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Submitted by
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Debunking Common Myths About Off-Road Vehicle Recreation

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ABOUT THE AGENCIES

1. The "multiple use mandate" requires national forests and BLM areas to allow off-road vehicles.

- Statement – The multiple use mandates does NOT require that all uses be allowed everywhere. Agencies have the authority and the responsibility to conserve our resources even if this means limiting destructive uses.
- Solution – There are some places off-road vehicles just don't belong – in roadless areas or critical habitat or near water, among other places.
- Explanation – Even with a multiple use mandate, agencies can prioritize conservation over motorized recreation. There are some forests, like White Mountain National Forest in New Hampshire that severely restrict off-road vehicle use for this very reason.¹ As another example, the Hoosier National Forest² in Indiana does not allow off-road vehicle recreation at all within its boundaries.
- Explanation – Off-road vehicles create single-use areas—the abusive damage and noise they create drives wildlife and walk-in visitors out of the area. A common misinterpretation of the multiple use mandate would require that we set aside some public lands for extreme recreational uses. If a group of people requested areas on public lands be reserved for "recreational bulldozing," would we allow it? I don't think any land manager would condone such blatant abuse of public lands.

2. If land managers can't afford to enforce closures, everything should be left open.

- Statement – This line of reasoning suggests that we should legalize all drugs due to a lack of ability to stop their use. Everyone is expected to follow traffic laws on public streets—why should we allow lawlessness on our public lands?
- Solution – If protection of our resources and enforcement of closures can't be accomplished on small budgets, the use of ORVs should be completely restricted and/or limited to the number of routes that can be effectively enforced with available resources.

3. It's just a few bad apples causing problems—we just need education and peer enforcement.

- Statement – Three recent studies contradict the myth that "it's just a few bad apples causing the problems." They reveal that off-road vehicle recreationists prefer to ride off of legal routes in order to travel cross-country.
- Solution – The agencies need to conduct smart planning, enact tough rules, and take responsibility for full enforcement to protect public lands from off-road vehicle abuse. It's been proven that education alone is not sufficient.

- Explanation³ –
 - Colorado Coalition for Responsible OHV Riding, 2001 – as many as two-thirds of adult users go off the trail occasionally, even though they know it's not "correct" off-road vehicle behavior.
 - Utah Division of Parks & Recreation, 2000 – 49-50 percent of dirt bikers and ATV riders prefer to ride "off established trails" or did so on their last outing.
 - Montana state Fish, Wildlife & Parks, 2006 – 23 percent always or sometimes ride cross-country even though off-route riding is against the rules. Over 58% have traveled off of legal routes to retrieve downed game.
 - The Colorado study concludes, "In a 'nutshell,' it is our premise that further information and education per se – will not result in substantial behavioral change" (emphasis in original). "Education" is the solution pushed by off-roaders as the way to solve the "bad apples" problem.
 - In December 2007, the conservative editorial board of the Deseret Morning News in Utah forcefully urged land managers to apply the "age-old rule of society" to "ORV louts": "If you can't behave responsibly, your freedom needs to be limited."⁴

ABOUT THE CONSERVATION COMMUNITY

1. Anti-access environmentalists are trying to lock the public out of public lands.

- Statement – The conservation community supports public access to all public lands. We oppose *motorized access throughout* the wild parts of our public lands. Such *motorized excess* would ruin the very lands we access to enjoy.
- Solution – We support motorized access on maintained roads and to walk-in trailheads. If we allow motors everywhere, there won't be wildlife, natural quiet, or clean water anywhere.
- Explanation – As of June 2007, national forests allow ATVs, dirt bikes, and jeeps on almost 279,000 miles of roads and over 34,000 miles of primitive routes.⁵ In addition, they can ride wherever they want throughout more than 64 million acres.⁶ Off-roaders have cut an incalculable number of additional, unauthorized routes in that they want legalized. When is enough, enough?

2. ORV users will share the trails, why won't hikers?

- Statement – The issue is compatibility and ability to share, not willingness to share. When off-road vehicles trespass on a hiking or horse trail or a walk-in hunting area, the vast majority of hikers, horsemen, and wildlife leave the area and don't come back.
- Solution – Off-road vehicles just do not belong in the few places left where wildlife thrive, quiet prevails, and clean water flows, including, but not limited to:
 - roadless areas
 - critical habitat for threatened and endangered species
 - near water and wetlands, as clean water is vital to plants, animals, and humans alike (e.g., the drinking water for 60 million Americans in 3,400 communities originates on National Forests).

