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# SUMMARY OF A USDA FOREST SERVICE POCKET GOPHER TRAPPING CONTRACT<sup>1</sup>

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**ABSTRACT:** Data for this report were gathered from three different contractors working on a service contract for the Butte Falls Ranger District of the Rogue River National Forest in southwest Oregon to control pocket gophers (*Thomomys* spp.). Other data were collected from formal open-hole inspection plots. These plots were also the basis for payment on this contract. Issues of concern on this project were: 1) Production. Could we treat enough acres of the high-risk plantations in the City of Medford Municipal Watershed; 2) Control effectiveness? Could we reach a control comparable to strychnine-treated grain; 3) Cost effectiveness? Would bid prices be low enough to treat enough acres without depleting our budget; and 4) Effect on nontarget species?

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## METHODS

Contractors were required to provide daily written reports. Each day they recorded the number of traps set, number of traps checked, number of gophers caught, and number of nontarget species caught. Macabee pocket gopher traps were used exclusively, and no baits were used to entice gophers to the traps. In addition, they gave a short narrative of the day's events. Of particular interest were the nontarget species caught. Other data were collected from the Forest Service's open-hole inspection plots. One burrow system per acre was opened and checked 24 to 48 hours later. If the burrow was still opened, it was assumed the gopher was trapped out of the system. If the burrow was plugged, it was counted as a still-occupied system. The percent of open holes vs. plugged holes was computed as the measurement of control of that particular unit.

Contractors were paid by the following schedule:

- 80-100% control = 100% of unit bid price
- 70-79% control = 90% of unit bid price
- 60-69% control = 80% of unit bid price
- 50-59% control = 70% of unit bid price
- 40-49% control = 60% of unit bid price

A unit with less than 40% control was required to be reworked (i.e., retrapped).

## RESULTS

Three different contractors participated. Contractor A was a local individual. He had 228 acres to trap. The contract required that all acres be covered twice, thus he had 456 acres to cover. He used 60 days to complete the project. This translates to 7.6 acres per day per person. It needs to be noted that this individual is an unusually hard worker and his production is by no means an indication of what an average person is capable of doing. He set 22.5 traps per acre and caught approximately 4 gophers per acre, or 1 gopher for every 5.5 traps set. He had 16 nontarget kills, or 1 for every 322 traps set. Contractor A's bid price was \$47.49 per acre. He achieved an average of 89.4% control.

Contractor B was also a local contractor. The difference between contractors A and B was that the latter was a family operation. He had three or four family members helping him,

ranging from high-school-aged children to his retired mother-in-law. They covered 250 acres twice, or a total of 500 acres. He also used all 60 days for a production rate of 8.3 acres per day. With an average crew of four, this worked out to approximately 2.1 acres per day per person. The nature of this work did not lend itself to high production. On an average they set 28.4 traps per acre and also killed approximately 4 gophers per acre, or 1 gopher for every 7.3 traps set. The slight difference in this figure from contractor A can be attributed to higher gopher activity levels or possibly a slightly less efficient work force. The point is that these two contractors were very similar in their results. Both contractors strived to get the highest percent control possible. Both worked very diligently and were able to reach a high percent of control on all their units (see Tables 1 and 2). As may be seen in the next contractor's results, the amount of effort put into the job directly affects the amount of control one can expect.

Contractor C was a large regional pest control company. It was apparent from the start that this crew was shooting for passing marks only and quality was not their motivation. They set only 17 traps per acre, almost 10 traps fewer than contractor B, and about 25% per acre fewer than contractor A. They caught fewer nontarget species, which I believe is a direct result of fewer traps per acre. They achieved about 82% control, almost 10 percentage points lower than the other two contractors. See Tables 1 and 2 for a more complete summation of data.

The combined total of nontarget mammals trapped was as follows: 21 ground squirrels (*Spermophilus* spp.), 17 chipmunks (*Eutamias* spp.), and 2 Long-tailed weasels (*Mustela frenata*). It should be noted that ground squirrels and chipmunks, which are highly visible, were numerous on various units.

## SUMMARY

For the most part, this contract was very successful. In our four areas of concern: 1) Production. All three contractors covered their assigned acres within the allotted time. Contractor C's production of approximately 3.5 acres per day per person is a realistic production rate. At this rate a 10-person crew—the usual contract crew size—could treat 1,000 acres x 2 = 2,000 acres in about 56 days. Contract time

<sup>1</sup> Editors' note: To our knowledge, this is the first large-scale pocket gopher trapping effort conducted on a USDA National Forest where the trapping was put out to contract.

