State of California Department of Fish and Wildlife

Memorandum

Date: 8/30/2018

To: Sarah Mussulman Sierra Fisheries Supervisor Department of Fish and Wildlife North Central Region

From: Mitch Lockhart Environmental Scientist Department of Fish and Wildlife North Central Region

Subject: Visual Encounter Survey at Lower Angora Lake, El Dorado County

Lower Angora Lake, El Dorado County, is a popular day use destination in the Lake Tahoe basin near South Lake Tahoe. The lake is walk-in only, accessible via a short ½ mile trail. A private resort, Angora Lakes Resort, owns and operates private cabins along the lakeshore that are available to rent (Figure 1).

On June 6, 2018, Mitch Lockhart, CDFW Environmental Scientist, and one Scientific Aide conducted a visual encounter survey of Dardanelles Lake. The purpose of the survey was to determine if special status herpetofauna species are present at Lower Angora Lake. The data are used to determine if planting Lower Angora Lake with fingerling Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*) would result in impacts to special status species; specifically Sierra Nevada yellow-legged frog (*Rana sierrae*).

The survey began at 13:39 and continued until 15:17 with a total survey duration of 196 minutes. The surveyors slowly circumambulated the lake shoreline looking for diurnal amphibians and reptiles (Fellers and Freel 1995). The air temperature was 19.3° Celsius at 13:30 under partly cloudy skies. Water conditions were clear with little to no surface disturbance. Water temperature was 16.7° Celsius at 13:32. No amphibians or reptiles were observed during the survey. Hundreds of Lahontan redside shiners (*Richardsonius egregious*) were observed near shore during the survey.

On August 10, 2018 one CDFW Scientific Aide conducted a visual encounter survey at an unnamed pond (LakeID 14209) immediately downstream of Lower Angora Lake. The survey began at 11:47 and ended at 12:51 for a total survey duration of 64 minutes. Twenty-six speckled dace (*Rhinichthys osculus*) and eight Lahontan redside shiners were observed in the inlet and over 40 speckled dace and 11 Lahontan redside shiners were observed in the outlet of the pond. No amphibians or reptiles were seen during the survey.

Due to the absence of special status species and the large density of minnow fish species, Lower Angora Lake is suitable to plant fingerling Lahontan cutthroat trout as a put-and-grow fishery for the use and enjoyment of day-use recreational anglers and clients of the Angora Lake Resort. The expectation is that individual Lahontan cutthroat trout that gain enough size will utilize the available minnow forage and develop into desirable sports fish.



