



Johnna Roy

09/22/2000 10:02
AM

To: grizz@selway.umn.edu
cc:
Subject: Bitterroot Rule - New Econ. Section

Chris S.,

FYI...Chris Neher reviewed the "new" economic analysis and discussion in the final rule. He said it looks o.k. and does not contradict or conflict with his original analysis included in the FEIS.

-Johnna

----- Forwarded by Johnna Roy/DWOR/R1/FWS/DOI on 09/22/2000 09:59 AM -----



Johnna Roy

09/20/2000 10:28
AM

To: bioecon@marsweb.com
cc:
Subject: Bitterroot Rule - New Econ. Section

Hi Chris,

Well, the Bitterroot Rule finally cleared OMB. However, the WO staff had to revise the economic section (and provide additional analysis) to get the OMB sign-off. They have included a large portion of the EIS economic discussion in the Rule, and have added stuff like assigning a dollar value to the potential loss of human life from bears.

I clipped the "Required Determinations" section of the rule (approx. 8 pages), and have attached it. Could you PLEASE give it a quick read? The 8 pages includes some extraneous sections that you don't need to look at. If you could simply identify any fatal flaws in the rule (anything that disagrees with the analysis you did, or undermines the FEIS economic discussion) ... that would be great.

As usual with this project, there is an insane turnaround. The rule is going to the Asst. Secretary on Friday morning, so we have a day to catch any fatal flaws. If you can't (or don't want to) get to it, I'll certainly understand. Thanks Chris!

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ChrisNeher.w

Required Determinations

Regulatory Planning and Review

In accordance with Executive Order 12866, this rule is a significant regulatory action (see item Ad@) and has been reviewed by the Office of Management and Budget. Although the significance of this action under Executive Order 12866 is not related to economic effects, we have prepared an economic assessment for this special rule. The cost-benefit portion of this assessment is presented below. A complete copy of the assessment is available upon request [see AADDRESSES@ section].

Cost-Benefit Assessment of the 10(j) Rule

The Service proposes to undertake the reintroduction of an experimental population of grizzly bears into the Bitterroot Ecosystem for three principal reasons: (1) It is the policy of the federal government to recover federally protected listed species so that they may be removed from the protection of the Act; (2) there is no naturally occurring market for the conservation and reintroduction of federally protected species; and (3) the reintroduction is being proposed on land owned and operated by the Federal government.

As explained previously, the Act requires the federal government to conserve listed species and the ecosystems upon which they depend. Congress enacted the Act, as they do many other Acts, because of the need for the federal government to correct for a market failure that results in resources being allocated inefficiently. Typically, public markets are able to allocate resources in the most efficient manner as long as there are no entry or exit constraints for market participants and no individual or group of individuals are able to influence the market price. The grizzly bear, however, like other wildlife, is not a publically traded commodity. This is because wildlife, in general, exhibits public good characteristics that render the benefits enjoyed by individuals unrivaled. In other words, because the benefits exhibited by the grizzly bear can be enjoyed by many individuals without effect on the level enjoyed by others, a free-rider problem exists whereby individuals who value the grizzly bear have an incentive to let others pay for its provision. Under these circumstances, such goods are typically under-supplied and require the federal government to step in and correct for this social inefficiency.

In addition to the public good characteristics of the grizzly bear, perhaps as compelling a case can be made in that the Federal government is proposing to reintroduce the grizzly bear on federally owned and operated land. As a land manager, the Federal government attempts to manage its lands in a manner that is most socially efficient. The grizzly bear is a large land mammal that requires a substantial amount of acreage to survive on its own. As a result, the Federal government is in a unique position to, among other things, manage its large land holdings to the benefit and reintroduction of the grizzly bear. As a large public landowner, the Federal government constantly tries to manage its lands in a manner that provides the greatest benefit to society. Through the Wilderness Act, Congress recognized a need for the Federal government to provide and manage some of its lands as wilderness due to its public good characteristics and the lack of a market to provide a socially optimal amount. By re-establishing

the grizzly bear to a public wilderness, the Federal government is maximizing social welfare to those recipients that value true wilderness in the sense that the wilderness will more closely represent its original, primitive state.

