Solving the Local Meat Conundrum
Meat Production and Processing in Oregon and Washington

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November 2005
Introduction
When livestock producers in Oregon and Washington start talking, their stories gradually tend toward a common theme: the difficulties they have getting their meat processed. Throughout the country meat processing facilities are getting larger. Quite often they buy the livestock they process and sell the meat products themselves. The consolidation of many small facilities into fewer large companies results in large meat processing companies having more market power, thereby giving them the ability to push the producers’ livestock down to a lower price.

Small-scale producers cannot compete on volume with the large companies and frequently turn to alternative marketing options that allow them to keep more of the profit. However, this direct marketing creates its own set of problems. Under US law, meat can only be sold if it has been processed under United States Department of Agriculture (USDA) inspection. In Oregon and Washington, there are few USDA inspected facilities. Those that exist are primarily concentrated along the I-5 corridor, meaning producers must transport their animals great distances. There are rural producers who travel hundreds of miles with their animals to the nearest processing facility. Such situations cut into profits and put undue strain on the producers, as well as their livestock.

Some producers choose to get around the USDA inspection requirement by selling their livestock directly to the consumers who then process the animals at custom-exempt facilities. Custom-exempt processing is the processing of meat for the consumption of the animal owner(s) and their non-paying guests only. Additionally, laws regulating custom-exempt processing require a customer to buy at least a quarter of an animal. Consequently, custom-exempt processing is not an option for producers wishing to sell their products to wholesalers, retailers, restaurants, or farmers’ markets.

The story of Joe and Sara DeLong exemplifies some of the difficulties facing small-scale producers. Joe and Sara raise hogs on land that has been in the DeLong family since 1863. The hogs spend their entire lives with access to the outdoors, eating organic grains. Joe and Sara market their products under the name Sara-Joe’s Pork Products, providing an array of meat: hams, smoked hocks, jerky, five different types of sausages, steaks, chops, boneless loins, babybacks, bacon, ground pork, and more. Joe personally delivers many of Sara-Joe’s products biweekly. The result is that Sara-Joe’s has made a name for itself from Alaska to California and is becoming increasingly well known across the country through mail order.

Joe DeLong, however, is the first to admit that he has created a monster. The DeLong farm is located in southeast Washington. The nearest USDA inspected slaughter facility capable of handling the 22 hogs Joe and Sara slaughter every other week is a 346-mile drive one way to the other side of the state. Transporting animals over long distances can leave them stressed, resulting in a lower quality of meat. Joe stops often between truck refueling to let the animals adjust which further lengthens his time spent on the road. After hauling the hogs to the slaughter facility on a Wednesday, Joe flies
home to work a few days on the farm before flying back to the slaughter facility on Sunday night leaving Sara to run the farm by herself. By 5am Monday morning, Joe is back at the slaughter facility helping with processing to ensure his hogs are processed in time to meet his tight schedule. They cut the fresh meat into primals and box it. But this slaughter facility does not provide all the services he needs, so by Monday afternoon Joe is off again. He takes the boxed pork to another processing facility an hour away to be processed into hams, sausages, jerky, and other processed meats sold through Sara-Joe’s. Naturally, clients expect fresh product, so by Tuesday afternoon Joe is delivering products from Portland to Seattle and as far east as Sandpoint and Moscow, Idaho. By the time Joe has finished processing and delivering one load of hogs, he has traveled over 2,000 miles.

Rising gas prices are cutting into profit. As it is, Joe and Sara already compete with much cheaper meats sold through the commodity market. Furthermore, the effort and traveling time it takes for Joe to get to processing facilities and then deliver the products to clients is now affecting his health. Back pain has become a persistent problem and requires visits to a chiropractor. At present Joe and Sara find themselves in a catch-22: in order to stay in business and keep up with the increased market need Sara-Joe’s needs to expand; however, the DeLongs are already stretch thin and can not afford to expand.1

Joe and Sara’s story is repeated in one form or another among the small-scale livestock producers of Oregon and Washington. Few processing facilities are available in rural communities, and the ones that are available often do not provide all the services producers require.

Processors are facing their own problems complying with the structural requirements of the facilities, operating regulations, licensing requirements, as well as coming up with the funds to cover the costs of facility maintenance. Small-scale USDA inspected processing facilities that are willing to process a few animals at a time for small-scale producers are often not meeting full capacity due to a shortage of livestock. The costs associated with implementing regulations regarding structural requirements leave many small processors without the capital required to maintain the facilities or to buy the equipment needed to comply with those regulations.

**Solving the Local Meat Conundrum**

In 2001 Ecotrust and the Portland Chapter of the Chefs Collaborative created the Farmer-Chef Connection, an annual event aimed at creating and sustaining relationships between local farmers, ranchers, and buyers. Ecotrust and the Portland Chapter of the Chefs Collaborative were aware that over the years local livestock producers were becoming increasingly vocal about the difficulties getting their meat processed and delivered to market. The **Solving the Local Meat Conundrum** project addressed those concerns. Ecotrust and the Portland Chapter of the Chefs Collaborative embarked on this study to determine if there is sufficient capacity for small-scale meat producers to slaughter and process their animals locally in Oregon and Washington. The goals for the project include: 1) increasing the supply of locally and sustainably produced meats, 2) determining how extensive these problems are and if the existing processing facilities and distribution networks are sufficient or if the current system needs to be modified, and 3) connecting potential and current meat producers with chefs and retailers. A successful long-term

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outcome will be marked by an increase in the supply of locally and sustainably produced and processed meats.

For the purpose of this project, meat is defined as beef, pork, lamb, goat, and bison that is produced and processed in Oregon and Washington. The categories of meat processing include custom-exempt and USDA inspected. In this report, “processing” refers to the entire spectrum of services from slaughter to the production of value-added products such as smoked ham or sausage. However, not all processing facilities provide all of these services, and in instances where clarification is needed facilities have been grouped into two separate categories: slaughter facilities and value-added processing facilities. Slaughter facilities are facilities that slaughter as well as commonly breaking down the carcass into primals and a limited number of fresh cuts. Value-added processing facilities can slaughter, and provide services such as aging, sausage making, smoking, and specialty cuts.

**Survey Methodology**

To best understand the current situation facing local producers and processors in Oregon and Washington, we conducted two surveys: a producer survey and a processor survey. Rural Roots, a non-profit organization based in Idaho, developed many of the questions in the producer survey. We obtained producers’ names from a number of organizations including Eatwild.com, the Eat Well Guide, Food Alliance, Oregon Tilth, Inc., and Local Harvest. We added several contacts through word of mouth from other producers. After we compiled a list of 351 producers, we sent surveys to producers with an introductory cover letter and a self-addressed return envelope. These were mailed in the last week of July 2005. In addition, we asked other organizations, such as the Oregon Cattlemen’s Association, the Oregon Meat Goat Association, and Washington State Sheep Producers to distribute the surveys to their members on our behalf. Of the original 351 surveys, six surveys were returned as undeliverable. After follow-up calls, a total of 84 surveys were returned, resulting in a response rate of 24%.