AMPHIBIAN AND REPTILE SURVEY DATA SHEET - 2017															
Site ID: 14214	Date	'6/	18		SKY:	Clear	Cloudy	Mostly Cloudy		` Rain'' Sn	iow≐Smöke		ImLight	Moderate	Strong
Topo Name: (1:24,000)	· .	County:	Jorad	a		Elevatio m ft	n:			If not sur provide r		Private Property	Frozen	Not Found	No Access
Surveyors: AA 1	1.4.4	<u>ا سر</u>		<u>v</u>				Water	· •	1.0000	Unmapped	Marsh/	Spring	Stream (Skip to
Lake Name: ,	-oc-Khart	East	子文書	<u>- M</u>				Type: North		**************************************	pond	meadow	seep	"STREAMS	" below)
(from map) Lowe	r Angora	UTM:					-	UTM:			-;jf:He			Zone:	
Color: Clear Stain Turbidity: Clear C	· ·		ore,	16.9	1211	Çr.		above water):	10	9,3	Cor	Site conditio	on notes:		
Survey	Survey			Total su		91.	Temp HERPS	water):	<u>s</u>	FISH	<u>1.30E</u> (YES)	1			
START time: 15.	START time: 15.51 END time: 17.7 duration (min): 10 Min SEEN? (NO) SEEN? NO														
FOR LAKES/PONDS	# adults	SURVET		subadul		# meta		1	f larva		# egg m.	#swabs	1	ey Method	
DAST	æ						rx	1	\sim	1	X		Visual	Trapped	
RIT	(\mathcal{D})		(\mathcal{D}			p		Ø	Í	O		Aural	Hand Col	
Calling? Y(N)	- Y-				·	1			(Amp Net Visual	Incidenta Trapped	<u> </u>
	· · ·	•					÷.,			•.			Aural	Hand Col	lected
Calling? Y N				-		:	:						Amp Net	Incidenta	i
i						1 -				1			Visual	Trapped	
Calling? Y N	:								j,ir ,isjeta -	AND IN .			Aural Amo Net	Hand Col Incidenta	
			·		100	. <u>2</u>			- Provent		-		Visual	Trapped	
										\$	2		Aural	Hand Col	lected
Calling? Y N		- + j				<u> </u>		<u> </u>				L	Amp Net	Incidenta	<u> </u>
STREAM	. . .		-	Marine Construction	\geq		- 		<u></u>	· · ·					
Inlet Outlet (circ	cle one) #	Stream	Type:	Perennis	End	Epheme	Ha!	Stream	Curre	ntly Dry?	<u> </u>		Intermitt Clea	<u> </u>	(<u>N)</u> d NA
E UTM:	N UTM:	STANDARD BORNARD		SPARSON SPACE	E UTM:	With States and States in States	FILM ROLLING		۳ŰTM:		State of the second	Turbidity:	Clea		
Ştart Time:	End Time:		No. of Concession, Name	Duration	(min):	1.	Water Ten	ID:	а.	Air Temp;	NAMES OF TAXABLE PARTY OF TAXABLE PARTY.	Herps Pres	sent? YE	S NO	
Inlet Outlet (circle one) # Stream Type: Perennial Ephemeral Stream Currently Dry? Y N									N	Intermittent? Y N					
Start		End									Color: Clea			d NA	
E UTM:	· · · ·	E UTM: Duration (min):							N UTM: "			Clea sent? YE		y NA	
Start Time:	End Time:						Water Ten	i –		Air Temp:			T		
Inlet Outlet (cir Start	cie one) #	Stream	туре:	Perennia	End	Epheme	rai	Stream	Gurre	ntly Dry?	<u> </u>	Color:	Intermitt Clea		<u>N</u> dNA
E UTM:	N UTM:	E UTM:					N UTM:				Turbidity: Clear Cloudy			y NA	
Start Time:	Duration (min);					Water Tem	p: Air Temp:				Herps Pres	sent? YE	S NO		
Inlet Outlet (cir	cle one) #	Stream	Type:	Perenni	al	Epheme	eral	Stream	Curre	ently Dry?	<u></u>	<u>′ N</u>	Intermitt	ent? Y	N
Start				•	End						•	Color:	Clea		· · · · · · ·
E UTM:	<u>N UTM:</u>				EUTM	-7	<u></u>		N UTM		· · · · · ·	Turbidity: Herps Pres	Clea		y NA
Start Time: Species	End Time: In/Outlet #	<u> </u>	# adults	Duration	(min):	#subad	Water Ten ults	np: #metamo	orohs	Air Temp: larvae	·····	#swabs	_	ey Method	<u></u>
0 A C+	(circle one) #		5	· ·		~	<u></u>			Ň	X		(Visual)	Trapped	
Calling? Y N	OUT		\mathcal{O}°	•	1	Ø		6	3	$ \mathcal{D} $	P		Aural Amp Net	Hand Co	
	(circle one) #		<u> </u>			- <i>{</i>				<i>, 1</i>		ţ.	Visual	Trapped	<u>1</u>
	IN												Aural	Hand Co	
Calling? Y N	OUT (circle one) #						• •				-		Amp Net Visual	Incidenta	<u>I</u>
	IN	· .	2					1					Aural	Hand Co	·
Calling? Y N	OUT (circle one) #			•									Amp Net Visual	Incidenta Trapped	
	(circre one) #-		et _{je d} e	· · · ·				×					Aural	Hand Co	
Calling? Y N	JOUT	MMAN	nomito T	ood / A M	CA frml	RUCAL	Sioren Ter	ofrog (1)	Vel for			Jorra Neuro		Incidenta	
Amphibians: S. Long Amph. less common															(RAJ)
Reptiles: Sierra Gart	ersnake (THCO); Mou	untain Gar	tersnake	(THEL);	Valley Ga	artersnak	e (T HSĪ); V	Vestern F	Pond Ti	urtle (EMN	IA, frmiy CL	MA)			
	eturn to: Isaac Chelin			0			, (916) 358	-4038; 1	701 Ni	mbus Rd.,	Rancho Cor		يودد بالمانية والمر	d	
Field rev			_ Entere		Proo /y-mmm-dd)	T		11754.51		.1	0	Herp Data	oneet, pg	1012	1
I-notos	Photo Number	Camera	Time	Date (M)	y minine (00)	101ME		UTM N			Commer	115			I

