

**Factors explaining the decline of black-tailed deer:  
A comparative study on public and private lands  
in northern California**

**Agreement #: P0880013 between the University of California and the  
California Department of Fish and Game**

**Project Progress Report  
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**DRAFT – INTERNAL USE ONLY**

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## Progress report until December 30, 2012

### 1) Adult deer

Eighteen deer >1 year of age were captured during the 2012 summer field season, 16 of which are still alive and their status is being monitored in the field (Table 1). One of the deer collared in 2012 died from capture related complications and another deer died from suspected mountain lion predation.

Table 1: Current status of adult black-tailed deer Mendocino black-tailed deer project; updated December 30, 2012.

No	ID	Group	Capture Date	Age (Est) <sup>1</sup>	Weight (lbs)	Last Date Observed Alive	Status
43	7685	M1	4-Jun-12	3	97	NA	dead
44	7276	M1	5-Jun-12	3	95	18-Dec-12	alive
45	7303	FH7	6-Jun-12	7	103	18-Dec-12	alive
46	8829	M1	7-Jun-12	5	107	18-Dec-12	alive
47	7331	FH7	8-Jun-12	5	87	18-Dec-12	alive
48	7216	FH7	12-Jun-12	4	130	18-Dec-12	alive
49	7227	FH7	13-Jun-12	5	98	18-Dec-12	alive
50	7449	M1	15-Jun-12	4	110	18-Dec-12	alive
51	8818	FH7	16-Jun-12	4	106	18-Dec-12	alive
52	7298	FH7	12-Jul-12	5	94	26-Nov-12	alive
53	1485	FH7	12-Jul-12	1	115	18-Dec-12	alive
54	8812	FH7	13-Jul-12	6	94	18-Dec-12	alive
55	7318	FH7	13-Jul-12	7	102	18-Dec-12	alive
56	7314	FH7	13-Jul-12	3	78	NA	dead
57	7274	M1	7-Sep-12	1	66	18-Dec-12	alive
58	7447	FH7	10-Sep-12	7	94	11-Sept-12	alive
59	7616	M1	9-Sep-12	1	65	18-Dec-12	alive
60	7285	FH7	10-Sep-12	6	105	18-Dec-12	alive

<sup>1</sup> Age at capture estimated from tooth wear and replacement; confirmation using cement-annuli from extracted tooth pending.

Winter access to the study area to monitor deer and retrieve mortalities continues to be a challenge. While telemetry flights have been conducted on a regular basis (weather permitting) no snowmobiles are currently available to retrieve

mortalities. As previously mentioned, this is a significant shortcoming since it prevents correct identification of the causes of mortalities (predation, nutrition, etc) – data required to correctly quantify limiting factors. We are currently discussing ways to overcome this limitation with DFG staff.

## 2) Fawns

During the 2012 field season we captured 51 fawns (25 males/26 females) (Table 2). As of December 30, 2012, 29 fawns (57%) have been confirmed dead with 2 additional fawns currently on mortality signal (31/51 = 61% mortality rate). Fawn mortality rates appear comparable to previous years.

Table 2: Status of black-tailed deer fawns Mendocino black-tailed deer project; updated December 30, 2012.

No	ID	Group	Capture date	Sex	Weight (kg)	Last Date Observed Alive	Status
87	O12	FH7	6-Jun-12	female	3.9	18-Dec-12	alive
88	O13	FH7	6-Jun-12	female	3.2	NA	dead
89	O14	FH7	6-Jun-12	male	3.2	NA	dead
90	O18	M1	7-Jun-12	female	3.4	18-Dec-12	alive
91	O17	M1	10-Jun-12	male	4.3	NA	dead
92	O16	M1	13-Jun-12	male	2.9	NA	dead
93	O20	FH7	15-Jun-12	female	3.2	NA	dead
94	W23	M1	18-Jun-12	male	4.1	26-Nov-12	alive
95	W4	M1	20-Jun-12	male	4.3	NA	dead
96	W2	M1	20-Jun-12	female	3.4	NA	mort sig
97	W19	FH7	20-Jun-12	male	3.2	NA	dead
98	W21	FH7	20-Jun-12	male	3.4	NA	dead
99	W15	M1	21-Jun-12	female	3.4	NA	dead
100	W3	M1	21-Jun-12	female	3.4	NA	dead
101	W40	M1	21-Jun-12	female	5.7	18-Dec-12	alive
102	W32	FH7	21-Jun-12	female	2.3	NA	dead
103	W10	FH7	21-Jun-12	female	5.7	18-Dec-12	alive
104	W11	FH7	21-Jun-12	male	4.3	18-Dec-12	alive
105	W24	M1	21-Jun-12	male	3.9	18-Dec-12	alive
106	W28	M1	22-Jun-12	male	4.1	NA	dead
107	W25	M1	23-Jun-12	female	3.4	18-Dec-12	alive