We compiled a list of processors that are licensed by the USDA, Washington State Department of Agriculture (WSDA), and Oregon Department of Agriculture (ODA) for facilities that are licensed and permitted for slaughter and meat processing, both USDA and custom-exempt. Efforts resulted in 283 contacts. These contacts were mailed a processor survey, also in the last week of July. Of the original mailed, eight surveys were returned as undeliverable. After follow-up calls, we determined that many contacts that have a meat license were not involved in commercial meat slaughter or processing, and that the survey should be reissued. We shortened the original survey for processors, obtained contact names for the companies we could, and reissued the survey at the end of September. The survey pool for the second mailing was 137 slaughter and processing facilities. The second survey resulted in a response rate of 13%. More detailed survey methodology is found in Appendix V. The survey questions are found in Appendices VI, VII, and VIII.

**Meat Production in Oregon and Washington**

According to the 2002 Census of Agriculture the total market value of agricultural products in Oregon and Washington was a combined $8.5 billion. Of that, livestock and poultry sales comprised about one-third of the value of agricultural products for the two states.
The intent of this research project was to focus on livestock producers who market and process their own livestock. The rationale for this is that producers who direct market are more likely to have direct contact with processing facilities and the accompanying laws regulating meat processing. As such, the sample population to which the survey was mailed was an intentionally stratified section of the total farmers in each state.

The census definition of a farm is “any place from which $1,000 or more of agricultural products were produced or sold, or normally would have been sold, during a census year.” As defined, a farm may or may not sell products commercially. They also may or may not process their own meat, as farmers may choose to sell their livestock directly through a commodity market. Unfortunately, the census statistics are not broken down in a manner that allows for a comparison between the total number of farmers who process their own meat in Oregon and Washington and the number of respondents to our survey.

The census statistics are broken into the number of farms selling a particular livestock type; cattle, hogs, sheep, goat, and bison. Adding the number of farms selling each type yields a total of 14,769 farms in Oregon and 9,062 in Washington. However, these values do not necessarily avoid double counting. For example, a farm selling both sheep and goats would count as two farms under this method. With this knowledge, it is impossible to determine what proportion of all farms in both states participated in our survey.

- We do know that livestock producers raising small numbers of animals make up a significant percentage of farms. Combined information from the 2002 Census for Oregon and Washington shows that: 94% (15,301) of farms with beef cattle sales have herd sizes smaller than 200 head and an additional 4% (645) have herd sizes between 200 and 500 head
- 98% (1,722) of farms with hog sales have herd sizes smaller than 500 head
- 96% (3,123) of farms selling sheep and lambs have herd sizes smaller than 300 head, while 99% (3,228) have herd sizes smaller than 1,000 head.

Specific numbers by farm are not available for goats or bison. However, due to demand for goat and bison meat relative to the other meats in the survey, it can be assumed that farms raising goats and bison will be small-scale operations. In Washington, 51 farms sell bison and 468 farms sell meat goats. In Oregon, 23 farms sell bison and 673 farms sell meat goats.

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A History of Meat Regulation

According to the USDA Economic Research Service, from 2000 to 2003 the yearly per capita consumption rate of red meat averaged 68 pounds each year. More specifically, that amounts to about forty pounds of beef, twenty-seven pounds of pork and half a pound of lamb. Specific numbers were not available for goats or bison. Supplying that large a quantity of meat to consumers in a safe manner and free from contamination can be difficult because of pressures to process animals quickly and because animals are coming from all over the country as well as being imported. Over the years, the government has monitored the meat industry and passed laws aimed at reducing food related illnesses, ensuring the humane treatment of animals, and protecting the working conditions of meat industry employees.

Today the meat industry is generally recognized as the most highly regulated food industry in the United States. However, it was relatively unregulated until the end of the 19th century when a European ban on potentially contaminated pork led Congress to pass the first Meat Inspection Act in 1890. The Meat Inspection Act of 1890 was amended a year later to include the inspection of cattle and beef for export. The meat processing industry continued to grow and by the beginning of the 20th century had become a thriving industry. The rapid growth of the industry led to problems; however, and in 1905 Upton Sinclair wrote *The Jungle* exposing many of the unsafe and unsanitary conditions of the Chicago meat processing industry. The resulting public outcry helped motivate the government to pass both the Federal Meat Inspection Act and the Federal Food and Drug Act in 1906. These two acts were aimed at protecting domestic consumers by preventing contaminated foods from being sold. In addition, the Federal Meat Inspection Act of 1906 required mandatory inspection of all animals going through interstate commerce.

After World War II the meat processing industry began undergoing significant changes much more rapidly than it had before the war. The increased ease of transporting livestock, due in part to the rapid expansion of the federal highway system, allowed slaughterhouses to relocate from expensive urban areas to rural areas. Competition among meat processing companies led to the construction of sophisticated, mechanized plants to produce economies of scale and cut costs. These mechanized plants included conveyor belt, assembly line processing that increased efficiency and allowed for increases in production capacity.

Following this growth and consolidation of meat processing, the laws regulating the meat industry—which had remained fairly static since the passage of the Federal Meat Inspection Act—began to change again. In 1958 the National Humane Slaughter Act established standards for equipment and methods used in slaughtering poultry and livestock. Mislabeling concerns were addressed in 1967 with the passage of the Wholesome Meat Act, which amended the Federal Meat Inspection Act and described under what circumstances meat could become adulterated. The Wholesome Meat Act also gave responsibility for inspecting meat to the states with the stipulation that the state programs be at least equal to the federal inspection system. During the 1970s many states chose to give up their inspection rights and turned them over to the federal government.

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In 1977 federal inspection responsibilities were transferred again—this time to the Food Safety and Quality Service agency that was renamed the USDA Food Safety and Inspection Service (FSIS) in 1981. Today the FSIS is the main government agency charged with overseeing both the quality of meat products and the system of inspection regulations to ensure that meat products sold commercially are wholesome and properly labeled.

Despite all the regulations, contamination of meat does occur. An outbreak of E. coli in 1993 that caused four hundred illnesses and four deaths in the Pacific Northwest resulted in another public furor and a demand for more stringent rules regarding food safety. The FSIS, which until that point had been relying on organoleptic, or sensory inspection, began testing for the presence of pathogens as well. By 1996 the Pathogen Reduction/Hazard Analysis and Critical Control Point (HACCP) systems rules were passed. These rules clarified respective roles of the government and industry. When first implemented the HACCP rules applied to approximately 6,500 federally-inspected plants and 2,550 state-inspected plants in the United States.7

Changes in the Industry

The consolidation trend toward larger and fewer meat processing plants has continued since World War II. Twenty years ago meat processing plants slaughtered an average of 175 cattle per hour; today the larger meat processing plants slaughter up to 350 cattle or 1,000 hogs per hour.8 Some large plants, many located in the geographic area of Nebraska, Kansas, eastern Colorado, and the Texas Panhandle, typically slaughter 4,000 to 5,000 cattle a day.9 A plant constructed in Oklahoma can slaughter up to 16,000 hogs a day.10

As changes in technology made it possible to slaughter more animals, slaughter facilities began consolidating operations and closing smaller facilities. As a result, there are fewer and fewer USDA inspected slaughter facilities. Since the 1980s, more than 405 USDA inspected slaughter facilities have closed.11 In 2004 there were 855 USDA inspected slaughter facilities in the United States. By January 1, 2005 that number had dropped to 825.12 Today, four firms slaughter eighty percent of all US steers and heifers.13 At the time of this survey, specific numbers for USDA inspected slaughter facilities in Oregon and Washington were not available from the USDA. In Oregon, slaughter facilities with USDA inspection also have an ODA license, and currently the ODA issues licenses to 16 slaughter facilities. License information from Washington is only available by requesting company-specific information and a compiled list is not available.