. . .

. •

• •

ŕ

AMPHIBIAN AND REPTILE SURVEY DATA SHEET - 2017															
Site ID:	9	Bate:	p /2	-019	2	SKY:	Clear	Partly Cloudy	Mostly Over- Cloudy cast		now Smoke		D Light	Moderate	Strong
Topo Name: County (1:24,000)			County:				Elevation: m ft		If not surv provide re		-	Private Property	Frozen	Not Found	No Access
Surveyors: T. WASH											Unmapped pond	Marsh/ meadow	Spring seep	Stream (S	
Lake Name: (from map)	. ^		East UTM:						North UTM;				'	UTM Zone:	
17-114	ained	Water (.5 ı	m from sh	- A - I	、 @		(Č)r	Air (1 m	above	01	. Oor	Site conditio	on notes:	Lono	
Turbidity: Clear	Cloudy	Temp 10	cm deep):	Ú	<u>هر (</u> Tatal au	11:4	J F	Temp	water): 263		<u>1:40 F</u>	-			
Survey START time:	:47	Survey END time:	12:	51	Total su duration		24	HERPS SEEN?	YES	FISH SEEN?					
*FOR LAKES/PONDS/MEADOWS: ALSO SURVEY FIRST 200 m OF ALL INLETS AND OUTLETS. RECORD DATA SEPARATELY IN THE "STREAMS" SECTION BELOW.													W.		
Species # adults			#	subadu	lts	# metamorphs		# larva	e	# egg m.	#swabs Survey Me			l <u> </u>	
													Visual	Trapped	
Colling2 V N											1		Aural	Hand Col	
Calling: 1 N	Calling? Y N												Amp Net Visual	Incidenta Trapped	۱ <u> </u>
												1	Aural	Hand Col	lected
Calling? Y N						5.7	4						Amp Net		
· · ·													Visual	Trapped	
	_	. 1.	,				• • •						Aurai	Hand Col	llected
Calling? Y N			**			مربع مربع		:		-1.4 		· ···· ··· ··· ···	Amp Net	Incidenta	I
													Visuai	Trapped	
Calling? V.N	_												Aural	Hand Col	
Calling? Y N STREAM							<u> </u>		<u> </u>	· .		1	Amp Net	Incidenta	
Inlet Outlet	círcle one) #		Stream	Type: /	Perenni	ăr>	Epheme	val	Stream Curre	ntly Dry?	,	(N)	Intermit	ent? Y	(N)
Start				.,,,,,, (End						Color:	Clea		TRIBUNA P
E UTM:	n of the second seco	N UTM:	$\sim 10^{-11}$	· ·		E UTM:	2 <u>1</u>	1. s	N UTM			Turbidity:	< Clea	14.VL	
Start Time:	1:47	End Time:	11:5	10	Duration	(min): (9	Water Ten	np:	Air Tem	x i	Herps Pres	sent? YI	ES (NO	> :
Inlet Outlet										Stream Currently Dry? Y (N) Intermittent? Y (
Start			End			at a second			Color: Clear-Stained NA						
E UTM: N UTM:			- 194 - 194	E UTM:					N UTM			Turbidity: Clear Cloudy NA			
Start Time: 122.	225	End Time:	12:	35	Duration	(min):	2	Water Ten	np:	Air Tem):	Herps Pres	sent? Yi	es (NO	