- Solution – Off-road vehicles should be limited to designated routes only in areas where:
 - the land can withstand the high-impact use
 - off-road vehicles do not create conflicts with wildlife and other visitors
 - the agency is fully able to monitor the activity, enforce the rules and maintain the routes.
- Explanation – An Idaho land manager recently said that off-road vehicles and muscle-powered recreation are incompatible by nature:

"Both user types can use a motorized trail," said Doug Gober, ranger of the North Fork District of the [Clearwater National Forest's travel planning] strategy. "Really, to a motorized user, a little bit of nonmotorized traffic is not a real impact. But the reverse is not really true. They are not really very compatible uses."⁷

- Explanation – User conflict often can be "asymmetrical" in that one user group is generally more impacted by conflict than another. For instance, cross-country skiers may be bothered by snowmobile riders but snowmobile riders are not generally bothered by cross-country skiers. This "asymmetrical conflict" is most likely to occur between motorized and non-motorized recreation activities, where ATV riding in particular is considered incompatible with every other land-based activity but snowmobiling.⁸

3. Environmentalists are moneyed elitists.

- Statement – In actuality, off-roading is a very expensive hobby:
 - A rugged set of boots, backpack, and lightweight camping gear costs around \$900 – no insurance required.
 - An ATV, trailer, helmet, and riding gear will set you back \$5-10,000, plus trailer, insurance, fuel, and maintenance.
- Statement – Off-roading advocacy is driven by elitist attitudes:
 - It is elitist to demand access to every road, trail, and unauthorized, user-created route.
 - Elitist off-roaders behave as if they're above everyone and everything else – dismissing the law, disrespecting other visitors, and disregarding wildlife habitat and clean water.
- Solution – Get real: the oldest, simplest, and most common form of appreciating nature and conserving resources—getting out on your own two feet—is not just for the elite and never has been.
- Explanation – In Colorado, roughly 70% of public lands are open to ORVs, yet ORV users represent only 10 percent of the recreating public in that state. That's a land grab made by elitist off-roaders that agency land managers give in to far too often.

ABOUT OFF-ROADING

1. Off-road vehicle use is the fastest growing form of recreation and is the most popular way folks see our forests and BLM areas.

- Statement [on participation & sales trends] – Actually, the latest research reveals that the fastest growing outdoor activities are non-motorized.⁹ Meanwhile, the participation rate for off-road vehicle recreation is on the decline and ATV sales have dropped.¹⁰

- Statement [on participation rates] – Hikers alone outnumber ATV and dirt bike riders at a ratio of almost ten¹¹ to one¹²; non-motorized winter recreationists (skiers, snowshoers, etc) outnumber snowmobilers ten¹³ to one¹⁴. Overall, 225 million Americans participate in non-motorized outdoor recreation.¹⁵
- Statement [on participation rates] – Nationally, between three percent¹⁶ and seven percent¹⁷ of visitors to National Forests came to ride dirt bikes, ATVs, and other wheeled off-road vehicles. Only ten percent visit BLM lands to ride off-road vehicles.¹⁸ Hiking and walking, on the other hand, are the top activities enjoyed on National Forests accounting for 16 percent of visits.
- Statement [on demand vs. impacts] – Instead of allowing “demand” to dictate what uses we allow, the impact of a particular use of the land should limit if and where it’s allowed. Off-road vehicle riding remains a minority use of public lands. If we allocated land use based on demand, we should limit ATVs, dirt bikes, and 4X4s to just three percent of the acres on public lands. Off-roading has disproportionately damaging impacts to wildlife habitat, clean water, and natural quiet when compared to all other forms of outdoor recreation.
- Solution – We need to restore balance to our public lands by limiting impacts and responding to public interest in non-motorized recreation. We need to conserve those places that serve wildlife, clean water and quiet recreation, which are the same places off-road vehicles just do not belong--
 - roadless areas
 - critical habitat for threatened and endangered species
 - near water and wetlands, as clean water is vital to plants, animals, and humans alike (e.g., the drinking water for 60 million Americans in 3,400 communities originates on National Forests).
- Explanation [on outdoor recreation participation and sales trends] – See Outdoor Industry Foundation study The Active Outdoor Recreation Economy Report. 2006.
 - National statistics --
<http://www.outdoorindustryfoundation.org/resources.research.recreation.html>.
 - State-by-state statistics --
<http://www.outdoorindustryfoundation.org/resources.research.recreation.state.html>.
- Explanation [on disproportionate impacts] – Initial research by the Forest Service’s Pacific Northwest Research Station and others suggests that off-roaders impact wildlife three to four times more than non-motorized recreationists do.
 - Elk move when ATVs pass within 2,000 yards but tolerate hikers within 500 yards, horseback riders within 800 yards and bicyclists within 1,300 yards.¹⁹
 - Further the study found that elk walked away from hikers but ran from ATVs.
 - Elk move more than twice as far from ATV disturbance than pedestrians.²⁰
 - It takes three groups of horseback riders or hikers to every group of ATV riders to have the same impact on a resource.²¹
 - Wisdom et al found that 70% of the 91 species they studied were negatively affected by roads and off-road vehicles.
- Note: The Forest Service incorrectly says that 46 million Americans ride off-road vehicles (H. Ken Cordell et al. 2005.). This is misleading as the Forest Service calls everyone “OHV riders” who answered “yes” to the question, “Did you drive off a paved road in the past year?”²² Drivers accessing hiking or ski trails, fishing holes, hunting areas, etc., often drive on dirt or gravel roads that are maintained for passenger vehicle transportation.