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The efficiency and processing capacity that comes with mechanization and consolidation has hurt small-scale meat producers and processors. Small facilities that are able and willing to slaughter and process a few head for an individual producer are decreasing. In the past ten years the number of small meat processing companies has decreased by approximately 10%. With 52% of commercial red meat production in 2004 coming from only four states (Iowa, Kansas, Nebraska, and Texas), and many small processors going out of business, small-scale producers often cannot afford to transport their animals to a USDA inspected facility. The costs of transporting a small number of livestock are higher per head than for transporting a larger number, and the price the producers receive does not always cover the costs. Additionally, small producers generally have limited access to large processing facilities because the large processors would lose their gains in efficiency and consequently, profit margin, if they were to process a small number of animals for an individual producer.

**Key Survey Results**

The 2002 census numbers for Oregon and Washington suggest that there are a significant number more farms raising livestock than those for whom we were able to obtain contact information. We are consequently making some broad generalizations based on the response rate to explain what these results mean in the context of the industry. Assuming the survey group was representative of all small-scale meat producers in Oregon and Washington, this survey provided verification that meat producers are often forced to travel long distances to a processing facility. Specifically, data shows that USDA inspected processing facilities are concentrated along the I-5 corridor in the western side of the region.

Currently, most producer respondents use a custom-exempt processing facility, while USDA inspected processing comes in a close second. Many producers also use more than one type of facility (see Figure 1).

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The use of a particular slaughter or value-added processing facility does not necessarily mean the producer is satisfied with the services they are receiving. Although one-fourth of producers say their current processing facility/facilities meet(s) their needs, the majority of producers would like improved access to processing (see Figure 2).

One explanation for this desire for improved access stems from the distance producers must travel. As Figure 3 shows, the majority of producers have their animals processed more than 30
miles from their farm. Over a quarter of respondents transport their livestock more than 90 miles. Sixteen percent of respondents travel more than 120 miles.

This finding is consistent with challenges of getting livestock slaughtered and having value-added through processing as listed by producers. Twenty-four percent of respondents stated their major obstacle is distance to the facility. Other frequently cited challenges include: transportation, storage, costs of production, slaughtering capacity of processors, and scheduling.

![Figure 3: Distance producers travel to slaughter/processing facility](image)

Interestingly, 37% of producers said that there is a processing facility closer to them than the one they use. Reasons given for not using the closer facility include: dissatisfaction with the quality of the facility, the facility is not USDA inspected, or the facility doesn’t provide all the services that the producer requires.
Figure 4: Services producers require from processing facilities

The assertion that distance is a significant challenge is supported by mapping the locations of producers included in this survey in relation to the location of processing facilities in Oregon and Washington. The resulting maps (as seen in Appendix IX) show USDA processing facilities concentrated along the I-5 corridor.

We also asked producers if they would be willing and/or able to produce more livestock if they had improved access to processing facilities. Forty-two percent of respondents said they would consider raising a greater number of livestock, and 18% of respondents said they would consider raising a different species. The processors could absorb this added production.

On the processor survey, most respondents suggested that they currently have excess capacity. In addition, many respondents would be able to increase their processing capacity if they were guaranteed a supply of animals and could consequently hire more employees. According to the projections of the processors surveyed, potential capacity among slaughter and processing facilities far exceeds the actual head processed. These incongruities are shown in Table 1.

<table>
<thead>
<tr>
<th>Livestock Species</th>
<th>Sum of Head processed in 2004</th>
<th>Sum of Yearly Capacity in 2005</th>
<th>Excess Capacity (calculation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>10,785</td>
<td>30,032</td>
<td>19,247</td>
</tr>
<tr>
<td>Hogs</td>
<td>140,380</td>
<td>534,708</td>
<td>394,328</td>
</tr>
<tr>
<td>Sheep</td>
<td>4,002</td>
<td>21,763</td>
<td>17,761</td>
</tr>
<tr>
<td>Goat</td>
<td>20</td>
<td>7,250</td>
<td>7,230</td>
</tr>
<tr>
<td>Bison</td>
<td>709</td>
<td>1,750</td>
<td>1,041</td>
</tr>
</tbody>
</table>

Table 1: Capacity of slaughter and processing facilities in Oregon and Washington
USDA Inspected Processing

Today federal law requires USDA inspection at facilities “in which any livestock are slaughtered for transportation or sale as articles of commerce, or in which any products of, or derived from, carcasses of livestock are, wholly or in part, prepared for transportation or sale as articles of commerce, which are intended for use as human food.”\(^{16}\) All meat processed at facilities under USDA inspection is eligible for sale in interstate commerce.

USDA meat inspector services are available free of charge to processors. In fact, inspector services are paid by taxpayers at an annual cost of about $2 per person.\(^{17}\) Nonetheless, getting a plant to meet USDA inspection regulations can be a costly endeavor. To open a new plant, facilities must comply with a large number of regulations detailing the requirements for construction, lighting, ventilation, plumbing, sewage, water supply, dressing rooms, lavatories and toilets.\(^{18}\) Often it is just as costly, or even more so, to get a plant up to code after it has been out of commission. There are more costs associated with running a USDA inspected facility than a custom-exempt facility in part due to the money required for licensing. Once a facility is licensed, there is the extra requirement of paperwork and meat testing that must be completed which is a time burden to many small processors.

Although 40% of survey respondents use a USDA inspected processing facility, USDA inspected services are often more expensive than other alternatives and are difficult to access. We asked producers what challenges or barriers they face in processing and distributing their product. Twenty-nine percent of the respondents cited a scarcity of USDA inspected facilities as a challenge. Additionally, 60% of respondents described needing improved access to a USDA inspected processing facility.

Custom-Exempt Processing

In Oregon and Washington, the alternative to processing at USDA inspected facilities is for the producer to sell live animals and have the consumer process the animal at a custom-exempt facility. 45% of producers surveyed use a custom-exempt meat processing facility. The meat from custom-exempt slaughter and processing must be labeled as “Not for Sale” and is for the consumption of the animal’s owner(s) and their non-paying guests only. By law, it cannot be sold, traded, or given away. The federal meat inspection act has an exemption for

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\text{the custom slaughter by any person of cattle, sheep, swine, or goats delivered by the owner thereof for such slaughter, and the preparation by such slaughterer and transportation in commerce of the carcasses, parts thereof, meat and meat food products of such livestock, exclusively for use, in the household of such owner, by him and members of his household and his nonpaying guests and employees}^{19}\]

as well as for

\(^{16}\) 9CFR302.1 Available at <http://www.gpoaccess.gov/cfr/>.


\(^{18}\) 9CFR416.2 Available at <http://www.gpoaccess.gov/cfr/>.

\(^{19}\) 9CFR303.1 Available at <http://www.gpoaccess.gov/cfr/>.
the custom preparation by any person of carcasses, parts thereof, meat or meat food products derived from the slaughter by any individual of cattle, sheep, swine, or goats of his own raising or from game animals, delivered by the owner thereof for such custom preparation, and transportation in commerce of such custom prepared articles, exclusively for use in the household of such owner, by him and members of his household and his nonpaying guests and employees.20

Without exception, meat products processed at custom-exempt facilities are not acceptable for sale. If the livestock is to be slaughtered or processed through custom-exempt processing, the producer must sell the live animal to a consumer. While it is acceptable for more than one consumer to buy an animal, the entire animal must be sold before it is slaughtered. Selling more than a quarter of an animal often begins to push the limit of what is considered legal. Producers can assist with the slaughter and processing arrangements as well as delivery requirements for their customers for a fee; but it is best for the customer to pay for the processing directly. Custom-exempt facilities are licensed by the state and are controlled by many laws and regulations, some of which vary by county.

