vicinity of our border with the Sweetwater Authority. Standing and flowing water present.

Species Detected

Amphibians

Pacific treefrog (*Hyla regilla*)

California toad (*Bufo boreas halophilus*)

Avian

Common poorwill (*Phalaenoptilus nuttallii*)

Date: 02/27/02

Start: 9:00PM

Stop: 11:30 PM

Conditions: Clear, warm, no wind

Temperature: Start: 60° F Stop: 48° F

Shopping Center Reach

Surveyed for calling arroyo toads along the stretch of the Sweetwater River that borders the shopping center (extends from the HWY 94 bridge over Sweetwater River upstream to the edge of

the shopping center). Conducted calling survey from the north side of the river. Stopped and listened at 0.05 mile intervals.

Comments: Due to the closed canopy of willows, this entire area appears to currently contain marginal breeding habitat for arroyo toads. However, standing and flowing water were present.

Species Detected

Amphibian
Pacific treefrog (*Hyla regilla*)

Date: 03/11/02

Start: 9:00PM

Stop: 11:30 PM

Conditions: Clear, cool, no wind

Temperature: Start: 60° F Stop: 42° F

Singing Hills Golf Course Reach

Prior to nightfall, I checked on habitat conditions adjacent to Singing Hills Golf Course. There was no flow or standing water in the Sweetwater River. Thus, a calling survey was not completed in this area on this date. However, this area appears to have high potential for the arroyo toad given the openness of the riparian and the presence of a large sandy flood plane. Thus, if conditions improve, a night survey will be completed.

Shopping Center Reach

Surveyed for calling arroyo toads along the stretch of the Sweetwater River that borders the shopping center (extends from the HWY 94 bridge over Sweetwater River upstream to the edge of the shopping center). Conducted calling survey from the west side of the river. Stopped and listened at 0.05 mile intervals.

Comments: Due to the closed canopy of willows, this entire area appears to currently contain marginal breeding habitat for arroyo toads. However, standing and flowing water were present.

Species Detected

Amphibian
Pacific tree frog (*Hyla regilla*)

South of HWY 94 Reach

Surveyed for calling arroyo toads from the bridge on HWY 94 (over Sweetwater River) to the Sweetwater Authority gate. Conducted calling survey from the west side of the river. Stopped and listened at 0.05 mile intervals. Six to ten minutes were spent at each site listening for calling toads. Also, where riparian appeared more open, or there was a broader flood plane, additional time was spent listening for toads.

Comments: Due to the closed canopy of willows, this area appears to currently contain marginal breeding habitat for arroyo toads along most of drainage. The suitability of the habitat increases in the vicinity of our border with the Sweetwater Authority. Standing and flowing water present.

Species Detected

Amphibian

Pacific treefrog (*Hyla regilla*)

Avian

Barn Owl (*Tyto alba*)

Date: 03/18/02

Start: 9:00PM

Stop: 11:30 PM

Conditions: Clear, cool, no wind

Temperature: Start: 52° F Stop: 42° F

Shopping Center Reach

Surveyed for calling arroyo toads along the stretch of the Sweetwater River that borders the shopping center (extends from the HWY 94 bridge over Sweetwater River upstream to the edge of the shopping center). Conducted calling survey from the west side of the river. Stopped and listened at 0.05 mile intervals.

Comments: Due to the closed canopy of willows, this entire area appears to currently contain marginal breeding habitat for arroyo toads. Standing and flowing water present.

Species Detected

Amphibian

Pacific tree frog (*Hyla regilla*)

South of HWY 94 Reach

Surveyed for calling arroyo toads from the bridge on HWY 94 (over Sweetwater River) to the Sweetwater Authority gate. Conducted calling survey from the west side of the river. Stopped and listened at 0.05 mile intervals. Six to ten minutes were spent at each site listening for calling toads. Also, where riparian appeared more open, or there was a broader flood plane, additional time was spent listening for toads. Standing and flowing water present.

Comments: Due to the closed canopy of willows, this area appears to currently contain marginal breeding habitat for arroyo toads along most of drainage. The suitability of the habitat increases in the vicinity of our border with the Sweetwater Authority. Standing and flowing water

present.

Species Detected

Amphibian
Pacific treefrog (*Hyla regilla*)

Date: 03/19/02

Start: 8:00PM

Stop: 10:30 PM

Conditions: Clear, cool, no wind

Temperature: Start: 55° F Stop: 44° F

Singing Hills Reach

Surveyed for calling and otherwise active arroyo toads just downstream of the Singing Hills Golf Course. Walked entire channel located on refuge property and scanned upland benches.

Comments: General habitat characteristics look good for the presence of arroyo toads (e.g., open canopy, open wash, clumps of mule fat, etc.). However, no flow despite two previous days of rain. Only a few Pacific tree frogs were calling from moist locations and there was no standing or flowing water.

