

# **U.S. Sheep Experiment Station Grazing and Associated Activities Project 2009**

## **DRAFT Economics Report**

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## Summary

The USSES is the largest employer in Clark County. Consequently it provides important economic stimulus to local businesses and public services. Under the No Action alternative there would be no change in social or economic conditions. In the case of action alternatives, only 2 and 3 would result in any reduction in employment and there would be no change to total salaries paid. Alternatives 4 and 5 would yield no change to employment and income conditions, and consequently have no effect on household migration patterns and public services. The remaining effects would occur as a result of changes in information generated from research programs, and substitute uses of public lands no longer being grazed. Effects to the sheep industry are unquantifiable given the lack of data, but it is reasonable to assume that adverse effects increase as grazing decreases. Under each scenario, it is assumed that changes in use patterns would not substantially alter the social and economic environments.

## Affected Environment

Under the case of the no action alternative, there would be no change to existing conditions. Jobs and income supported by USSES activities would remain unchanged. Therefore, the economic contribution under the no action alternative represents the existing conditions under which action alternatives would be implemented. Currently, the USSES employs 23 people and pays a total of \$1,166,065 in annual salaries. Of the total salary paid, \$842,227 is earned by residents of Clark County. Thus, the direct contribution to employment and income is 23 jobs and \$842,227 in household income. A portion of household income is then spent locally which increases the total economic contribution. There is no precise measure of the purchasing habits of local households available. However, given the relatively thin economic base in Clark County, it is likely that a large proportion of purchases of household goods and services are made outside of the study area. The total economic contribution was estimated assuming a variety of local household expenditure patterns. Table 1 reports the total jobs and income supported by USSES activities. Depending on the proportion of income spent locally, the total contribution could range from 23.13 jobs and \$843,735 in income, to 25.02 jobs and \$864,852 income. This accounts for 2.47 percent to 2.67 percent of total employment, and 3 percent to 3.07 percent of total income.

**Table 1: Total Contribution by Local Expenditure Levels**

	Jobs	Percent of Total County Employment	Income	% <sup>a 1</sup> of Total County Income
5 percent	23.13	2.47%	\$843,735	3.00%
10 Percent	23.27	2.49%	\$845,244	3.00%
25 Percent	23.67	2.53%	\$849,769	3.01%
50 Percent	24.35	2.60%	\$857,310	3.04%
75 Percent	25.02	2.67%	\$864,852	3.07%

Source: IMPLAN 2008

A - IMPLAN – IMPLAN® is an input-output model describing commodity flows from producers to intermediate and final consumers. The total industry purchases are equal to the value of the commodities produced. Industries producing goods and services for final demand purchase goods and services from other producers. These other producers, in turn, purchase goods and services. This buying of goods and services continues until leakages from the region stop the cycle. The resulting sets of multipliers describe the change of output for regional industries caused by a change in final demand in an industry. The IMPLAN database describes the economy in 509 sectors. IMPLAN® is used to create complete, extremely detailed Social Accounting Matrices and Multiplier Models of local economies. MIG, Inc. provides software tools, region-specific data (see Products), and outstanding technical support to enable users to make in-depth examinations of state, multi-county, county or sub-county, and metropolitan regional economies. <http://www.implan.com/>

The recent closure of an Idahoan Foods plant in Dubois substantially increased the proportion of total jobs and income supported by the USSES, and made it the largest employer in the County. 2006 IMPLAN data does not reflect that closure and is therefore not reflected in the contribution analysis. However, it is worth mentioning because it increases the importance of USSES activities as an economic driver. Overall, about 140 employees at the Dubois plant were transferred to a plant in Idaho Falls (<http://www.localnews8.com/Global/story.asp?S=10499649>).

In addition to contributing to employment and income, activities at the USSES also affect total tax base. Table 2 reports the total tax contribution under current operating levels. The largest contribution falls within the federal social security and income taxes. These taxes should have no direct bearing on the current state of Clark County's economy as such funds are allocated to the federal government and are not immediately spent on local services. However, other tax categories such as property tax, motor vehicle licensing and sales tax may affect to the total funding available for operating services such as law enforcement, roads, and schools. Thus, the tax base supported by USSES activities provides for improved social and economic conditions.