2. There aren't enough places for off-roaders to ride.

- Statement – This is just not true. Between three percent²³ and seven percent²⁴ of visits to national forests were to ride off-road vehicles but 53% of the land base is open to off-road vehicles.²⁵ That's imbalance and excess, not balanced access. And this imbalance in favor of off-road vehicles is a detriment to wildlife, clean water, and quiet recreationists. Fortunately, travel planning processes on national forests should significantly reduce the acreage of land open to cross-country travel by the time completion in late 2009.
- Explanation – The Forest Service manages 193 million acres. 103 million acres are open to motorized use, 53% of land base. Of these 103 million, unlimited cross-country motorized travel is allowed on 64 million acres forests. This means that cross country travel is allowed on 33% of the total land base and 53% of acres open to off-road vehicles generally.

3. If you give off-roaders more places to ride, they won't travel cross-country and ride off of designated routes.

- Statement – This approach is predicted to fail based on Colorado's experience. Most National Forests in that state have limited off-road vehicles to designated routes for over a decade. Nonetheless, "... knowing that going off trail is not 'correct' OHV behavior, as many as two-thirds of adult OHV users go off the trail occasionally," according to a 2001 study commissioned by the Colorado Coalition for Responsible OHV Riding.²⁶
- Solution – We must restore balance and respect for the law by protecting special places from off-road vehicles, establishing tough rules, and fully enforcing those rules with meaningful penalties.

4. Off-road vehicles need more space to roam than hikers in order to realize the recreation experience they desire.

- Statement – Wildlife, clean water, and traditional recreationists should not be compromised just because a special interest group wants more than their share.
- Statement – Because off-road vehicles often travel as far as 50-100 miles in a single outing, the machines cause more damage, stress more wildlife, and create more user conflicts.
- Explanation – For example, initial research by the Forest Service's Pacific Northwest Research Station and others suggests that off-roaders impact wildlife three to four times more than non-motorized recreationists do.
 - Elk move when ATVs pass within 2,000 yards but tolerate hikers within 500 yards, horseback riders within 800 yards and bicyclists within 1,300 yards.²⁷
 - Further the study found that elk walked away from hikers but ran from ATVs.
 - Elk move more than twice as far from ATV disturbance than pedestrians, fleeing more than 2,000 yards from ATV disturbance.²⁸
 - It takes three groups of horseback riders or hikers to every group of ATV riders to have the same impact on a resource.²⁹
 - Wisdom et al found that 70% of the 91 species they studied were negatively affected by roads and off-road vehicles.

5. We need to keep off-road vehicle routes open so that the elderly, infirm, and disabled are able to access our public lands.

- Statement – There are thousands of roads that provide adequate motorized access to the backcountry. Carving up the remaining roadless country will degrade it for generations to come.
- Statement – Most of the "elders" we know want their great grandchildren to be able to experience the kind of wildness that they knew, and are loathe to tear it up selfishly for their own convenience. Many seniors are avid and active hikers and non-motorized outdoor enthusiasts.