Baseline

The Service conducted an economic analysis for the EIS, looking at effects on hunter harvest, live stock depredation, land use restrictions, human safety, visitor use and existence values. This economic assessment uses some of the information used in the EIS. We recognize that we could have chosen to proceed with grizzly bear reintroduction in the Bitterroot without a new regulatory or rulemaking action (the alternative that provided for reintroduction with full Act protection), in which case we would not have needed to promulgate a 10(j) rule. However, given our need for the public and their elected officials to lend their full support to efforts to recover the grizzly bear in the Bitterroot Ecosystem, our doing so would be highly unlikely. Therefore, we have chosen to compare the economic effects of the 10(j) rule to reintroduce grizzly bears to the Bitterroot Ecosystem to a *Ano bear* baseline (as done in the EIS), rather than a baseline that assumes full protection under the Act.

Economic Effects of the Rule

The area affected by this rule consists of a limited area of mostly designated wilderness and surrounding lands in east central Idaho and western Montana, the Bitterroot Ecosystem. The Bitterroot Ecosystem, as characterized by data from 10 counties in central Idaho and 4 counties in western Montana, is approximately 44,419 square miles and 76% Federal land. As of 1996, the area had a population of about 241,000; a \$4.6 billion local economy; 440,570 cattle and sheep (298,000 are grazed on national forest); about 274,360 ungulates, with a hunter harvest of 28,023; and, received approximately \$13.2 million recreational visits annually to its national forests.

Most of the reintroduction area is composed of remote and sparsely inhabited wild lands. Very few paved or unpaved roads are in the reintroduction area or immediately outside of it. These unpaved roads typically have low levels of vehicle traffic, and are constructed for low speeds and used only seasonally. Grizzly bears, therefore, should encounter vehicles and humans infrequently.

Potential Costs

One of the potential costs of grizzly bear restoration to the Bitterroot Ecosystem is reduced big game hunting opportunities in hunting units/districts in or near the Recovery Area. However, we do not expect grizzly bear recovery to have any significant effect on huntable populations of ungulates in the Bitterroot Ecosystem. Using Mattson=s (1997) estimates of average grizzly bear predation rates of 1.4 and 5.8 ungulates per year for adult female and male bears respectively, a recovered population of 280 grizzly bears would be expected to prey upon 504 ungulates per year given a 50:50 sex ratio and a 50:50 adult-subadult ratio. This amount of

loss would represent approximately 0.11% of estimated ungulate populations in the Bitterroot Ecosystem, and would not measurably impact ungulate populations or hunter harvest. Of course, the impact would be significantly less until the population of grizzly bears is fully recovered, which is estimated to take 50-110 years.

A second area of potential costs associated with grizzly bear restoration to the Bitterroot Ecosystem is the possibility of livestock depredation by the recovered grizzly population. Again, these costs are expected to be very low, and are expected to be minimal prior to full recovery of the population of grizzly bears in the Bitterroot Ecosystem. Via a mathematical equation using depredation rates from the Yellowstone and Northern Continental Divide Ecosystems in relation to total livestock in each of these Ecosystems, we estimated that after a recovered population of 280 grizzly bears is achieved, depredation incidents involving livestock would take from 4 to 8 cattle, and from 5 to 44 sheep annually. The calculation of lost value due to this depredation is straightforward. The lost value per year is equal to the estimated number of lost animals per year times the market value of those animals. Given the average value per cow of \$565 and the average value per sheep of \$92 (average values as of 1996 according to Montana and Idaho Departments of Agricultural Statistics as cited in U.S. Fish and Wildlife Service 2000), we estimate that between \$2,720 and \$8,568 per year in livestock predation losses would occur after grizzly bears are fully recovered. It is possible that a private compensation program (such as exists for the gray wolf recovery program) will be set up to lessen the impact of these costs to individual ranchers. If this were the case, the impact of livestock losses would be shifted from the individual ranchers to contributors to such a fund.

We expect that any land use restrictions due to the restoration of grizzly bears to the Bitterroot Ecosystem would be minor and temporary, and would not result in lost economic value in recreational activities, timber harvest, or mineral extraction. This conclusion is based on the experience of the Interagency Grizzly Bear Committee, a group composed of officials of the Service, the Forest Service, the Bureau of Land Management and state wildlife offices, and responsible for coordinating management of grizzlies in nearby locations.