Species Detected

Amphibian Species
Pacific tree frog (*Hyla regilla*)
Western toad (*Bufo boreas halophilus*)

Avian Species
Great horned owl (*Bubo virginianus*)

Shopping Center Reach

Surveyed for calling arroyo toads along the stretch of the Sweetwater River that borders the shopping center (extends from the HWY 94 bridge over Sweetwater River upstream to the edge of the shopping center). Conducted calling survey from the west side of the river. Stopped and listened at 0.05 mile intervals.

Comments: Due to the closed canopy of willows, this entire area appears to currently contain marginal breeding habitat for arroyo toads. Standing and flowing water are present.

Species Detected

Amphibian
Pacific tree frog (*Hyla regilla*)

South of HWY 94 Reach

Surveyed for calling arroyo toads from the bridge on HWY 94 (over Sweetwater River) to the Sweetwater Authority gate. Conducted calling survey from the west side of the river. Stopped and listened at 0.05 mile intervals. Six to ten minutes were spent at each site listening for calling toads. Also, where riparian appeared more open, or there was a broader flood plane, additional time was spend listening for toads.

Comments: Due to the closed canopy of willows, this area appears to currently contain marginal breeding habitat for arroyo toads along most of drainage. The suitability of the habitat increases in the vicinity of our border with the Sweetwater Authority. Standing and flowing water were present.

Species Detected

Amphibian

Pacific treefrog (*Hyla regilla*)

Date: 4/02/02

Start: 7:00PM

Stop: 10:30 PM

Conditions: Clear, no wind

Temperature: Start: 58° F Stop: 60° F

Shopping Center Reach

Surveyed for calling arroyo toads along the stretch of the Sweetwater River that borders the shopping center (extends from the HWY 94 bride over Sweetwater River upstream to the edge of the shopping center). Conducted calling survey from the west side of the river. Walked entire stretch, stopping and listening at approximately 25 meter intervals.

Comments: Due to the closed canopy of willows, this entire area appears to currently contain marginal breeding habitat for arroyo toads. However, standing and flowing water were present.

Species Detected

Amphibian

Pacific tree frog (*Hyla regilla*)

Avian

Western screech-owl (*Otus kennicottii*)

Western screech-owl was located behind Target near several large cottonwood.

South of HWY 94 Reach

Surveyed for calling arroyo toads from the bridge on HWY 94 (over Sweetwater River) to the

Sweetwater Authority gate. Conducted calling survey from the west side of the river. Stopped and listened at 0.05 mile intervals. Six to ten minutes were spent at each site listening for calling toads. Also, where riparian appeared more open, or there was a broader flood plane, additional time was spend listening for toads.

Comments: Due to the closed canopy of willows, this area appears to currently contain marginal breeding habitat for arroyo toads along most of drainage. The suitability of the habitat increases in the vicinity of our border with the Sweetwater Authority. Standing and flowing water are present.

Species Detected

Amphibians

Pacific treefrog (*Hyla regilla*)

Western spadefoot (*Scaphiopus hammondi*)

Western spadefoot was observed on dirt road just west of water treatment plant.

Avian

Common poorwill (*Phalaenoptilus nuttallii*)

A common poorwill was observed on the dirt road west of treatment plant. In addition, at least five were heard calling from the adjacent slopes to the Sweetwater River from the location of the first observation to the Sweetwater Authority gate. The slopes are covered with coastal sage scrub.

Mammal

Raccoon (*Procyon lotor*)

Observed near URD site.

Date: 4/08/02

Start: 9:00PM

Stop: 11:30 PM

Conditions: Overcast, no wind

Temperature: Start: 61° F Stop: 61° F

Shopping Center Reach

Surveyed for calling arroyo toads along the stretch of the Sweetwater River that borders the shopping center (extends from the HWY 94 bride over Sweetwater River upstream to the edge of the shopping center). Conducted calling survey from the west side of the river. Walked entire stretch, stopping and listening at approximately 25 meter intervals.

Comments: Due to the closed canopy of willows, this entire area appears to currently contain

marginal breeding habitat for arroyo toads. However, standing and flowing water were present.

Species Detected

Amphibian

Pacific tree frog (*Hyla regilla*)

Avian

Common poorwill (*Phalaenoptilus nuttallii*)

South of HWY 94 Reach

Surveyed for calling arroyo toads from the bridge on HWY 94 (over Sweetwater River) to the Sweetwater Authority gate. Conducted calling survey from the west side of the river. Stopped and listened at 0.05 mile intervals. Six to ten minutes were spent at each site listening for calling toads. Also, where riparian appeared more open, or there was a broader flood plane, additional time was spend listening for toads. Walked the sandy bench located east of the Sweetwater Authority gate.