108	W1	FH7	24-Jun-12	male	3.5	18-Dec-12	alive
109	W27		24-Jun-12	male	4.1	NA	dead
110	W37	M1	25-Jun-12	female	2.5	18-Dec-12	alive
111	W38	M1	25-Jun-12	female	2.4	NA	dead
112	W22	FH7	25-Jun-12	female	2.7	NA	dead
113	W33	M1	27-Jun-12	male	3.5	18-Dec-12	alive
114	W34	M1	27-Jun-12	female	4.0	NA	dead
115	W20	M1	27-Jun-12	male	3.5	NA	dead
116	W5	FH7	27-Jun-12	female	7.0	18-Dec-12	alive
117	W7	FH7	27-Jun-12	female	3.4	NA	dead
118	W17	FH7	27-Jun-12	male	3.9	NA	dead
119	W8	FH7	27-Jun-12	male	2.6	18-Dec-12	alive
120	W41	FH7	27-Jun-12	female	2.9	NA	dead
121	W29	FH7	27-Jun-12	female	2.8	18-Dec-12	alive
122	W39	M1	28-Jun-12	male	3.5	NA	dead
123	W36	FH7	28-Jun-12	female	3.2	NA	dead
124	W26	M1	28-Jun-12	male	5.7	NA	dead
125	W35	M1	28-Jun-12	female	5.4	NA	mort sig
126	W42	M1	28-Jun-12	male	6.5	18-Dec-12	alive
127	W6	FH7	28-Jun-12	female	3.4	NA	dead
128	W31	FH7	28-Jun-12	female	3.7	26-Nov-12	alive
129	W30	M1	29-Jun-12	female	3.9	18-Dec-12	alive
130	W50	M1	30-Jun-12	male	5.4	NA	dead
131	W49	FH7	2-Jul-12	female	5.4	18-Dec-12	alive
132	W44	FH7	2-Jul-12	male	3.6	NA	dead
133	W43	FH7	2-Jul-12	male	3.0	18-Dec-12	alive
134	W48	FH7	3-Jul-12	male	4.0	NA	dead
135	W13	M1	5-Jul-12	male	3.0	18-Dec-12	alive
136	W45	FH7	5-Jul-12	female	3.6	NA	dead
137	W46	M1	8-Jul-12	male	3.8	NA	dead

### 3) DNA capture-recapture deer density and adult sex ratio estimation

DNA extraction from pellets collected during surveys in 2011 and 2012 is progressing well. Initial results indicate >50% extraction rates are being achieved (B. Sacks, personal communication). A poster presentation provisionally entitled "Abundance estimates of black-tailed deer using noninvasive sampling in a genetic capture-mark-recapture framework" will be presented at the Annual Meeting of the Western Section of the Wildlife Society February 1-3 in

Sacramento. Given the large number of samples available (>1,500) final results are not expected prior to Summer 2013.

#### **4) Mountain lions**

Since the past quarterly report, we have been able to recapture M33 and remove his collar. Despite significant efforts in the field, we have been unable to remove collars from F19 and F43. Both these collars no longer have active GPS or VHF signals meaning these individuals can no longer be tracked. Additional recapture attempts to remove the remaining 2 collars are scheduled for May.

With the fieldwork for the mountain lion project concluded, we are currently in the process of collating all information and update results on diet and feeding/kill rates previously reported.

#### **5) Budget**

Of the additional **\$303,164** amended to the original budget through June 2014 currently **\$155,315** remain – the project is on track to stay within the proposed budget. A detailed breakdown of recent expenses will be provided with the next quarterly report.