State Meat and Poultry Inspection Programs
In 28 states, state governments still run their own meat and poultry inspection programs (MPIs) such that the state, not the federal government, regulates any meat products processed and sold within the boundaries of that state. State MPIs agree to meet standards “at least equal to” those of the federal standards set forth in the Federal Meat Inspection Act.21 However, meat prepared under state inspection is limited to intrastate commerce and is not allowed for sale or transport across state lines. Establishments run under state MPIs tend to be small because they are servicing the small and medium scale meat producers, and consequently they are often provided more personalized guidance in developing their food safety oriented operations. In states with MPIs, establishments have the option to apply for federal or state inspection.

In the 1970s many states opted to give up their MPIs in favor of USDA control. Oregon handed over control of meat inspection in 1972; Washington followed suit in 1973.22 States in opposition to maintaining MPIs often reason that relinquishing control of inspection to the federal government is more cost effective because the state no longer has to fund a state inspection program. In addition, opponents argue that it is not fair for states to have regulations equivalent to federal requirements yet not be able to sell their meat in other states. Proponents of MPIs, including many small and medium-volume processors, believe that state inspected processing is advantageous because a state inspection program is more easily adapted to the needs of smaller businesses.

20 Ibid.
**Mobile Slaughter Units**

In addition to options related to the type of inspection, some livestock producers also have the choice between slaughtering their livestock at a fixed site or at a mobile slaughter unit. Mobile slaughter units typically come in the form of one or more trailers that can provide slaughtering services to a producer on site. Because of the limited capacity and resources available to a mobile unit, they are often associated with fixed-site processing facilities as well. Many small-scale producers prefer mobile slaughter units because they reduce the amount of travel required. Besides being more convenient for the producer, the reduction in travel time also decreases the amount of stress placed on the animal. High stress levels can cause a rapid decline in meat pH, resulting in less than premium meat often known as “dark cutters” in cattle or pale soft exudative (PSE) pork in hogs. Thus, the stress induced by long periods of travel causes the producer to lose money based on the poorer quality of meat. Sixty-five percent of survey respondents said they would prefer to use a USDA inspected mobile slaughter unit over a fixed site USDA inspected facility, although the carcasses would still need to be transported to a fixed site processing facility. The most commonly cited reason for the preference of a mobile option was decreased stress on the livestock.

Until very recently, mobile slaughter facilities had not been USDA inspected, therefore, they could not be used to process animals intended for commercial sale. In 2002 the first USDA inspected mobile slaughter facility in the country was constructed thanks to efforts of the Island Grown Farmers Cooperative (IGFC). To build this mobile facility in accordance to USDA specifications, the IGFC received grants from Washington State Department of Agriculture, USDA Rural Development, US Forest Service, and Islands District Economic Council. This mobile slaughter facility, based in Bow, Washington, is composed of a 33 feet long, 13 feet tall gooseneck trailer and is pulled by an F450 Ford flatbed truck. These specifications include three sections: processing, refrigeration, and HVAC/storage. According to Bruce Dunlop, the project manager of the Lopez Island mobile slaughter unit, four steers must be processed at each stop in order for the mobile slaughter facility to break even. A full day of work consists of five to eight steers, depending on the number of workers. The cooler capacity is ten steers, or the equivalent quantities of other animals. Members of the cooperative are given priority for using it, but the facility can be used by anyone in the roughly 100-mile radius around Bow including San Juan, Whatcom, and Skagit counties. The number of livestock available in the area for processing allows the facility to employ six full time equivalent employees. The mobile slaughter facility operates three days a week and meat is cut and packaged five days a week at the fixed-site processing facility, which the cooperative also runs.

Delivery of a second USDA inspected mobile processing unit in Washington is expected concurrent with the writing of this report. Unlike the Lopez Island facility, this is a two-piece facility that includes a 24-foot refrigerated truck that pulls the slaughtering facility. Capacity is expected to be at least ten steers on a good day, while two butchers could do more. This will service the five northeast Washington counties of Ferry, Stevens, Pend Oreille, Lincoln, and

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24 Bruce Dunlop, telephone conversation with author, 8 Aug 2005.
Spokane. The project was also funded by grants and will be operated by Smoky Ridge Meats & Sausage in Chewelah, WA.\textsuperscript{25}

Many other organizations in Oregon and Washington continue to conduct feasibility studies for building USDA inspected mobile slaughter units. In 2003 the ODA drafted a report on the feasibility of bringing a USDA inspected mobile slaughter unit to eastern Oregon. While the funding and research was almost complete, the challenge to the project was finding someone to operate the facility. According to Bruce Dunlop, the challenge of finding funding and lack of desire to run the facility are common difficulties for building USDA inspected mobile slaughter units.\textsuperscript{26} Those who already have custom-exempt mobile slaughtering facilities are usually fully booked and have no desire to put money into licensing. There are more costs associated with running a USDA inspected facility than a custom-exempt facility in part due to the money required for licensing. Once a facility is licensed, there is the extra requirement of paperwork and meat testing that must be completed which is a time burden to many small processors.

**Skilled Butchers**

Even livestock producers who have access to the types of slaughter and processing facilities they need can face other issues. The consolidation and automation of the meat processing industry means that butchers and meat cutters often work on assembly lines and are required only to know one or two cuts of the many required to break down a carcass. There is some concern that highly skilled butchers are becoming more and more scarce and finding experienced butchers is difficult. According to the US Bureau of Labor Statistics, employment of highly skilled butchers is declining at the same time employment of unskilled meat cutters is increasing.\textsuperscript{27} In 1994 there were 218,994 skilled butchers and meat cutters in the United States.\textsuperscript{28} By 2002 there were 132,000 butchers and meat cutters. National employment estimates from November 2004 register 128,700 butchers and meat cutters,\textsuperscript{29} and this number is expected to continue to decline through 2012.\textsuperscript{30} One explanation for the decline in numbers is the consolidation and automation of the industry that allows employers to hire lower paid meat cutters to prepackage meat at meat processing plants, thus reducing the need for skilled butchers.

The lack of monetary incentive has also been cited as a deterrent for entry into the industry. The mean income for butchers and meat cutters in 2002 was $25,500. Those in the top 10% of the pay scale were paid more than $42,330 while those in the bottom 10% earned less than $15,490.\textsuperscript{31}

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\textsuperscript{26} Bruce Dunlop, telephone conversation with author, 8 Aug 2005.
\textsuperscript{31} Ibid.
Butchers typically train on the job, and the only qualifications required by many employers include adequate physical strength as well as good coordination, depth perception, and color recognition. Sometimes it is required that the employees attend a two-day course on the HACCP system or obtain a Food Hygiene Certificate. Depending on the state, a health certificate may be required as well. Training time can take as little as a day or two to learn a specific cut needed to work on an assembly line, to a year or two to become a highly skilled butcher. Certain tasks, such as the evisceration of a large animal, can take several months to learn. Of the nine respondents who answered questions related to this topic, meat cutters were reported to have an average of between nine and 25 years of experience.