**Table 2. Implications for local taxes**

	<b>Tax</b>	<b>Total Contribution</b>
<b>Enterprises (Corporations)</b>	Transfers	\$2,666
	<b>Total</b>	<b>\$2,666</b>
<b>Federal Government Non-Defense</b>	Corporate Profits Tax	\$37,879
	Indirect Bus Tax: Custom Duty	\$1,145
	Indirect Bus Tax: Excise Taxes	\$3,087
	Indirect Bus Tax: Fed Non-Taxes	\$1,399
	Personal Tax: Estate and Gift Tax	\$0
	Personal Tax: Income Tax	\$135,166
	Personal Tax: Non-Taxes (Fines- Fees	\$0
	Social Ins Tax- Employee Contribution	\$141,007
	Social Ins Tax- Employer Contribution	\$144,286
	<b>Total</b>	<b>\$463,971</b>
<b>State/Local Government Non-Education</b>	Corporate Profits Tax	\$5,910
	Dividends	\$10,117
	Indirect Bus Tax: Motor Vehicle License	\$508
	Indirect Bus Tax: Other Taxes	\$1,925
	Indirect Bus Tax: Property Tax	\$13,055
	Indirect Bus Tax: S/L Non-Taxes	\$1,845
	Indirect Bus Tax: Sales Tax	\$19,432
	Indirect Bus Tax: Severance Tax	\$34
	Personal Tax: Estate and Gift Tax	\$0
	Personal Tax: Income Tax	\$45,555
	Personal Tax: Motor Vehicle License	\$4,082
	Personal Tax: Non-Taxes (Fines- Fees	\$7,234
	Personal Tax: Other Tax (Fish/Hunt)	\$4,279
	Personal Tax: Property Taxes	\$1,345
	Social Ins Tax- Employee Contribution	\$2,174
	Social Ins Tax- Employer Contribution	\$8,698
	<b>Total</b>	<b>\$126,193</b>
<b>Total</b>	<b>\$592,829</b>	

Source: IMPLAN 2008

In addition to economic stimulus in the form of employment and monetary flows, there is also the knowledge gained with the research conducted at the USSES. It is the sole sheep research facility specializing in range sheep in the United States. Seventy percent of all sheep and lamb products produced in the Country come from the western states, the vast majority of which are range fed. Thus, the research conducted at the USSES in Dubois is carried out in conditions very similar to those under which a large proportion of sheep producers operate (Orwick, 2008). Research valuable to the production of sheep and lamb products includes the mapping of specific genetic traits resistant to certain types of disease allowing for better health management, as well as the identification of traits important to both the maternal and paternal side of reproduction. Such information aids in the production efficiency of operations as the more healthy lambs born, the more competitive farmers and ranchers may be in today's dynamic agricultural markets. Furthermore, research regarding how sheep respond to drought cycles and the associated change in the nutritional value of plant species is valuable when dealing with issues of climatic change in rangelands. Thus, the activities associated with USSES management have implications for agricultural productions across the Country, and have proven valuable to farmers and ranchers involved in the sheep industry.

## Direct and Indirect Effects

Direct and indirect effects would vary by alternative. Under Alternative 2 it is estimated that 7 jobs would be lost due to a reduction in grazing. That represents a 30 percent decrease in employment. However, due to changes in staffing, there would be no decrease in total salaries paid. Research scientists would replace technicians and no herders would be required. Therefore, no change to local income is anticipated. Similarly, under Alternative 3 it is estimated that a total of four jobs would be lost and there would be no decrease in total salaries paid. The total direct effect of Alternatives 2 and 3 would be the loss of 7 and 4 jobs respectively. Because there would be fewer employees at the station, total labor supply would increase. Due to the limited economic activity in Clark County, other sectors of the economy would probably not be able to absorb the increase in supply, resulting in a rise in the unemployment rate. Consequently, the newly unemployed may migrate out of the study area in search of new job opportunities. This decrease in population could indirectly impact the socioeconomic environment. Since total salary would remain unchanged, there should be no impact to local tax revenue. However, services receiving funding based on population, such as public education, could be adversely impacted if any of the former USSES employees and their families were to move outside of Clark County.

There would be a net decrease in grazing under Alternatives 4 and 5. There would be no decrease in sheep inventory under Alternative 4, and a 30 percent reduction under Alternative 5. In both cases there would be no resulting change in employment and income. Therefore economic contributions reported under the affected environment would remain in effect. There would also be no out-migration of local households and no effect on public services and tax revenue.

Under all action alternatives there would be effects on the sheep industry resulting from lost knowledge associated with reductions in research capabilities. Current contributions to the sheep industry are summarized in the affected environment. USSES research is dynamic; and therefore impossible to predict the full extent of impacts to sheep producers. However, it is logical to assume that as reductions in grazing increase, the informational capacity of research would decrease, and thus increase adverse impacts to the sheep industry.

Additional consequences may stem from changes that could occur to the use of federal lands as a result of changes to the USSES grazing regimen. Under all alternatives sheep grazing would be

scaled back. This could allow for additional opportunities for recreation and environmental conservation. Some uses of the lands may have implications for the economic health of Clark County. For example, increases in recreational opportunities could increase visitation rates, and thus increase expenditures at local business and firms. However, given the volume of public lands in Idaho and Montana, it is unlikely that grazing by the USSES would substantially affect recreational travel, thereby limiting the implications for local business. It is assumed that under all alternatives USSES property in Clark County would remain under ARS ownership, and there would be no additional permitted uses of the land. There remains no definitive means of estimating the actual effects to the economy from changes in future land use because affirmative data on this issue does not exist.

