Staff Report: Economic Impacts Related to Trap Check Requirements For Predator Trapping

A. Background

According to ORS 498.172, a person may not set a trap for a predatory animal, as defined in ORS 610.002, without checking the trap "on a regular basis." Rules are being considered to better define and clarify what is meant by "on a regular basis" with regard to the time allowed between trap checks for predator trapping. A 48 hour trap check period is specified in Oregon statute (ORS 498.172) for furbearers. Four possible options are being proposed to the Commission. They represent a range of time intervals for trap checks along with provisions designed to deal with particular situations.

A Trapping Best Management Practices Task Force was formed in accordance with the provisions of HB 3147 adopted by the 2001 Oregon Legislature. Although the statute does not explicitly specify the number of hours, the task force recommended a 76 hour trap check period for predator trapping. Please see Attachment One of this document for membership and findings.

The Commission requested formation of a Predator Trap Check Working Group to further address the trap check period requirement for predator trapping. Members were charged with review of existing and new information, and development of recommendations for staff regarding trap check requirements. ODFW used those recommendations to develop options for Commission consideration. Working Group meetings were held in October and November 2003. See Attachment Two of this document for committee membership.

B. Descriptive Economic Information

Significant impacts on units of local government are possible as a result of the adoption of these rules. County governments have cooperative relationships with Oregon Department of Agriculture (ODA) and the U.S. Department of Agriculture Wildlife Services (WS) to help control the adverse effects of predators. The WS definition of predator is broader than that of the statute including but not limited to bear, cougar, beaver, geese and coyotes. County governments spend money to support ODA and WS control efforts that include a wide range of activities that include predator control, protection of crops and health and human safety.

In 2002, WS worked in 23 Oregon counties and assisted more than 2,200 agricultural producers. For example, according to a letter from Judge Steven E. Grasty of the Harney County Court, Harney County provides about $30,000 annually to assist in all WS local efforts. According to David Williams, State Director of WS, Douglas County provides $150,000 annually for all types of predator control. A fiscal concern is that the predator trap check rules may increase the costs of providing WS services, including predator control. Impacted counties may then have to provide some of the additional funding that would be needed to maintain the current level of predator control, or experience adverse impacts in the local economy due to a higher level of predation on agricultural (particularly livestock) products. For some rural communities these impacts are likely to be significant.

According to information obtained from WS, the adoption of a 76 hour trap check period with no flexibility or exemptions would require an estimated reduction of 50 percent of the current WS coverage, because of the requirement to check traps more frequently throughout expansive geographical areas. Alternatively, WS estimated an increase of approximately $550,000 in state funding would be required to maintain the current service levels of predator control. In addition, WS projects an increase in damage to agricultural crops of about $3.5 million annually if the current level of coverage is not maintained.

WS also estimated more significant consequences if the trap check period were reduced to 48 hours with no flexibility or exemptions. WS estimates that an additional $2.4 million in state funding would be needed to maintain services, and an increase in the value of losses of an additional $5.5 million would occur.

Given the current economic and state budget situations, the outlook for obtaining funding increases is not good. The Wildlife Damage Advisory Council was created by HB 2049 in 2001 to assist ODFW in evaluating landowner assistant programs. That Council recommended increases in wildlife damage control programs. Yet state fiscal realities have dictated decreased funding levels with changes in the ODFW contribution from $210,000 to $191,000 and the ODA contribution from $450,000 to $419,000 per biennium.

ODFW received information on potential fiscal and economic effects from members of the public including several public groups. The following is a summary of the information.

The Oregon Farm Bureau and the Oregon Cattlemen's Association provided information on the ODA-funded 1997 Oregon Wildlife Damage Survey published by the Oregon Agricultural Statistics Service. Among the survey results relevant to this issue are estimated losses of $1.5 million in livestock (cattle, calves, sheep and lambs only) fatalities and livestock injury costs of $214,000. The average cost or reported damage was $740 per farm. Livestock losses totaled 0.4 percent of total livestock values. Predators, specifically coyotes, and other animals such as cougars and dogs inflicted the most damage on livestock. Expenses incurred for wildlife damage prevention (such as guardian animals, fencing and hazing devices) were estimated at $1.3 million for livestock protection out of the $6 million spent by Oregon farms in total for wildlife damage prevention. Both groups expressed concern about expected additional economic and fiscal impacts if the predator trap check period adopted by rule were too short, and did not provide flexibility (e.g., for weather conditions) or exemptions (for WS and other damage control agents).