6. The public land agencies don't have enough funding and off-roaders volunteer time doing trail work and even pay fees in some places—they deserve access to their public lands.

- Statement – The reason off-roaders spend so much time doing trail work is because their high-impact sport causes so much damage.
- Statement – Every taxpayer has a right to access our public lands and not be driven away by machines. If we allow motors everywhere, there won't be wildlife, natural quiet or clean water anywhere. There are some places off-road vehicles just don't belong – in roadless areas or critical habitat or near water, among other places.
- Solution – Rather than throwing money at the problem or counting on volunteer help that may not be accountable, the agency should avoid the damage in the first place by limiting off-road vehicles to discrete, durable areas that the agency can afford to monitor, maintain and enforce.

7. ORV use promotes healthy lifestyles.

- Statement – Sitting on a machine, unable to hear one another, spewing and inhaling pollution that is contributing to global warming, and dirtying our air and water is not healthy for off-roaders, wildlife, people who value the area or everyone living downstream.
- Statement – In a country that is in the midst of an obesity epidemic, land managers should be promoting physical exercise that results in real physical benefits to participants, not one more activity that encourages people to stay out of shape.
- Solution – Outdoor activities like hiking raise the heart rate from aerobic exercise (and not driving stress) and strengthen muscle and bones. Such low-impact activities enable one to experience and appreciate Nature (and not drive over and destroy it). By eliminating the distractions of modern life, they give families and friends time to talk and share. The connection with Nature increases their sense of personal responsibility for the environment (rather than increasing their focus on individualistic activities).

8. The majority of ORV users shouldn't be punished for the misdeeds of a few bad apples.

- Statement – Off-roaders agree that peer-pressure can be an effective strategy for making violators behave. Confronting your peers is challenging. However, the threat of collective consequences for individual violations raises the stakes for everyone, instilling a sense of

self-interest that would motivate off-roaders to hold one another accountable. And most importantly, it's necessary to protect wildlife habitat, clean water, and other visitors since a single ATV can do so much damage to sensitive areas.

- Explanation – A collective consequence would be, for example, closing an off-road vehicle route once a certain threshold of illegal off-route driving happens off of that specific route. In other words, if some ORV users continue to illegally drive off-route, then all ORV recreationists will lose access to that specific route.
- Solution –
 - Protect special places like roadless areas, critical habitat, and riparian areas
 - Enact tough rules that carry both individual and collective consequences if violated
 - Fully and consistently enforce the rules, revoking riding privileges in those areas adjacent to protected places affected by motorized trespass or damage.
- Explanation –
 - Studies and public opinion suggest that full enforcement and meaningful penalties are essential to discouraging off-road vehicle abuse. Nonetheless, "education" is the solution that off-roaders push as the way to address violations.
 - However, a Colorado study on unlawful off-road vehicle behavior and attitudes concluded that "information and education per se – will not result in substantial behavioral change" (emphasis in original). These in the face of finding that as many as two-thirds of adult users go off the trail occasionally, even though they know it's not "correct" off-road vehicle behavior.³⁰
 - In December, the conservative editorial board of the Deseret Morning News in Utah dismissed this myth and forcefully urged land managers to apply the "age-old rule of society" to "ORV louts": "If you can't behave responsibly, your freedom needs to be limited."³¹

9. Off-roading provides a positive contribution to the economy

- Statement – Off-roading eventually kills the goose that laid the golden egg. Communities can only market "adventure," "wildness," and "nature" until it's been degraded or destroyed by off-road vehicle abuse.
- Statement – Furthermore, claims of economic contributions ignore the taxpayer dollars spent in response to off-road vehicle abuse—costs for law enforcement, road maintenance, environmental restoration of damaged areas, and emergency medical responses to deadly off-road vehicle accidents.
- Statement – Non-motorized outdoor recreation activities, on the other hand, provide sustainable growth in rural communities; contribute \$730 billion annually to the U.S. economy, and support nearly 6.5 million U.S. jobs.³²
- Statement – Individual spending levels are unimportant given the near ten³³ to one³⁴ ratio of hikers to ATV riders and the ten³⁵ to one³⁶ ratio of non-motorized winter recreationists to snowmobilers. Nonetheless, the Forest Service 2005 spending research in the National Visitor Use Monitoring report for 2003-05 reveals that individuals visiting for motorized or non-motorized activities do not spend significantly different amounts of money.³⁷
- Explanation – The strongest proponents of off-road vehicles are, of course, those who benefit economically from this activity. They insist that off-roading can be an economic engine for rural economies. They neglect the fact that it may boost tourism in the short-

term but will degrade the environment enough to not enable businesses to credibly market "adventure" and "wildness" in the not-so-distant future.