**Stages of Processing**
The consolidation of the meat processing industry has resulted in economies of scale that allow large meat processing facilities to slaughter 325 head an hour for roughly half the cost than a smaller processor slaughtering 25 head an hour.\(^\text{32}\) Rendering, the process of converting meat byproducts into marketable goods such as edible fats and proteins, as well as inedible tallow and grease, is one of the largest sources of income in meat processing. Small-scale processors, however, are often not able to supply a sufficient volume of byproduct to make the transportation to the rendering facility cost effective. The costs at varying stages of processing are consequently much higher among smaller processors.

One survey respondent noted that services are priced according to what is provided. Consequently, price hinges upon a number of factors including the distance the livestock must travel to the facility and the meat products that are processed. The price of USDA inspected processing is often greater than custom-exempt slaughter due to the higher overhead costs. Questions about the costs at the different stages of processing are most often passed over on the survey, and those who did respond made general comments. Of the three surveys responses that included values for both organic and non-organic meat processing, the price per pound for organic meat was invariably higher than that of non-organic meat. More information about stages of processing is found in Appendix II.

**Processing Byproducts**
Processing facilities face the question of how to dispose of the waste produced by livestock slaughter and processing. The processing of a large number of animals can have significant environmental impacts and often requires compliance with environmental regulations. To begin, a large amount of water is required. For example, 60 to 100 gallons of water are needed to process one hog, while the processing of a single cow requires an average of between 185 and 265 gallons of water. In addition to the water usage, the volume of byproducts can be considerable. On average, a steer sent to slaughter weighing 1,000 pounds will only produce 450 pounds of edible meat.\(^\text{33}\) While the byproduct weight will vary depending on animal size and the extent of processing, this leaves a substantial amount of byproduct to be discarded.

The ability to successfully dispose of slaughter and processing byproducts can be a factor in determining the success of a larger facility or the failure of a smaller one. Larger facilities have


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16
the ability to process the byproducts to help mitigate the costs of processing and allow them to offer lower processing costs to the livestock producer. Smaller plants, however, do not always have sufficient quantity or resources to have byproducts rendered and further processed, and can be left with an added cost of disposal. Other concerns have surfaced relating to transmissible spongiform encephalopathies among which the most well known are Mad Cow disease in cattle and scrapie in sheep. Often byproducts from these animals are not accepted at rendering facilities because of potential contamination of the goods made from the byproducts, such as the meat and bone meal used as a protein rich additive for livestock and pet food.

Rendering plants operate under USDA/FSIS supervision. However, like slaughter and processing facilities, rendering plants are becoming increasingly scarce due to the vertical integration of the large processing facilities. Many agree that rendering is the most difficult problem in locating a processing plant. According to the National Renderers Association, 36 billion pounds of inedible animal byproducts are rendered or recycled each year. 34 The Waste Reduction Resource Center estimates that there are 150 independent, off-site rendering plants and 100 integrated plants (rendering on site at processing facilities) in the United States. 35 Together, these plants produce an average of seven million tons of rendered products annually resulting in a value of about $3 billion. 36

The decline in the number of rendering plants is due in part to a decline in prices of hides, tallow, meat and bone meal, and other commodities produced from animal carcasses. Fees charged by rendering plants for the collection of byproducts have steadily increased to make up for declining product prices. In the northwest, having byproducts rendered is not always an option for the smaller producer or processor. In 2001 there were sixteen rendering plants in Oregon, 37 by 2005 there were nine, 38 which is a 44% decrease. Washington lists ten licensed rendering plants in 2005. 39 Not all of these facilities will accept meat-processing byproducts. Fourteen rendering plants completed a Department of Environmental Quality (DEQ) survey in 2001, and only eight accepted meat-processing byproducts. 40 In addition to the scarcity of rendering plants, the shipping costs and expense of transporting enough byproduct to many of these plants often make the trip cost prohibitive for many small processors and they must find alternatives for waste disposal.

One way to cheaply dispose of waste is by composting. In order to compost, there must be a layer of sawdust or wood chips at least one foot thick upon which to place the waste. Under

36 Ibid.
ideal conditions, an entire cow carcass requires 6 to 8 months to fully decompose with only a few small bones remaining,\textsuperscript{41} resulting in a nutrient rich form of compost.

**Distribution/Marketing**

Strategies for marketing meat will vary greatly upon a number of factors such as the product sold, the resources available to the producers, and producer preferences. Marketing plans are operation specific and should be developed according to the best practices for an operation. Often large meat processing companies do not want to work with small numbers of animals at a time due to economies of scale and the variability in body sizes often found between many small groups of livestock from separate ranches or farms. Additionally, the processed foods market can be difficult for small-scale producers to enter due to the large quantities of product required. Because small-scale producers get very little return on their investment in the commodity market, many are turning to direct marketing options. Some of these options include selling at farmers’ markets, selling directly to consumers, and selling to retailers and restaurants.

Combined, small-scale producers who responded to the survey market to almost two thousand individuals. In addition, many producers sell their products at farmers’ markets where they can reach thousands more. For producers who are not selling to individuals, restaurants and retailers also provide popular markets. Producers who responded to this survey sold their products to 189 restaurants and 60 retailers.

Just over half of the respondents sell their products within 60 miles of the processing facility, while another 25% sell their products at distances greater than 180 miles. Despite the distance, 68% of producers continue to deliver directly to the consumer. However, this is not always an easy undertaking, and 36% of respondents said they currently need assistance with product distribution. Asked if they would need assistance if they were to expand, this number increases to 63%.

**Niche Marketing**

In order to add value to their products, many producers are creating niche markets for locally raised livestock by direct marketing or by selling under eco-labels. A shift in interest in recent years toward locally and sustainably produced foods has increasingly caused consumers to take an interest in the origin of their food. Recent studies by Ohio State University show that consumers are willing to pay up to 25% more to know that the animals they are eating were treated humanely.\textsuperscript{42} In 2003 natural and "organic" meat sales accounted for $75 million in the United States; although this still represents less than 1% of total meat sales.\textsuperscript{43} Ecotrust surveyed chefs and retailers in May 2005 and compared the information to 2004 data and found there was a 56% increase in demand for locally grown beef, 40% increase in demand for locally grown pork, 35% increase for goat and 34% increase for lamb. In 2004, 48% of the buyers


served locally grown meats; however, there is still opportunity to promote the benefits of buying locally raised meats to the 34% of chefs and retailers that buy less than 50% from local growers. These results indicate that there is a successful movement to encourage buyers to purchase from local growers.

On the producer survey, 17% of respondents raised certified organic livestock. Only seven use an organically certified processing facility while fourteen marked that they need improved access to an organically certified processing facility. Although the majority (59%) of respondents with certification felt that it gave them a price or marketing advantage in their sales, overall feelings were mixed. One producer felt that most consumers do not understand how meat is processed and consequently certification does not make a significant difference when it comes to sales.

A niche market for locally produced and processed meats is apparently strong. 71% of producers and 77% of processors responding felt that demand for locally grown meats at retailers and restaurants is ‘somewhat strong’ to ‘very strong.’