Also provided by WS was a summary of a 1999 livestock wildlife damage survey of 24 Oregon counties that had a contract with WS in 1998. The following levels of damage were reported under the existing trap check regulations with a definition of predators that includes bear, cougar and coyotes. For 432 cattle operations surveyed, the value of losses was an estimated $383,481 from 1,306 cattle lost to predators out of 211,044 cattle. For 310 surveyed sheep operations, the value of predation losses was estimated to be $287,005 from 5,752 head destroyed out of 136,257. The National Agricultural Statistics Service (NASS) released a study in 2000 that

concentrated on losses of sheep and goats by state. Losses to predators in Oregon were estimated at 3,300 head of sheep and 7,500 head of lambs. The value of losses was calculated at $264,000 for sheep and $300,00 for lambs.

The Oregon Forest Industries Council (OFIC) also provided information on predation damage to seedlings caused mainly by Mountain Beaver. OFIC estimates that a change to a 48 hour trap check requirement for "instant-kill" devices compared to the current situation would increase treatment costs per 32,000 acres from $1.276 million to $3.84 million. Resource losses (from destruction of newly established seedlings) are predicted to increase from $1.5 million to $2.5 million under the 48 hour trap check requirement.

OFIC projects somewhat smaller impacts from 7-day checks of the "instant kill" devices used to prevent damage to seedlings. Treatment costs are estimated to increase from $1.276 million currently to $2.56 million. The value of resource losses is expected to increase from $1.5 million to $2.0 million. Impacts for a 21 day trap check requirement further reduce additional costs to approximately $100,000 with a slight impact on resource costs. A 30 day trap check requirement would further reduce impacts to levels considered to be slight. However, there are additional concerns related to the need for exceptions for situations related to severe weather, poor road conditions and fire that may affect access to traps.

The information supplied by the landowner organizations suggests that the shorter the time interval for the trap check requirement, the more likely that requirement would result in significant adverse economic effect on business, particularly small business. To determine how significant the adverse effect on business would be, it is necessary to know what the current "baseline" (or customary practice) for checking traps is now among farmers, ranchers, trappers and forest landowners. The data available to ODFW do not precisely identify such a baseline. ODFW can only assume that the options proposing a shorter trap check interval would be more likely to increase costs for business.

Similarly, it appears that one way to reduce any economic impact of a trap check rule on business (and small business in particular) would be to select a longer trap check interval. Other potential ways to reduce any economic impact would be to establish separate trap check intervals for small business, or to provide "safety valve" provisions that extended the trap check interval when exigent circumstances arose. The four options include elements of these.

Additional information was obtained from California and Idaho. In 1990 California enacted legislation requiring a 24 hour trap check internal. The impact of moving from checking twice a week to a daily check was investigated by WS (Coolahan 1996). Prior to 1990, 4,009 coyotes or 51% of the total were taken by leghold traps. During the five years following 1990, 1,923 were taken or 30% of the total per year.

The magnitude of decreased trap service nights and cooperators services were also investigated. One specialist could provide 42 trap service nights to six cooperators per week before the 1990 legislation. These figures decrease to 12 trap service nights to three cooperators after 1990. However, according to the study, the number of rural cooperators serviced and the number of

staff days spent on each cooperator was not significantly affected. Coolahan (1996) explains that decreased trap service nights were compensated for with other methods such as calling/shooting and greater assistance from landowners.

Idaho provided data on the costs associated with 24 hour checks in cases where threatened and endangered species may be caught. Although a small proportion of their total control efforts, estimated at 2 to 3 percent, altered operations cost over $20,000 in FY 2002.

C. Individual Options Considered

The following review analyzed each of the options individually with the information provided by Wildlife Services and the 1997 and 1999 agricultural damage surveys. A conceptual model was developed (Section D) to provide a framework for an analysis of the options for restraining traps. Since information related to likely outcomes is extremely limited, logical assumptions and WS estimates were used to provide insights but not precise estimates. In the case of kill traps, estimates of potential impacts were provided by Oregon Forest Industry Council.

(1) Option 1: 76 hrs-restraining traps / 30 days-killing traps

WS estimated of a 50% reduction in predator control effort or the need for an additional $550,000 in funding to maintain current predatory control efforts under this option. Assuming that current levels of effort have resulted in an efficient level of predator control, and a constant cost of control effort, it is estimated that the loss in benefits to ranchers served by WS will be approximately $425,000 annually. Although predicated on several assumptions, this estimate of additional losses is within the range that might be expected given losses calculated in 1997 of $1.528 million. WS estimated a larger impact of $3.5 million that includes impacts on other activities related to crop damage and health and human safety. This estimate differs from the ODFW estimate because it considers the entire range of WS activities that may be curtailed.