Inlet Outlet (circle one) #		Stream	Гуре;	Perenni	al	Epheme	əral	Stream Curre	ntiy Dry	? .Y	Ň	Intermiti	ent? Y	N
Start					e de la co	End	⁻			er en	A the line	Color:	Clea	u Staine	d NA
E UTM: N UTM:				EUTM					N UTM		- <u>1</u> . *-	Turbidity: Clear Cloudy NA			
Start Time: End Time:				на. 1949 — Прила 1949 — Прила	Duration	ı (min):		Water Ten	np:	Air Tem);	Herps Present? YES NO			
Inlet Outlet (circle one) # Stree			Stream	Гуре:	Perenni	al	Epheme	əral	Stream Curre	ently Dry'	? Y	Y N Intermittent? Y N			
Start						End					·. ·	Color: Clear Stained NA			
E UTM:	UTM: N UTM:		EUTM:				· · · ·	N UTM	<u> </u>	e de la	Turbidity:	Clear Cloudy NA			
Start Time:		End Time:			Duration	(min):	11 . J.	Water Ten	np:	Air Tem	;	Herps Pre			
Species		utlet #		# adults	3		#subad	ults "	#metamorphs	larva	e #eggm.	#swabs		vey Method	1
DACE	(circle one)	# 1		X 1							· · ·		Visual Aural	Trapped Hand Co	liected
Calling? Y ()	ουτ	an a		2	-0								Amp Net	1.0	
Redside	(circle one)	# 1		8									Visual	Trapped	
Mimon		· · · •				· · ·				94 - L			Aural	Hand Co	
Calling? Y Ny Speculed	OUT (circle one)	# 1	en a	∇c	K 7						· ·		Amp Net Visual	t Incidenta Trapped	H
SPECIFICS			بالكظا إ	RE				2					Aural	Hand Co	llected
Calling?Y 🕅				40	>+							<u> .</u>	Amp Net		l
Redside	(circle one)	# `	B	\sim	۰. ۱								Visual	Trapped	Ilonic -!
Calling? Y N				<u></u>									Aural Amp Net	Hand Co Incidenta	e a la composition de
Calling? Y 10 [OUT] Amp Net Incidental Amphibians: S. Long-Toed Salamander (AMMA); Yosemite Toad (ANCA, frmly BUCA); Sierran Treefrog (HYSI, frmly PSRE or HYRE); Sierran Nevada Yellow-legged Frog (RASI)															
Amph. less comm													(TASI, frm	ily TATO)	
Reptiles: Sierra Gartersnake (THCO); Mountain Gartersnake (THEL); Valley Gartersnake (THSI); Western Pond Turtle (EMMA, trmly CLMA) PLEASE Return to: Isaac Chellman, California Department of Fish and Wildlife, (916) 358-4038; 1701 Nimbus Rd., Rancho Cordova, CA 95670															
PLEASE Field n		saac Chellm Copied		rnia Dep Entere		of Fish and Proo		, (916) 358	s-4038; 1701 Ni	mbus Rd. 1	, Rancho Cor	dova, CA 95 Herp Data	the Electronic Company of the	1.1.of 2	
1	S Photo N		Camera		1	yy-mmm-dd)	T	<u>.</u>	UTM N	Ļ	Commen		anoor P	1	1
Priore		u11071	I Samera		I	,,						10			1