## Cumulative Effects

Cumulative effects include the total change in social and economic conditions that would result from actions taken under the alternatives in conjunction with the direct and indirect effects of other present and reasonably foreseeable activities being conducted in the study area. The spatial and temporal boundary for the discussion of cumulative effects for economics is Clark County because expanding beyond this area could result in the dilution of impacts. Ground disturbing activities that could create additional effects are listed in Table 3. There is currently no estimate of economic effects for these activities; therefore it is not possible to quantitatively estimate cumulative effects. There are no activities that are expected to have a measurable effect on Clark County’s economy. Additionally, the Mountain States Transmission Intertie (MSTI) 500kV will pass through portions of the study area. Economic effects of this transmission line include increased jobs and income (MSTI, 2009). Those effects are not estimated specifically for Clark County, and therefore are not quantitatively valued for cumulative effects.

**Table 3. U.S. Sheep Experiment Station present and reasonably foreseeable activities causing ground disturbance**

Location	Activities
Summer Range	1: Replace 2 miles of old horse pasture fence with new fence, metal braces, etc. 2: remove old range enclosures 3: continue repairs on existing enclosures (new posts, wire) 4: replace 2 existing wooden water developments with metal developments. Continue annual spring (water) cleanings for water sources.
Henninger	1: Replace 2 miles of existing border fence with new fence, metal braces, etc. 2: Continue to lightly grade the existing roads (no new roads). 3: Continue cleaning the existing ditches with the ditching tool. 4: Install new concrete diversion head gate on the U.S. Forest Service ground (once approved by U.S. Forest Service).
Humphrey	1: Continue cleaning the existing ditches with the ditching tool. 2: Replace 3 miles of existing fence with new fence (same location) 3: Surplus the existing house and have it removed. Clean-up the cinder brick foundation, etc. 4: Install 2 new weir boxes into Modoc Creek (better measurement of water). 5: Continue clean-up of old nonfunctional fence lines, equipment.
Dubois (Headquarters)	1: Annual road maintenance (pulling up the shoulders and smoothing out pot holes). All replacement gravel is hauled in from the State of Idaho gravel pits. 2: Remove, clean, repair and reinstall 6 existing cattle guards. 3: Replace 4 miles of existing fence with new fence materials. 4: Clean-up nonfunctional research pens. 5: No remodels scheduled for either research buildings or the resident houses. However, there would be yearly maintenance to these structures (leaky waterlines, broken windows, annual chimney cleanings/inspections, etc). 6: Several different storage buildings that have been proposed for either paint or siding to be installed.

Cumulative effects would be similar under all alternatives. The only difference would be any changes in the levels and distribution of direct and indirect effects on the economic and social environments across alternatives.

## **Environmental Justice**

The Environmental Justice principles set forth in Executive Order 12898 and CEQ (1997) were considered in regards to activities on the USSES. Alternatives were reviewed to determine whether or not the proposed actions adversely impact minority and low-income populations. The no action alternative would result in the continued operation of the USSES. Under this alternative there would be no change in the current economic conditions, and would not have any impact on minority or low income populations.

Under action alternative resulting in a reduction in labor force, there would be an important loss of jobs and income. Employment opportunities at the USSES are generally higher paying than other jobs in Clark County, thus USSES employees are likely not part of the population living below the poverty level. However, the loss of jobs at the USSES not only affects the employees themselves, it also affects the conditions of local businesses due to decreased household income. Lower total income leads to reduced demand for goods and services; which consequently may cause local firms to cut back their employment. Given that nearly one-fifth of Clark County's total population, and more than one-quarter of the population under the age of 18, is below the poverty level, low income populations may be adversely impacted by any loss in household income. The purchasing habits of local residents may affect the total impact to low income populations. The proportion of income spent outside of Clark County does not benefit local firms and business. Thus, the greater the proportion of lost income associated with a loss of employment at the USSES spent outside of Clark County, the less the impact to local poverty groups. Given that Clark County does not have a major retail outlet for purchasing household goods and services, the majority of lost household expenditures would occur outside of Clark County. This would limit the impact to local populations living below the poverty level since the majority of that income would likely leave the study area regardless of employment conditions at the USSES. Thus, the total impact to environmental justice populations would be limited by the structure of Clark County's economy, but any local spending lost may have some adverse affect on low income populations, and should therefore be considered in the decision making process regarding the alternatives assessed in this EA.

## References

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