**Breeds**

Like much of the meat industry, the majority of animals being sent to the slaughter have become more uniform in the last half a century. In large operations, profits can be maximized in a controlled environment with specialized breeds. Genetic analysis programs have determined which breeds and hybrids of breeds will produce the most profitable meat. Breed associations with the goal of promoting specific species have contributed to the shift toward a few main breeds. The American Angus Association has been perhaps the most successful with their Certified Angus Beef program. Today nearly half of all purebred cattle in the United States are Black Angus, more than 90% of all semen sales are Black Angus, and nearly 40 products use the word “Angus” as part of their brand name.44

Livestock breeds from our survey did not appear to have significant impact on marketing. While some more common breeds did appear often, such as Angus in cattle and the Boer breed in goats, no one breed dominated the market.

**Additional Resources**

Ecotrust is not the only organization working to understand this problem. The entire body of work dedicated to this subject is large and growing. There are a few organizations that have come to light during the researching of this project who are working specifically in the Northwest. NEWCO Northwest, LLC issued the Oregon Lamb Processing Feasibility Study in August 2003 evaluating the options of species specific, stationary and mobile slaughter facilities, as well as limiting factors in the growth in marketing and processing of local product.45 The Northwest Cooperative Development Committee (NWCDC) recently issued a report “to establish a marketing channel for regional producers of goat meat to fill the increasing demand

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The Oregon Cattlemen are evaluating the feasibility of locating a new processing plant in the northwest. Additionally, organizations such as The National Sustainable Agriculture Information Service and Rural Roots have been assessing meat production and processing.

**Recommendations**

The survey results suggest USDA inspected facilities in both Oregon and Washington are capable of processing more animals. In addition, the livestock producers have the capacity to raise additional livestock and production capacity is not the main hurdle. Distance to the facility is the main hurdle. Livestock producers transport the animals long distances to the slaughter facility so the capacity exists but the farmers are too far away to take full advantage of the services.

There is potential for change but it will require a collaborative and combined effort by many groups. One comprehensive solution to the problems facing small-scale meat processors and producers is to work to change public opinion as well as current policies and laws. Current alternatives that are meeting with different levels of success are the construction of USDA inspected mobile slaughter units to address distance issues, and the development of cooperatives that could help with marketing and distribution issues. One well-known example of a marketing cooperative is Country Natural Beef/Oregon Country Beef. This marketing cooperative has seen astounding success, growing from 3,400 to 40,000 head per year over the past ten years. Other livestock producers see too many problems associated with cooperatives and see cooperatives as having limited practicality.

Another alternative is for Oregon and Washington to reestablish their jurisdiction over state monitoring of slaughter and processing facilities. In a recent study, state inspection directors from states that have retained state meat inspection programs cited greater ease in responding to the unique needs and demands of producers and processors and the desire to develop local or “niche” markets as reasons for keeping the program.

To address the concern about the scarcity of highly skilled butchers, Ecotrust will organize a training workshop to educate meat processors, chefs and producers alike.

Meat producers and buyers continue to meet with each other at the Farmer-Chef Connection event to make connections and understand the difficulties facing those in the meat industry. Since the Farmer-Chef Connection is expanding into Spokane and Seattle, Washington, there will be more opportunities for producers to gain additional customers and have the means to increase their size. In order to track the changes of meat production over time, Ecotrust will add questions from the producer’s survey to the Guide to Local and Seasonal Products survey.

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47 Cowart, Coy. Telephone conversation with the author. 13 July 2005


providing information for chefs and retailers to source local products, and for farmers to sell products directly to restaurants and retailers.

Acknowledgements
We would like to thank the Bullitt Foundation for their support of this project. We are grateful for the support of the Portland Chapter of the Chefs Collaborative, especially Greg Higgins and Greene Lawson whose interest in meat production sparked the idea for this study. Colette DePhelps, the Executive Director of Rural Roots in Idaho, provided invaluable resources and guidance in creating the survey questions, and Kim Leval also provided insight.
Appendix I: Definitions

**Free Range:** Free range is the term applied to livestock that have been allowed to graze on open range for the duration of the animal’s life.

**Grain-fed:** Term often applied to cattle that have been raised on a diet of soy and/or corn.

**Grass-fed:** Animals are grass-fed if they have grazed on pasture. This is typically a term used to refer to cattle. Cattle that have been solely grass-fed tend to gain weight more slowly than those that are grain-fed and are often thought to produce leaner meat.

**Mobile slaughter unit:** Mobile facility where animals are slaughtered.

**Natural:** A meat can be described as natural if the animal was raised under natural conditions and fed with natural feeds, grass, hay, or grains. In addition, the animal was not injected with any hormone stimulants.

**Organic:** Organic meat products come from animals that have not been given any antibiotics or growth hormones. They are fed on organic feeds that have been “produced without using most conventional pesticides; fertilizers made with synthetic ingredients or sewage sludge; bioengineering; or ionizing radiation.” Animals are also raised with the coexistence with the conservation of soil and water to enhance environmental quality for future generations.

**Processing facility:** A facility providing the entire spectrum of services from livestock slaughter to the processing of consumer-ready products such as smoked ham or sausage.

**Slaughter facility:** Also called a slaughterhouse. This is a fixed site facility where animals are slaughtered and often broken down into primals and a limited number of fresh cuts.

**Sustainable Meat:** Meat from animals that have been raised humanely and with consideration for the long-term health of the environment. Sustainable certification available through Food Alliance requires the animals have no genetic modification, no use of food additive antibiotics or hormones while at the same time looking at the health of the environment and worker conditions.

**Value-Added Processing:** Value-added processing facilities can slaughter, but often just provide services such as aging, sausage making, smoking, and specialty cuts.

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Appendix II: Stages of Production

While the stages of production can be disputed, there are several that are fairly common. The live weight is the weight of an animal before any processing has occurred. The hanging weight, also known as the dressed or carcass weight, is the weight of a carcass after it has been dressed out and hung to age if needed. When bidding on an animal, this price removes the uncertainty about the actual dressed weight of an animal. For consumers purchasing an entire animal, pricing at this weight ensures fairness between those who prefer boneless to bone-in. Finally, there is the package weight. This is the weight of the final processed meat in the package.

As a ballpark figure, a beef live weight with an average of 1,000 pounds will result in a hanging weight of 682 pounds, and will yield a total of 550 pounds of meat after processing. In other words, half a beef will yield around 200 pounds of meat. For hogs, a live animal with a weight of 250 pounds will have an average hanging weight of 175 pounds and yield a total of 165 pounds of meat. Finally, a lamb with a live weight of 95 pounds will weigh about 40 pounds after slaughter and yield a total of about 33 pounds of meat.52

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Appendix III: Rules and Regulations

**Federal Laws:**

Title 7 – Agriculture
  Ch 9 – Packers and Stockyards
  Ch 48 – Humane Methods of Livestock Slaughter
  Ch 63 – Farmer to Consumer Direct Marketing
  Ch 94 – Organic Certification

Title 9 – Animals and Animal Byproducts
  PART 95 – Sanitary Control of Animal Byproducts
  PART 417 – Hazard Analysis and Critical Control Point (HACCP) Systems
  PART 317 – Labeling, Marking Devices, and Containers

**Washington:**

*Revised Codes of Washington* <http://www.leg.wa.gov/rcw/index.cfm>
Title 16 – Animals and Livestock
  16.49 – Custom slaughtering
  16.50 – Humane slaughter of livestock
  16.68 – Disposal of dead animals

Title 16 – Department of Agriculture
  16-19 – Custom farm slaughterers, custom slaughtering establishments, and custom meat facilities
  16-24 – Humane slaughter of livestock

**Oregon:**

*Oregon Revised Statutes* <http://www.leg.state.or.us/ors/>
CH 599 – Livestock auction markets: stockyards; auction sales
CH 603 – Meat dealers and slaughterers
  -Regulations for custom facilities
CH 604 – Brands and marks; feedlots
CH 619 – Labeling & Inspection of Meat and Meat Food Products
CH 628 – Refrigerated locker plants

*Oregon Administrative Rules* <http://arcweb.sos.state.or.us/banners/rules.htm>
603-028 – Regulations for custom facilities
Appendix IV: Further Reading


Grandin, Temple. “Recommended Stunning Practices.”  