- Explanation – Public Employees for Environmental Responsibility found in July 2007 that off-roading is now the predominant demand on BLM law enforcement time. Nationally, there were more than 5,400 law enforcement incidents involving off-road vehicles on BLM lands compared to roughly 900 incidents involving drug enforcement – the next highest category, during 2005.
- Explanation – According to a 2006 study by the Outdoor Industry Foundation, non-motorized outdoor recreation:
 - Contributes \$730 billion annually to the U.S. economy
 - Supports nearly 6.5 million jobs across the U.S.
 - Generates \$49 billion in annual national tax revenue
 - Produces \$289 billion annually in retail sales and services across the U.S.
 - \$46 billion in active outdoor recreation gear sales and services
 - \$243 billion in active outdoor recreation trip-related expenditures
 - Provides sustainable growth in rural communities
 - Find state-by-state statistics on the economic impact of non-motorized outdoor recreation in the Outdoor Industry Foundation's report, "The Active Outdoor Recreation Economy Report. 2006" at <http://www.outdoorindustryfoundation.org/resources.research.recreation.state.html>.

10. We're all conservationists; we all care about the environment.

- Statement – Great, then we'll surely agree to off-road vehicle routes and areas that minimize damage to the land, water and wildlife and that short-circuit conflicts and dangerous encounters between off-roaders and hikers, hunters, horsemen, and others who chose to enjoy the forest via more traditional means.

ABOUT ENVIRONMENTAL IMPACTS

1. Dilution is the solution to pollution . . . OR . . . If you want to minimize the impacts, you need to disperse off-road vehicle routes across the forest.

- Statement – If more areas and trails are provided for motorized use, more negative environmental impacts will occur across more land.
- Statement – This myth was formulated in the mid-twentieth century in relation to air and water pollution. Simply diluting pollution was a quick and easy solution that was too good to be true. It was discredited once research showed that dilution spreads damage and disease to more places and people.
- Solution – Instead of increasing impacts by permitting an ever-expanding network of motorized routes, negative environmental impacts should be avoided by restricting motorized use to areas and zones where it does not cause damage and where it can be effectively managed.
- Explanation – If off-road vehicle use is spread out across our public lands (diluted) this will only increase the extent of impacts. This is especially true with regard to noxious and invasive weed seeds, which hitch a ride on motorized equipment. The Chief of the Forest Service named noxious and invasive weeds as one of the four key threats to the National

Forest System. The more dispersed off-road vehicles become, the more dispersed noxious and invasive weeds become. It is estimated that one pass of an ATV can spread more than 2,000 invasive knapweed seeds over a 10 mile radius.³⁸

- Explanation – Another key threat named by the chief is a loss of open space. A larger network of motorized routes leads to greater habitat fragmentation and disturbance of wildlife and natural quiet, as well as difficulties in enforcement.

2. Wildlife are just as frightened by hikers as by off-road vehicles. OR . . . I see plenty of wildlife when I'm out off-roading so my machine must not bother them that much.

- Statement – Research shows that this is not true. In fact, due to the nature of a vehicle's impact versus that of a foot, as well as the amount of territory a vehicle can cover and the noise inherent in using an off-road vehicle, they often cause greater impacts on the land and on other users.
- Explanation – Initial research by the Forest Service's Pacific Northwest Research Station and others suggests that off-roaders impact wildlife three to four more times than non-motorized recreationists do.
 - Elk move when ATVs pass within 2,000 yards but tolerate hikers within 500 yards, horseback riders within 800 yards and bicyclists within 1,300 yards.³⁹
 - Further the study found that elk walked away from hikers but ran from ATVs.
 - Elk move more than twice as far from ATV disturbance than pedestrians, fleeing more than 2,000 yards from ATV disturbance, fleeing more than 2,000 yards from ATV disturbance.⁴⁰
 - It takes three groups of horseback riders or hikers to every group of ATV riders to have the same impact on a resource.⁴¹
 - Wisdom et al found that 70% of the 91 species they studied were negatively affected by roads and off-road vehicles.