Comments: Due to the closed canopy of willows, this area appears to currently contain marginal breeding habitat for arroyo toads along most of drainage. The suitability of the habitat increases in the vicinity of our border with the Sweetwater Authority. Standing and flowing water are present.

Species Detected

Amphibian

Pacific treefrog (*Hyla regilla*)

There are Pacific treefrogs distributed along the entire length of the survey area. Interestingly, their calling intensity/frequency is lower now than it was a month ago; despite the warming temperatures.

Reptile

Northern red-diamond rattlesnake (*Crotalus ruber ruber*)

This is the same snake I removed from the road earlier in the day (i.e., 2:00 PM). The animal was still under the two rocks it took refuge in following removal from the dirt road.

Avian

Common poorwill (*Phalaenoptilus nuttallii*)

A common poorwill was observed again on the dirt road west of treatment plant. In addition, an undetermined number were heard calling from the adjacent slopes to the Sweetwater River from the location of the first observation to the Sweetwater Authority gate.

Mammal
Stripped skunk (*Mephitis mephitis*)
Desert cottontail (*Sylvilagus audubonii*)

Date: 04/15/02
Start: 8:00PM
Stop: 10:30 PM
Conditions: Scattered Clouds; Wind 0
Temperature: Start: 58° F Stop: 58° F

Singing Hills Reach

Surveyed for calling and otherwise active arroyo toads just downstream of the Singing Hills Golf Course. Walked entire channel located on refuge property and scanned upland benches.

Comments: General habitat characteristics look good for the presence of arroyo toads (e.g., open canopy, open wash, clumps of mule fat, etc.).

Species Detected

Amphibian Species
none

Area was very dry despite light rain fall during the day.

Avian
Common poorwill (*Phalaenoptilus nuttallii*)

At least one common poorwill was heard calling from south side of parcel.

Par Four

Surveyed for arroyo toads from the end of Par Four Drive to where the golf course borders the riparian forest. Checked shallow ponds along edge of Golf course as well as upland areas.

Comments:

Species Detected

Amphibian
Pacific tree frog (*Hyla regilla*)
Western spadefoot (*Scaphiopus hammondi*)

Pacific tree frogs were calling from vegetated wetlands located within the Sweetwater River channel. Water in this area appears to be runoff from the golf course. Western spadefoot was observed about 3 meters south of main trail in disturbed coastal sage scrub (*Erodium* sp and

European grasses were the dominant annual vegetation). Photo taken.

Avian

Common poorwill (*Phalaenoptilus nuttallii*)

Two common poorwill were observed along main trail approximately 300 yards from entrance gate.

Mammal

Desert cottontail (*Sylvilagus audubonii*)

Date: 04/18/02

Start: 8:00AM

Stop: 12:00AM

Conditions: Scattered Clouds; Wind 0-1

Temperature: Start: 60° F Stop: 64° F

Shopping Center Reach

Surveyed for arroyo toad larva while conducting least Bell's vireo survey. Checked shallow pools (including those isolated from running water) in the Sweetwater River channel between Steele Canyon Bridge and the golf course.

Comments: Although habitat conditions are not optimal, there were pools with sandy bottoms both along the active portion of the river and in some isolated pools. Pacific tree frog tadpoles were evident in all pools. In addition, several bull frog (*Rana catesbeiana*) tadpoles were observed in a running portion of the channel along the north side of the flood plain.

Species Detected

Amphibian

Pacific tree frog (*Hyla regilla*)

Bull frog (*Rana catesbeiana*)

Western toad (*Bufo boreas halophilus*)

Reptile

Western fence lizard (*Sceloporus occidentalis*)

Mammal

Desert cottontail (*Sylvilagus audubonii*)

California ground squirrel (*Spermophilus beecheyi*)

Date: 04/25/02

Start: 9:00PM

Stop: 11:00 PM

Conditions: Scattered Clouds; Wind 0
Temperature: Start: 54° F Stop: 54° F

Par Four

Surveyed for arroyo toads from the end of Par Four Drive to where the golf course borders the riparian forest. Checked shallow ponds along edge of Golf course as well as upland areas.

Comments: Full moon. Eye shine difficult to see due to light from moon. Found two adult western toads along main trail. Additionally, found an adult western spadefoot and juvenile western toad trapped in pit (released trapped animals). Also found a new concentration of *Ambrosia pumila* about 300 meter from entrance gate along and south of main trail.

Species Detected

Amphibian

Pacific tree frog (*Hyla regilla*)

Western spadefoot (*Scaphiopus hammondi*)

Western toad (*Bufo boreas halophilus*)

Avian

Common poorwill (*Phalaenoptilus nuttallii*)

One common poorwill were observed along main trail approximately 300 yards from entrance gate.