“Mobile Processing Unit.” Lopez Community Land Trust.  


USDA Agricultural Marketing Service. Livestock and Seed Program.  

USDA Food Safety and Inspection Service. “Fact Sheets.”  

Appendix V: Methodology

To best understand the current situation facing local producers and processors in Oregon and Washington, we conducted two surveys: a producer survey and a processor survey. Rural Roots, a non-profit organization based in Idaho, developed many of the questions in the producer survey. We obtained names from a number of organizations including Eatwild.com, the Eat Well Guide, Food Alliance, Oregon Tilth, Inc., and Local Harvest. We added several contacts through word of mouth from other producers. After we compiled a list of 351 producers, we sent surveys to producers with an introductory cover letter and a self-addressed return envelope. In addition, we asked other organizations, such as the Oregon Cattlemen’s Association, the Oregon Meat Goat Association, and Washington State Sheep Producers, to distribute the surveys to their members on our behalf. Of the original 351 surveys six surveys were returned as undeliverable.

During the week before the survey deadline we made follow-up phone calls to each of the producers who had not returned a survey and for whom there was an available phone number. If an answering machine or voicemail picked up, we left a phone message requesting that they return the survey or call if they had any questions. At least four farms no longer produced meat and eighteen phone numbers had been disconnected. Thirty-nine surveys were returned after these follow-ups resulting in a total of 84 responses and a response rate of 24%.

We compiled a list of processors that are licensed by the USDA, Washington State Department of Agriculture (WSDA), and Oregon Department of Agriculture (ODA) for facilities that are licensed and permitted for slaughter and meat processing, both USDA and custom-exempt. Efforts resulted in 283 contacts. We mailed these contacts a processor survey. Of the original mailed eight surveys were returned as undeliverable.

We also made follow-up phone calls to the contacts on the processors list. Because we addressed the original surveys to a generic “To Whom It May Concern,” follow-up phone calls were difficult to make. After those reminder phone calls, a total of thirteen surveys were returned. Some processors suggested that September was a very busy time of year, which would account for the low response rate. Others suggested that the survey was too long and/or too confusing. Since we sent the original survey to everyone with a meat license and a number of the original contacts were not involved with meat slaughter or processing, we decided that the survey should be reissued. We shortened the original survey for processors to two pages with a total of thirteen mostly multiple-choice questions. Before this second survey was reissued, we called each company on the processor list and obtained contact names when they were available. After we completed the phone calls, this left a new survey pool of 137 slaughter and processing facilities, including the original thirteen that responded to the first survey. We were unable to contact all of the companies in time to resend the survey and others asked not to be included in the survey. We reissued 76 surveys, again with a self-addressed return envelope, and ten surveys were completed. A total of 23 surveys out of 137 were completed, and this resulted in a response rate of 17%.

The information gathered from the survey was entered into a database and subsequently queried to determine aggregate answers to the survey questions.
Some of the questions in the surveys asked for the number of head slaughtered or taken to slaughter. During analysis it was discovered that many of the responses were not uniform due to the open-ended nature of some of the questions and the size variability between operations. For the producer survey the number of animals slaughtered was extrapolated by multiplying the number of animals taken to slaughter each time by how often the producer took animals to be slaughtered. For uniformity this number was divided by 12 if necessary to calculate the number slaughtered each month.

In determining distance traveled for producers, distances described as “Other” were reviewed and those that listed over 120 miles were calculated.

Question #8 of the producer survey asked what challenges or barriers the producer faces in processing and distribution. This was an open-ended question, so to analyze the data responses were divided into three categories of challenges: problems with access to USDA inspected facilities, distance to a processing facility, and other. The number of responses of each category was summed and related to the total number of question responses of 62.

Processors were asked for the weekly capacity for slaughter/processing at their facility. In analysis, a yearly capacity was needed and was calculated by multiplying the weekly capacity by 50 working weeks per year.
Appendix VI: Survey for Producers

Solving the Local Meat Conundrum
Survey for Producers
Due August 19, 2005

Name of business________________________________________________
Name of person filling out this survey________________________________
Address_________________________________________
City_______________________ State__________ Zip____________
County___________________
Phone_____________________ Fax____________________
Email_________________________________
Website_____________________________________

1. How many acres is your ranch/farm?
   Total acres: ____________  Acres in cropland: ______
   Acres in pasture: ________  Fallow acres: __________
   Leased acres: __________  Other: ________________

2. In 2005, what livestock species are you raising for slaughter?

<table>
<thead>
<tr>
<th>Species</th>
<th>Breed(s)</th>
<th>Number you expect to raise in 2005 for slaughter/processing?</th>
<th>Total maximum yearly production capacity (includes different age classes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
<td></td>
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<tr>
<td>Hogs</td>
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<td>Sheep</td>
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<td>Goat</td>
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<tr>
<td>Bison</td>
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<td></td>
</tr>
</tbody>
</table>

3. In the future, how many animals do you anticipate processing per year?

<table>
<thead>
<tr>
<th>Species</th>
<th>Animals processed per year in 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
</tr>
<tr>
<td>Hogs</td>
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<tr>
<td>Sheep</td>
<td></td>
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<tr>
<td>Goat</td>
<td></td>
</tr>
<tr>
<td>Bison</td>
<td></td>
</tr>
</tbody>
</table>
4. What is the livestock density on your ranch/farm?

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of animals per acre of utilized pasture</th>
<th>Average hours per day spent on pasture during grazing season</th>
<th>Months animals are on pasture (please list the months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hogs</td>
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<tr>
<td>Bison</td>
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</tbody>
</table>

5. What production technique(s) best describe(s) your operation? (Check all that apply)
- Conventional
- Certified Organic
- Food Alliance Certified
- Pasture Raised
- Other: ______________

6. How would you describe your current slaughter/processing facility usage? (Please check all that apply, list the name of the processing facility and what species you process there)
- I use a USDA inspected processing facility
  Facility Name(s):____________ Species:____________
- I use a custom meat processing facility
  Facility Name(s):____________ Species:____________
- I use an organically certified processing facility
  Facility Name(s):____________ Species:____________
- Other: ____________________
  Facility Name(s):____________ Species:____________

7. How would you describe your slaughter/processing facility needs? (Please check all that apply)
- My current processor(s) meet(s) all of my marketing requirements
- I need improved access to a USDA inspected processing facility
- I need improved access to a custom meat processing facility
- I need improved access to an organically certified processing facility
- Other: ____________________

8. What challenges or barriers do you face in processing and distributing your product to the market?

9. What is the distance between your farm and the slaughter/processing facility you use?
- <30 miles
- 31-60 miles
- 61-90 miles
- 91-120 miles
- Other: ______________

10. Is there a slaughter/processing facility closer to you than the one you use?
- Yes
If yes, why do you not use it? ______________________________________

☐ No

11. By what means do you transport your animals to the slaughter/processing facility?

☐ Hire a truck transport
☐ Personal truck
☐ Ship by train
☐ Other: __________________

12. What is the maximum distance you could profitably transport your animals for slaughter/processing?

13. How often (ex: weekly, twice a month) do you transport your animals to slaughter and how many per trip?

<table>
<thead>
<tr>
<th>Species</th>
<th>How often are animals taken to slaughter?</th>
<th>How many animals per trip?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
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<tr>
<td>Hogs</td>
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<tr>
<td>Sheep</td>
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<td>Goat</td>
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<tr>
<td>Bison</td>
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</tbody>
</table>

14. If one were available, what type of processing facility would you prefer to use?

☐ USDA inspected mobile slaughter unit
☐ Fixed-site USDA facility
☐ Other: __________________

Why? ___________________________

15. If a USDA-inspected mobile slaughter unit were available, how often would you use it?

16. If there were a USDA inspected facility available to meet your needs within 90 miles of your ranch/farm and you are not already using one, would you use it for processing?