For killing traps used on mountain beaver, the Oregon Forest Industries Council stated that a 30 day trap check interval would not require modification of trapping operations with no net change in costs as compared to present operations. However, concerns were raised for possible exceptions such as the impact of severe weather, road conditions and fire that may affect access to traps.

(2) Option 2: 76 hours with 7 day exception-restraining traps / 30 days-killing traps

Although this option also defines the restraining trap check interval at 76 hours, it also provides flexibility for WS personnel and private landowners or their agents. The exemption only applies to cases in which damage has taken place and authorization for use of restraining traps has been provided by the landowner. Since current operations involve changing priorities, the trap check interval under this option would result in the least disruption to landowners and their agents. Often the interval between trap checks is dictated by circumstances associated with the specific case in question.

Current WS operations often already fall within the 76 hour interval, and checks are currently made at a minimum of once a week. Since the exemption covers most predator control activities, it is likely that this option will result in relatively small changes to WS operations, and small economic impacts on landowners. The requirements associated with the exemption are not expected to result in significant economic impacts on landowners or their agents.

For killing traps used on mountain beaver, the Oregon Forest Industries Council stated that a 30 day trap check interval would not require modification of trapping operations with no net change in costs as compared to present operations. However, concerns were raised for possible exceptions such as the impact of severe weather, road conditions and fire that may affect access to traps.

(3) Option 3: 48 hrs restraining traps / 48 hours killing traps

This option is the most restrictive and results in the greatest impact. WS estimated that this option would result in a reduction of 80% of current predator control effort. ODFW estimated a loss in benefits to ranchers served by WS of approximately $850,000 annually. The same assumptions as those considered for Option 1 apply to this case. WS estimated a larger impact of $5.5 million that includes impacts on other activities related to crop damage and health and human safety. These additional costs are associated with the potential disruption of other duties because of the legal priority set by the trap check interval requirements.

For killing traps used on mountain beaver, the potential additional costs and resource losses are more straightforward because of the specific eradication method used and target species. According to the Oregon Forest Industries Council, costs per 32,000 acres would increase from $1.276 to $3.84 million and resource losses would increase from $1.5 to $2.5 million. Resource losses increase due to the modification of operations that would be required under the more stringent option.

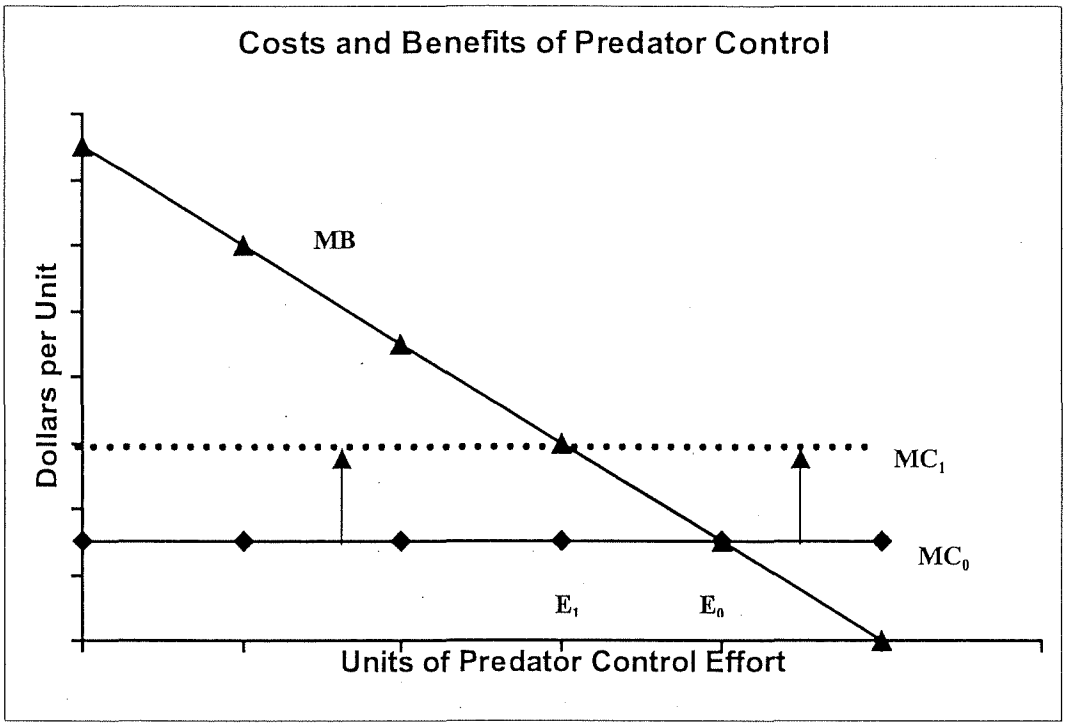
(4) Option 4: 5 days restraining traps / 30 days killing traps

This option affords the longest restraining trap check interval at 5 days (120 hours), but less flexibility when compared to the seven day exemption for land owners and their agents of Option 2. Often the interval between trap checks is dictated by circumstances associated with the specific case in question. Current WS operations often already fall within the 76 hour interval, and checks are currently made at a minimum of once a week. This option will result in smaller impacts than Options 1 and 3, but potentially greater impacts than Option 2 for landowners and their agents.