It is expected that any land use restrictions on recreation due to the restoration of grizzly bears to the Bitterroot would not result in lost economic value. While some visitors may be inconvenienced due to occasional temporary trail closures, this inconvenience is unlikely to result in any appreciable loss of economic value as, based on experience in other areas where grizzly bears exist, such closures will be rare and use will shift to trails elsewhere. Regulations specific to outfitters operating within the Recovery Area and backcountry recreationists, including horsepackers and river rafters, may be promulgated at some future time requiring the use of bear-proof garbage and food containers and methods when in the backcountry. While these regulations would necessarily involve some economic impact to the outfitter and the public, we do not anticipate that this impact would be substantial in any respect. The cost of bear-proofing an outfitter's camp can vary depending on the method of protection used. For a small outfitter, slings and pulleys may run as much as \$50 to \$100 dollars. For larger outfitters, electric fencing or containers could run \$1,000 dollars. For very large outfitters with multiple camps the total cost could be \$2,000 to \$3,000. It is very unlikely that outfitters would reduce operations in the recovery area due to increased costs of bear-proof containers. Big game

outfitting on USFS lands is allocated through special use permits. These permits are, in many areas, highly valued assets of the outfitter's business. It is unlikely that an outfitter would either abandon or underutilize their permit because of the cost of purchasing bearproof containers. The cost of the containers when amortized across the outfitter's clients over the life of the containers would represent a very small portion of the total operating expense that the outfitters face.

Timber harvest and mineral extraction are land use activities that are compatible with bear recovery as long as they meet the standards and guidelines of the Forest Service's Forest Plans. Current Forest Plans for the Clearwater and Nez Perce National Forests outside of wilderness areas are adequate for grizzly bear recovery, and we do not anticipate that this grizzly bear reintroduction will result in an economic effect on current timber harvest plans or mineral extraction. It is anticipated that future Forest Plans will continue to manage for grizzly bears as the Forest Service is required by the Act to carry out programs for the conservation of this and other listed species, the Forest Service has been an active member of the Interagency Grizzly Bear Committee, and undeveloped lands will only become more rare and valuable to the continued existence of wildlife in the future.

We examined the costs to human safety and found these to be relatively small. In the Bitterroot Ecosystem, during the first several decades following reintroduction, chance of injury caused by grizzly bears would be exceedingly small due to the low density of bears in the area. Projections for human injury once bears are recovered 50-110+ years in the future, are less than one injury per year and approximately one grizzly bear-induced human mortality every few decades. Backcountry precautions, primarily keeping human foods away from bears, dramatically reduces human-grizzly bear incidents. The potential of encounters between people and grizzly bears is low, and injury rates for the Bitterroot are expected to be similar to the rates for areas outside of the national parks where grizzly bears exist. For comparison, we used human injury rates from areas with similar circumstances: The Northern Continental Divide Ecosystem and the Yellowstone Ecosystem outside of Glacier and Yellowstone National Parks, respectively. Human-bear interactions in a national park are much more numerous than would be expected in the remote Bitterroot wilderness, and the statistics are not comparable. In northwest Montana (outside of Glacier Park) and northern Idaho, only two bear-inflicted injuries (one mortality) have occurred in the last 50 years. In the Bob Marshall Wilderness in 1956 a hunter shot and injured a grizzly bear that responded by mortally injuring him. In the Mission Valley in 1985, a bird hunter shot and wounded a grizzly that responded by injuring him. In the Yellowstone Ecosystem outside of Yellowstone National Park, there have been 22 injuries due to grizzly bears (including 3 mortalities) within the last 159 years, for an average of one mortality every 53 years. Given that mortalities in both of these areas average one every 50 years, and the generally accepted range of values for a human life is \$4-10 million, cost in human mortalities is expected to average approximately 80,000-200,000 per year. Costs have only been monetized for human mortality. Human injury is also an additional potential cost, but has not been determined for this assessment.

