



# Memorandum

## Oregon Department of Fish and Wildlife

**Date:** September 16, 2015  
**To:** Commissioners  
**From:** Bruce Eddy, East Region Manager  
**Subject:** Management of Off-Highway Vehicle Use of Public Land

Recently Commissioner Akenson asked for an update on the effects of off-highway vehicle (OHV) use on elk. The following provides a summary of these issues for the Department.

### Background

Off-highway vehicles (OHVs) are a popular choice for outdoor recreation and their use has increased rapidly in all western states including Oregon. The explosive growth in OHV ownership, popularity, and use, and advances in motorized technology (i.e. power, control, etc.) have increased resource impacts to and social conflicts on public lands.

OHVs are designed for cross-country travel and include all-terrain vehicles (ATVs, side-by-sides, etc.), off-highway motorcycles (dirt and trail bikes), and off-road vehicles (4x4 trucks, jeeps, rock crawlers, etc.). Thousands of miles of roads and trails accessible to OHVs exist on public lands. Backcountry roads and trails provide a wide range of recreational opportunities for OHV users, and are a fun and exciting way to experience Oregon's natural environment.

For the past four to five decades, all forms of motorized access on public lands have increased. Access expanded primarily through the creation of new roads to facilitate public land timber harvest. While many harvest plans intended that these roads be closed or decommissioned, implementation and enforcement of these closures is difficult and use of many of these roads has continued. In some cases, dedicated OHV parks have been developed on county, National Forest and Bureau of Land Management lands.

While the Department recognizes the popularity of OHVs, their legitimate use of public land and the benefits they provide hunters, anglers and other outdoor users, the

potential for indiscriminant or poorly managed use to affect fish, wildlife and their habitats concern us. The ecological and physical impacts of OHV use have been well-documented (Davenport and Davenport 2006, Gaines et al. 2003, Gratson and Whitman 2000, Havlick 2002, Holsman 2005, Joslin and Youmans 1999, Knight and Gutzwiller 1995, Naylor 2006, Ouren et al. 2007, Rowland et al. 2000, Rowland et al. 2005, Trombulak and Frissell 2000, Wertz et al. 2001, Wisdom et al. 2004, Wisdom 2007). They include direct impacts associated with increased erosion and sedimentation of salmon, steelhead, redband trout and bull trout streams; destruction of riparian areas, stream banks, wetlands and wet meadows; and, physical disturbance of wildlife. Indirect impacts are often significant as well and mainly associated with wildlife avoidance of habitats near roads and areas used by OHVs. Movement of big game from public lands frequented by OHVs to adjacent private lands with less disturbance increases damage to agricultural crops and makes these animals unavailable to the public land hunter.

For the Department the issue isn't whether there will be OHV use of public land: there will be. The issue is how to manage and configure use to provide reasonable access while preserving or enhancing the productivity of fish and wildlife habitat on public land.

OHV impacts to aquatic species and water quality are often addressed through federal Endangered Species Act or Clear Water Act regulations. Addressing impacts to wildlife and specifically big game is often more difficult unless addressed in a forest plan or NEPA project approval. Management of Rocky Mountain elk habitat and distribution on National Forest lands is a good example of the challenges faced by land managers and the Department.

#### OHV Access Management on Public Land

Some public lands like the Umatilla National Forest have Travel Management Plans (TMPs) which designate specific roads, trails and areas open to motorized use. Other public lands, such as the Wallowa-Whitman and Malheur National Forests, have attempted to develop TMPs but after several years of work, the process has been put on hold due to the extreme controversy generated by the effort. Instead, OHV use is often managed on a project specific basis.

Motorized access management is not a new issue. In the late 1970's the Department and public land managers began to implement Cooperative Travel Management Areas (TMAs). These areas were largely created due to high open road density in some Wildlife Management Units and the associated lack of bull Rocky Mountain elk escapement during eastern Oregon rifle hunting seasons. In general, TMAs closed roads during winter and spring to provide deer and elk areas of limited disturbance during these critical times. After nearly 40 years, the areas that have had adequate enforcement and public information have helped the Department meet elk population

objectives, reduced private land conflicts, and increased public land hunting opportunities in many places.