Endnotes:

¹ White Mountain National Forest. ATV Use. http://www.fs.fed.us/r9/forests/white_mountain/recreation/atv_trails/index.php; Snowmobile Trails. http://www.fs.fed.us/r9/forests/white_mountain/recreation/winter_activities/snowmobile_trails/index.php.

² Hoosier National Forest. Recreation Overview. Off-road-vehicles. [http://www.fs.fed.us/r9/hoosier/recover.htm#Off-road%20Vehicles%20\(ORVs\)](http://www.fs.fed.us/r9/hoosier/recover.htm#Off-road%20Vehicles%20(ORVs)).

³ Find a review of, citations for, and links to these studies from Colorado, Utah & Montana at <http://www.wildlandscpr.org/just-few-bad-apples-research-shows-many-off-roaders-break-law>.

⁴ Boost penalties on ORV louts. <http://deseretnews.com/article/1,5143,695235519,00.html>.

⁵ USDA Forest Service. Schedule Summary. 2007. <http://www.fs.fed.us/recreation/programs/ohv/>.

⁶ For forest-specific statistics, visit <http://www.fs.fed.us/recreation/programs/ohv/schedule07.pdf>. Note: proper viewing requires the use of Internet Explorer.

⁷ Lewiston Morning Tribune. "Forest plan would limit off-roaders." December 13, 2007.

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- ⁸ Wisconsin Department of Natural Resources (WDNR). Statewide Comprehensive Outdoor Recreation Plan (SCORP), Chapter 4, Compatibility & Conflict in Wisconsin Outdoor Recreation. 2006. <http://www.dnr.state.wi.us/planning/scorp/>.
- ⁹ Outdoor Industry Foundation. The Active Outdoor Recreation Economy: A \$730 Billion Annual Contribution to the U.S. Economy. 2006. <http://www.outdoorindustryfoundation.org/resources.research.recreation.html>.
- ¹⁰ Rudy Schuster, Department of Forestry, Syracuse University. Relating that sales of ATVs declined by 4% in 2003-05 and percentage of off-road vehicle recreationists has declined on a per capita basis since 2003 during a presentation for the "Off-Highway Vehicle Use & Impacts on Rangelands Symposium" the Society of Range Management (SRM) 60th Annual Meeting and Tradeshow, Reno, Nevada, February 13, 2007.
- ¹¹ Outdoor Industry Foundation 2006 found that 775 million Americans self-identify as hikers.
- ¹² 8 million ATVs and dirt bikes in existence according to H. Ken Cordell et al. Off-Highway Vehicle Recreation in the United States, Regions and States: A National Report from the National Survey on Recreation and the Environment. 2005. www.srs.fs.usda.gov/trends/Nsre/NSRE200562303.pdf.
- ¹³ 16 million Americans are backcountry winter users according to Outdoor Industry Foundation 2006.
- ¹⁴ Just 1.6 million snowmobiles are registered in the United States. (International Snowmobile Manufacturers Association. 2006-2007 United States Snowmobile Registrations. 2007. http://www.snowmobile.org/stats_registrations_us.asp.
- ¹⁵ Outdoor Industry Foundation 2006 estimates that more than three out of four Americans participate in "active outdoor recreation" (defined non-motorized).
- ¹⁶ Donald B.K. English et al. Off-Highway Vehicle Use on National Forests: Volume and Characteristics of Visitors, Special Report to the National [Forest Service] OHV Implementation Team. 2004. <http://www.wildlandscpr.org/resources>.
- ¹⁷ USDA Forest Service. National Forest Visitor Use Monitoring Program, National Project Results, January 2000 through September 2003. http://www.fs.fed.us/recreation/programs/nvum/national_report_final_draft.pdf.
- ¹⁸ Department of Interior. Bureau of Land Management. Public Land Statistics. Table 4-2: Estimated Recreational Use of BLM-Administered Public Lands For Recreation Activities Under Various Fee Authorizations, Fiscal Year 2005. http://www.blm.gov/natacq/pls05/pls4-2_05.pdf.
- ¹⁹ Michael J. Wisdom et al. In: Transactions of the 69th North American Wildlife and Natural Resources Conference, p. 531-550. 2004. <http://www.treesearch.fs.fed.us/pubs/24836>.
- ²⁰ Vieira, M.E.P. Effects of Early Season Hunter Density and Human Disturbance on Elk Movement in the White River Area, Colorado. Unpublished M.S. Thesis. Fort Collins, CO: Colorado State University. 2000.
- ²¹ Wisdom et al. 2004.
- ²² H. Ken Cordell et al 2005 states in the Introduction on page 1 that "Wording of the question in the NSRE referred to 'off-road' driving because this is how the activity was phrased in previous NSRE surveys. For this report we will consider off-highway and off-road to be the same." The Definition of "off-road driving" derived from previous NSRE surveys can be found in the 2000