A potential cost is a decrease in visitation of the area by the public. However, changes in visitor use are difficult to anticipate. While some individuals might wish to see a grizzly bear in

the wild, others might wish to avoid the possibility of encountering one. The costs of decreased visitation was not estimated.

Finally, the cost for the actual reintroduction is expected to be approximately \$433,600 per year for the 5-year reintroduction period (U.S. Fish and Wildlife Service 2000). This includes the cost of capturing and transplanting bears (\$90,600), monitoring and management of the population (\$173,000), travel expenses of the Citizen Management Committee (\$20,000), and initial costs for sanitation, outreach, and law enforcement activities by the Forest Service (\$150,000). Annual costs for monitoring and citizen management is expected to be approximately \$193,000 for each year beyond the 5-year reintroduction period.

Summary of Potential Costs Associated with the 10(j) Rule

	Potential Annual Cost (\$)
Big Game Hunting	insignificant
Livestock Depredation	2,720-8,568 ¹
Bear-proofing	not quantified as annual cost
Timber Harvest	insignificant
Mineral Extraction	insignificant
Human Mortality	80,000-200,000 ¹
Human Injury	not determined ²
Reduction in Visitation	not determined
Costs of Monitoring/Management	193,000 ³
Total	275,720-401,568

¹ Costs expected to be significantly lower initially (approaching zero), reaching these amounts after 50-110 years.

² Costs expected to be significantly lower initially with projections of one injury/year after 50-110 years

³ Costs expected to be \$433,632 for the initial 5 years.

Potential Benefits

Grizzly bears are a high-profile species with interest nationwide. A survey of Yellowstone National Park visitors found that respondents ranked the grizzly bear highest among wildlife species they would most like to see on their trip to the park. Restoration of grizzly bears in the Bitterroot Ecosystem would further increase national awareness of the presence of this species in the lower 48 States.

Existence value is the value a person associates with the knowledge that a resource exists, even if that person has no plans or expectations of ever directly using that resource. People may hold this value for a number of reasons. In this case, the resource being valued is a recovered or recovering population of grizzly bears in the Bitterroot Ecosystem. Since existence

values potentially affect everyone in the country, some of these impacts fall to individuals outside of the Bitterroot Ecosystem. Because the presence of grizzly bears completes both the biological component of the ecosystem and the wilderness experience, existence benefits are expected to result from the reintroduction.

Another potential benefit is an increase in visitation of the area by the public. However, as stated in the APotential Costs@ section, changes in visitor use are difficult to anticipate. No monetary value is given to benefits from visitor use in this assessment.

Cost-Benefit Summary

We anticipate no significant costs to land use activities on public or private land with regard to hunting, timber harvest, mining, or public access/recreational use. Annual costs associated with livestock depredation, equipment for outfitters to bear-proof camps, risk to human safety, and management and monitoring of the population of grizzly bears are estimated to be approximately \$275,720-401,568 or more (depending on costs for bear-proofing by outfitters). It is uncertain what the net visitation impacts will be. They were not quantified in this assessment. Existence value benefits are expected to result from this rule.

(a) This rule will not have an annual economic effect of \$100 million or adversely affect an economic sector, productivity, jobs, the environment, or other units of government. The rule would allow management of grizzly bears by government agencies and the public to minimize conflicts over uses of public lands, effects on domestic animals and livestock, and impacts on ungulate populations. A Citizen Management Committee would be authorized to manage implementation of the experimental population and would be tasked with implementing the Bitterroot Chapter of the Grizzly Bear Recovery Plan. Reintroduction could result in grizzly bear recovery in the Bitterroot ecosystem (achievement of the tentative recovery goal of approximately 280 grizzly bears occupying suitable habitat) in a minimum of 50 years (4% growth rate), although recovery would likely require more than 110 years (2% growth rate after the bears were released).

(b) This rule will not create inconsistencies with other agencies= actions. Nonessential experimental population designations under section 10(j) of the Act greatly reduces both the interagency consultation requirements (with other Federal agencies) and Ataking@ restrictions of the Act. The reintroduction of grizzly bears will occur on Federal public lands managed by the U.S. Forest Service. The action allowed by this rulemaking is consistent with the policies and guidelines of the Forest Service. Because of the substantial regulatory relief provided by nonessential experimental population designations, we do not believe the reintroduction of these bears will conflict with existing or proposed human activities or hinder public use of the Bitterroot ecosystem.