Table 1. Summary of results of pocket gopher trapping (1991).<sup>a</sup>

Item	First Trapping				Second Trapping			
	Unit Size (Acres)	Trap Sets	Kills	Nontarget	Trap Sets	Kills	Nontarget	%Gopher Control
1.1	10	65	28	0	60	8	0	80
1.2	131	900	163	2	750	106	2	90
1.3	92	603	47	0	644	124	0	79
1.4	16	72	15	0	135	34	0	81
<b>TOTAL</b>	<b>249</b>	<b>1640</b>	<b>253</b>	<b>2</b>	<b>1589</b>	<b>272</b>	<b>2</b>	<b><math>\bar{x}</math>: 82.5</b>
2.1	22	190	47	0	135	33	0	83
2.2	19	100	27	0	184	38	0	79
2.3	11	76	13	0	224	48	1	91
2.4	32	210	40	0	460	71	0	72
2.5	66	1050	274	0	1121	249	1	86
2.6	77	682	151	1	958	168	2	83
2.7	20	178	28	0	129	21	0	75
<b>TOTAL</b>	<b>247</b>	<b>2486</b>	<b>580</b>	<b>1</b>	<b>3211</b>	<b>628</b>	<b>4</b>	<b><math>\bar{x}</math>: 81.3</b>
3.1	46	597	125	3	1537	222	3	85
3.2	28	286	44	1	331	33	1	93
3.3	3	18	2	0	20	2	0	100
3.4	8	26	4	0	30	5	0	88
3.5	165	1406	181	4	2846	354	3	90
<b>TOTAL</b>	<b>250</b>	<b>2333</b>	<b>356</b>	<b>8</b>	<b>4764</b>	<b>616</b>	<b>7</b>	<b><math>\bar{x}</math>: 91.2</b>
4.1	15	40	3	0	40	5	0	93
4.2	32	334	64	0	396	76	3	88
4.3	69	833	140	1	539	101	1	88
4.4	9	100	12	0	185	18	1	89
4.5	30	206	21	0	318	31	1	93
4.6	47	877	217	6	459	67	2	83
4.7	26	277	67	1	557	99	0	92
<b>TOTAL</b>	<b>228</b>	<b>2667</b>	<b>524</b>	<b>8</b>	<b>2494</b>	<b>397</b>	<b>8</b>	<b><math>\bar{x}</math>: 89.4</b>

<sup>a</sup>Contractor C worked items 1 and 2. Contractor B worked item 3. Contractor A worked item 4. The items correspond to the various forest units trapped.

for this contract was 60 days. 2) Control effectiveness. This is the most critical aspect. Contractors A and B scored 80%+ on all units. This is equal to and in many cases better than with strychnine bait. Contractor C had some units fall below 80% control. In my estimation, this was a result of marginal effort with too much emphasis on production rather than quality. 3) Cost effectiveness. Trapping costs were approximately twice as much as baiting costs would have been. This cost, however, is not prohibitive to treat some of our program. Saving these plantations from gopher depredation in areas

where toxic baits are not recommended is cost effective in the long run. 4) Effect on nontarget species. There was an insignificant impact on nontarget wildlife species.

#### ACKNOWLEDGMENTS

Dan Campbell and Jim Farley, USDA, Animal and Plant Health Inspection Service (APHIS), Olympia, Washington, provided trapping protocol and were available for technical assistance and advice.

Table 2. Summary of results expressed as the mean number of traps set and the mean pocket gophers killed per acre for the various forest units.<sup>a</sup>

Item	Sets Per Acre	Kills Per Acre
1.1	12.5	3.6
1.2	12.6	2.1
1.3	13.6	1.9
1.4	6.6	3.1
2.1	14.8	3.6
2.2	14.9	3.4
2.3	27.3	5.5
2.4	20.9	3.5
2.5	32.9	7.9
2.6	21.3	4.1
2.7	15.4	2.5
3.1	46.4	7.5
3.2	22.0	2.8
3.3	12.7	1.3
3.4	7.0	1.1
3.5	25.8	3.2
4.1	5.3	0.6
4.2	22.8	4.4
4.3	19.9	3.4
4.4	31.7	3.3
4.5	17.5	1.7
4.6	28.4	6.0
4.7	32.1	6.4

<sup>a</sup>Contractor C worked items 1 and 2. Contractor B worked item 3. Contractor A worked item 4. The items correspond to the various forest units trapped.