#### Motorized Access Impacts on Elk

Several studies document the impacts of motorized vehicle use on big game habitat and distribution (Naylor 2006, Rowland et al. 2000, Rowland et al. 2005, Wisdom et al. 2004, and Wisdom 2007). In these studies, elk use of habitat near open roads was consistently lower than expected compared to the same habitat near roads closed to motorized vehicles or away from roads. This avoidance of open roads increases as road density and motorized traffic volume increases.

Movement of elk away from open roads can have direct physiological effects on individual elk. Elk subjected to human disturbance tend to have increased heart rate during disturbances (Ward and Cupal 1979). Furthermore, stress levels are higher for elk utilizing areas with increased road density and human activities (Millspaugh et al. 2001, Creel et al. 2002). Studies have indicated that elk subjected to repeated human disturbance had a reduced number of cows with calves at heel on summer range (Phillips and Aildredge 2000 and Shively et al. 2005). Periods of prolonged stress attributed to open roads could result in reduced pregnancy and/or survival rates that could ultimately contribute to population declines.

The winter period is an especially stressful time of year for big game. Human disturbances, such as OHV use in big game winter range, can result in animals using fat reserves needed for over-winter survival.

Increased hunter demand, numbers of roads, and hunter access through use of OHVs increase deer and elk vulnerability. Survival rates of deer and elk decline as road density increases because increased access allows more legal and illegal harvest. As a result, hunter opportunity must be reduced (i.e. tags) to maintain bull/buck ratios at management objective levels specified in Oregon's big game management plans (ODFW 2003a, ODFW 2003b, ODFW 2008).

#### Distribution of Elk on Private Land

One of the Department's greatest elk management concerns is the distribution of elk on private versus public land. Unregulated vehicle traffic on public land can cause big game to seek security on private lands (Wertz et al. 2001). In many areas, elk densities are higher on private land than adjacent public lands. This distribution disparity becomes even more apparent during high use periods on public land. Elk can consume forage that a farmer or rancher depends on to feed his cattle, affecting the ranchers bottom-line. As long as elk stay on private land they are unavailable to the general hunter and reduce the opportunity for public land hunters.

High road densities and increasing motorized use of those roads is a factor contributing to this distribution issue. In an effort to address this situation, in the 1990's, the Department and Wallowa-Whitman National Forest, through the Blue Mountain Elk Initiative, initiated the Dry Beaver-Ladd Project in Union County. It successfully demonstrated that Rocky Mountain elk can be encouraged to stay on public land by restricting motorized access and implementing forage improvements. Through this strategy managers have been able to reduce elk problems on private land and improve public land hunting opportunities.

### Department Approach to Motorized Access Management

While existing TMAs have been successful, they only represent a small portion of public lands and their effectiveness has become limited over the last 40 years. Most TMAs were meant to address high motorized use of public roads during rifle elk seasons. The number of forest users has increased substantially since the TMAs were originally adopted as OHV recreation on public lands became more popular and technologic advances allow motorized vehicles to travel into new areas. Despite these societal changes, many TMA road closure periods have not changed since originally adopted and only cover rifle hunting seasons.

To maintain elk populations, quality hunting opportunity on public land and decrease impacts of elk on private land, the Department works with public land managers to encourage reasonable management of motorized access to public land. This can take the form of landscape level Travel Management Plans, establishing restricted access areas to protect sensitive habitats, identifying big game security areas where disturbance is limited to encourage big game use, or project specific measures to accommodate forest management and use while implementing measures to limit OHV impacts. We often recommend that open road/route densities be reduced to 2.5 miles of open road per square mile or lower within big game summer range and 1.0 miles of open road per square mile within big game winter range.

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