(c) This rule will not materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients because we expect minimal impacts or restrictions to existing human uses of the Bitterroot ecosystem.

(d) This rule will raise a novel policy issue. We have previously promulgated more than

a dozen section 10(j) rules for experimental populations of other listed threatened and endangered species in various localities since 1984. However, this is the first experimental population rule that establishes a management process that includes a Citizen Management Committee. For this reason, the rule is a significant regulatory action in accordance with Executive Order 12866.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

We certify that this rule will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.). We have determined that the small entities most likely to be affected by this rule are producers of domestic livestock. There are 4,327 farms within the 14 counties covering the Bitterroot grizzly bear primary analysis area in central Idaho and western Montana. As discussed above, grizzly depredation on domestic livestock would likely be minimal during the estimated 50B110+ years until the population of grizzly bears in the Bitterroot ecosystem is fully recovered. We estimate that after a recovered population of 280 grizzly bears is achieved, depredation incidents involving livestock would be from 4 to 8 cattle and from 5 to 44 sheep per year. Prior to full recovery, depredation losses are expected to be below these estimated levels. In a worst-case situation, depredation could impact 52 out of 4,327 farms, which would not constitute a substantial number of small entities (U.S. Fish and Wildlife Service 2000).

Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 804(2))

In the economic analysis, we determined that designation of a nonessential experimental population of grizzly bears in the Bitterroot ecosystem will not causeC(a) any effect on the economy of \$100 million or more; (b) any major increases in costs or prices for consumers; individual industries; Federal, State, or local government agencies; or geographic regions; or (c) any significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises. Based upon the analysis of identified factors, we have determined that no individual industries within the United States will be significantly affected, and no changes in the demography of populations are anticipated. The intent of this special rule is to facilitate and continue the existing commercial activity while providing for the conservation of the grizzly bear through reintroduction to suitable habitat.

Unfunded Mandates Reform Act (2 U.S.C. 1531 et seq.)

We have determined and certified pursuant to the Unfunded Mandates Reform Act, 2 U.S.C. 1531 et seq., that this final rulemaking will not impose a cost of \$100 million or more in any given year on local or State governments or private entities.

The management responsibility for the reintroduced population will rest with a Citizen Management Committee created by the Secretary. This Committee will involve local people in the management of this population. Travel and per diem for non-Federal members of this Committee and funding for the function of this Committee will come from the Service.

Takings

In accordance with Executive Order 12630, this rule does not have significant takings implications, and a takings implication assessment is not required. This designation will not A take@ private property and will not alter the value of private property. More than 75% of the area included in the nonessential experimental population area is on Federal lands.

Federalism

In accordance with Executive Order 13132, this rule will not affect the structure or role of States and will not have direct, substantial, or significant effects on States. Also, our economic analysis indicates that considerable economic benefits would result from the designation.

In keeping with Department of the Interior policy, the Service requested information from and coordinated development of the proposal with appropriate State resource agencies in Idaho and Montana. In addition, both States participated in the development of the EIS. The Service will continue to coordinate any future designation of experimental population status with the appropriate State agencies.

Civil Justice Reform

In accordance with Executive Order 12988, we have further determined that this regulation does not unduly burden the judicial system and meets the applicable standards provided in sections 3(a) and 3(b)(2) of Executive Order 12988. We have made every effort to ensure that this final determination contains no drafting errors, provides clear standards, simplifies procedures, reduces burden, and is clearly written such that litigation risk is minimized.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This final rule contains collections of information requiring the approval of the Office of Management and Budget (OMB) under 44 U.S.C. 3501 et seq. Authorization for this information collection has been approved by OMB and has been assigned control number 1018-0095. The Service may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act

A Final EIS on the reintroduction of the grizzly bear in the Bitterroot ecosystem has been prepared and is available to the public (see "ADDRESSES"). The Final EIS should be referred to for analysis of the Preferred Alternative chosen in the Record of Decision.