For killing traps used on mountain beaver, the Oregon Forest Industries Council stated that a 30 day trap check interval would not require modification of trapping operations with no net change in costs as compared to present operations. However, concerns were raised for possible exceptions such as the impact of severe weather, road conditions and fire that may affect access to traps.

D. Conceptual Analysis

The following graphic provides a conceptual representation of the costs and benefits of predator control. The most important conceptual feature of this illustration is the consideration of marginal costs and benefits—the cost or benefit of an additional unit of predator control.



The downward sloping curve (MB) represents the marginal benefits of predator control. The curve slopes downward because it is assumed that the first units of predator control effort will provide the greatest benefits. It is likely that the first control efforts will deal with the most problematic concerns of the public and provide the greatest marginal benefit. As greater effort is expended the marginal benefit of more effort decreases until the most problematic cases have been attended to.

Marginal costs (MC_0) are assumed to be constant – additional units of predator control effort can be added at the same cost. For example, additional personnel, equipment and transport would be needed to increase levels of predator control. It is likely that the costs of these items can be added at fairly constant wage and price levels. It is also assumed that cost is not the primary consideration when deciding whom to assist in the field, but that need dictates the level of assistance provided.

This graphic also assumes that the current level of predator control activity (E_o) is economically efficient. In other words, the cost of another unit of predator control is equal to the benefit to ranchers (benefits defined as less damage to livestock) associated with that unit of control. Note that too much control is not efficient because the cost of another unit of control is greater than the benefit associated with it. On the other hand, too little control is inefficient because greater predator control effort is less costly than the benefits arising from it.

A change in predator trap check intervals can be represented as an increase in marginal costs or an upward shift in the marginal cost curve (MC_1) in the preceding graph. Costs per unit of control increase because of greater staff and transportation costs. The result is a lower level of predator control (E_1) and a loss in benefits of predator control to ranchers. The change in total benefits to ranchers can be calculated by determining the change in area under the marginal benefit curve up to the new level of predator control.

E. Additional Considerations

Several elements of the problem should be considered when considering the outcomes for the options provided above. First, it is assumed that the starting point is "efficient" or, in other words, the appropriate level of funding and effort are currently being used for predator control. Yet the Wildlife Damage Advisory Council recommended increases in current funding levels. If current levels of predator control are too low, then the estimates of lost benefits to ranchers are underestimated for Options 1 and 3.

Secondly, predator control effort in addition to that provided by WS is also undertaken by private individuals. The likely level of these efforts is significant given the $1.3 million spent by private individuals for a broad range of predator control cited in the 1997 Oregon Wildlife Damage Survey. According to WS, private efforts to control wildlife are significant and in some areas are at least equal to the efforts of WS. In addition, there are private efforts that would be affected in Oregon counties where WS is not currently contracted. The additional burdens that may be placed on private efforts are not captured in the preceding analysis.

The analysis is completely dependent on the best estimates provided by WS. The WS program utilizes a variety of methods to control wildlife, both lethal and non-lethal, and for a variety of concerns that include predator damages, crop damages and heath and human safety. It is extremely difficult to separate activities, and to isolate the costs associated with the use of a single method such as restraining traps. Yet, this method is an important tool for WS activities as indicated by the take of 42 percent of problem coyotes by this method.

Since restraining traps are the preferred method of predator control in many instances, greater regulation of their use will result in costs to producers. Substitute methods may be used to help contain the additional costs associated with livestock losses. Yet, in many cases restraining traps will remain the most efficient method available. For example, the use of other lethal methods such as aerial shooting and the use of M-44s depend on circumstances such as topography and potential impacts on non-target animals such as household pets. The degree to which substitution is possible is unknown, although the use of substitute methods will decrease the levels of losses

calculated in Options 1 and 3. This possibility is illustrated by the experiences in California where substitute methods compensated for decreases in trap service nights.

Finally, the analysis is based on likely losses to ranchers, but does not attempt to characterize changes in welfare to society as a whole. There are no available estimates of the benefits associated with social values that would favor more restrictive requirements for checking traps.

F. References

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