- survey, the introduction for which is found at <http://www.srs.fs.usda.gov/trends/Nsre/nsre2000.html>. Q[uestion]197: "Did you **drive off-road** for recreation using a 4-wheel drive, ATV, or motorcycle? *<off-road is defined as off of paved or gravel roads.>*"
- ²³ Donald B.K. English et al. Off-Highway Vehicle Use on National Forests: Volume and Characteristics of Visitors, Special Report to the National [Forest Service] OHV Implementation Team. 2004. <http://www.wildlandscpr.org/resources>.
- ²⁴ USDA Forest Service. National Forest Visitor Use Monitoring Program, National Project Results, January 2000 through September 2003. http://www.fs.fed.us/recreation/programs/nvum/national_report_final_draft.pdf.
- ²⁵ USDA Forest Service. Explanatory Notes on Terms Used in Schedule. 2007. <http://www.fs.fed.us/recreation/programs/ohv/>.
- ²⁶ Frueh, LM. Status and Summary Report on OHV Responsible Riding Campaign. Prepared by Monaghan and Associates for the Colorado Coalition for Responsible OHV Riding. 2001. <http://www.wildlandscpr.org/status-and-summary-report-ohv-responsible-riding-campaign>.
- ²⁷ Michael J. Wisdom et al. In: Transactions of the 69th North American Wildlife and Natural Resources Conference, p. 531-550. 2004. <http://www.treesearch.fs.fed.us/pubs/24836>.
- ²⁸ Vieira, M.E.P. Effects of Early Season Hunter Density and Human Disturbance on Elk Movement in the White River Area, Colorado. Unpublished M.S. Thesis. Fort Collins, CO: Colorado State University. 2000.
- ²⁹ Wisdom et al. 2004.
- ³⁰ Frueh, LM. Status and Summary Report on OHV Responsible Riding Campaign. Prepared by Monaghan and Associates for the Colorado Coalition for Responsible OHV Riding. 2001. <http://www.wildlandscpr.org/status-and-summary-report-ohv-responsible-riding-campaign>.
- ³¹ Boost penalties on ORV louts. <http://deseretnews.com/article/1,5143,695235519,00.html>.
- ³² Outdoor Industry Foundation 2006" at <http://www.outdoorindustryfoundation.org/resources.research.recreation.html> and <http://www.outdoorindustryfoundation.org/resources.research.recreation.state.html>.
- ³³ Outdoor Industry Foundation 2006 found that 775 million Americans self-identify as hikers.
- ³⁴ 8 million ATVs and dirt bikes in existence according to H. Ken Cordell et al. Off-Highway Vehicle Recreation in the United States, Regions and States: A National Report from the National Survey on Recreation and the Environment. 2005. www.srs.fs.usda.gov/trends/Nsre/NSRE200562303.pdf.
- ³⁵ 16 million Americans are backcountry winter users according to Outdoor Industry Foundation 2006.
- ³⁶ Just 1.6 million snowmobiles are registered in the United States. (International Snowmobile Manufacturers Association. 2006-2007 United States Snowmobile Registrations. 2007. http://www.snowmobile.org/stats_registrations_us.asp.
- ³⁷ USDA Forest Service. National Forest Visitor Use Monitoring Program, National Project Results, January 2000 through September 2003. http://www.fs.fed.us/recreation/programs/nvum/national_report_final_draft.pdf.

³⁸ Montana State University Extension Service. Controlling knapweed on Montana rangeland. Circular 311, February 1992.

³⁹ Michael J. Wisdom et al. In: Transactions of the 69th North American Wildlife and Natural Resources Conference, p. 531-550. 2004. <http://www.treesearch.fs.fed.us/pubs/24836>.

⁴⁰ Vieira, M.E.P. Effects of Early Season Hunter Density and Human Disturbance on Elk Movement in the White River Area, Colorado. Unpublished M.S. Thesis. Fort Collins, CO: Colorado State University. 2000.

⁴¹ Wisdom et al. 2004.