☐ Yes

How many head per month? ______________

☐ No
☐ Not applicable

17. If there were a USDA inspected facility available to meet your needs within 90 miles of your ranch/farm and you are not already using one, would you consider raising a greater number of livestock?

☐ Yes
☐ No
☐ Not applicable

18. If there were a USDA inspected facility available to meet your needs within 90 miles of your ranch/farm and you are not already using one, would you consider raising a different species?

☐ Yes

If yes, what species? __________________
19. What services do you require from a processing facility? (Check all that apply)
   - Primal cuts
   - Subprimal cuts
   - Market ready cuts
   - Smoking
   - Sausage
   - Dry-aging
   - Wet-aging
   - Grinding
   - Other: ______________

20. What percentage of your processed product do you have ground?

21. How satisfied are you with the quality of services offered from the processing facility you use?
   - Very satisfied
   - Somewhat satisfied
   - Neutral
   - Somewhat dissatisfied
   - Very dissatisfied
   - Not applicable

22. Which of the following accreditations do you require from a processing facility? (Check all that apply)
   - USDA inspected processed
   - Organically certified
   - Kosher
   - Halal
   - Other: ______________

23. If you have certification (ex: organic or Food Alliance), does it give you a price or marketing advantage in your sales?
   - Yes
   - No
   - Please explain ______________________________________________________
   - Not applicable

24. Please list any livestock breeds you think are rare, threatened, or endangered.

25. In your experience, what is the demand for locally grown meats at retailers and restaurants?
   - Very strong
   - Somewhat strong
   - Low
   - Very low
26. Where do you market your products?

<table>
<thead>
<tr>
<th>Market</th>
<th>Number of Clients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restaurants</td>
<td></td>
</tr>
<tr>
<td>Retailers</td>
<td></td>
</tr>
<tr>
<td>Farmers Markets</td>
<td></td>
</tr>
<tr>
<td>Distributors/Wholesalers</td>
<td></td>
</tr>
<tr>
<td>Direct sales to individuals</td>
<td></td>
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<tr>
<td>Local or regional marketing cooperative</td>
<td></td>
</tr>
<tr>
<td>Sell live animals</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

27. Do you have a minimum order requirement?

- Yes
  
  If yes, how much? ______________

- No

28. What are the costs and net income associated with each animal?

<table>
<thead>
<tr>
<th>Species</th>
<th>Average cost to raise</th>
<th>Average cost for processing</th>
<th>Average net income earned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
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</tbody>
</table>

29. How far from your facility on average do you ship your products for sale?

- <60 miles
- 61-120 miles
- 121-180 miles
- 181-240 miles
- Other: ______________

30. Do you deliver directly to the consumer?

- Yes
  
  If yes, how often? ______________

- No

31. Do you currently need assistance with product distribution?

- Yes
  
  If yes, please explain ________________________________

- No
32. If you were to expand your operation, would you need assistance with product distribution?
   ❑ Yes
      If yes, please explain ________________________________
   ❑ No

33. Have you found that using a particular processing facility helps your marketing efforts?
   ❑ Yes
      If yes, please explain ________________________________
   ❑ No

34. Do you know of any slaughter/processing facilities that exist but are currently closed?
   ❑ Yes
      If yes, please describe ________________________________
   ❑ No

Notes/Comments:

PLEASE SEND COMPLETED SURVEY TO:

Aurora Martin
Research Assistant
Ecotrust
721 NW Ninth Avenue, Ste 200
Portland, OR 97209
Phone: (503) 227-6225 ext 793
Fax: (503) 222-1517

Thank you!
Appendix VII: Survey for Processors - Original

Solving the Local Meat Conundrum
Survey for Slaughter/Processing Facilities
Due August 19, 2005

Name of business________________________________________________
Name of person filling out this survey________________________________
Address__________________________________________________________________
City_______________________ State__________ Zip____________
County___________________
Phone_____________________ Fax____________________
Email_________________________________
Website_____________________________________

1. In 2005, what species do you process?

<table>
<thead>
<tr>
<th>Species</th>
<th>Actual head processed per day</th>
<th>Number of days per week</th>
<th>Current capacity of facility per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Hogs</td>
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<td>Goat</td>
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<tr>
<td>Bison</td>
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<td></td>
</tr>
</tbody>
</table>

2. If you had access to a larger supply of animals in the future, would your facility be able to accommodate the increased input?
   a. Yes, our facility could accommodate increased input by implementing the following changes (ex: hiring more workers): ______________________________________
   b. No, our facility is already processing at maximum capacity.
   c. Other: ______________

3. How many animals did you process in 2004?

<table>
<thead>
<tr>
<th>Species</th>
<th>Head processed in 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
</tr>
<tr>
<td>Hogs</td>
<td></td>
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<tr>
<td>Sheep</td>
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<tr>
<td>Goat</td>
<td></td>
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<tr>
<td>Bison</td>
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</tr>
</tbody>
</table>

4. How many animals do you need to process to reach your break-even point?
   - Per day? _____________
   - Per week? ____________

5. What services do you provide? (Check all that apply)
6. What are the average costs to your facility for processing?

<table>
<thead>
<tr>
<th>Species</th>
<th>Costs per animal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
</tr>
<tr>
<td>Hogs</td>
<td></td>
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<tr>
<td>Sheep</td>
<td></td>
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<tr>
<td>Goat</td>
<td></td>
</tr>
<tr>
<td>Bison</td>
<td></td>
</tr>
</tbody>
</table>

7. Do you have a minimum processing requirement per customer?
   - Yes
     - If yes, how much? $ __________
     - How many animals? __________
   - No

8. How would you describe the availability of a USDA inspector at your facility?
   - A USDA inspector is on-site at all times
   - A USDA inspector is on-site part-time
     - If on patrol, how often is the inspector on-site? __________
   - This is solely a custom processing facility and does not require the services of an inspector
   - Other: __________

9. If your facility is not USDA inspected, why not?

10. How do you dispose of the byproducts and waste created from production (e.g. offal, carcasses)?

<table>
<thead>
<tr>
<th>Species</th>
<th>Disposal process of waste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
</tr>
<tr>
<td>Hogs</td>
<td></td>
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<tr>
<td>Sheep</td>
<td></td>
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<tr>
<td>Goat</td>
<td></td>
</tr>
<tr>
<td>Bison</td>
<td></td>
</tr>
</tbody>
</table>

11. Are there any difficulties associated with waste disposal that limit your processing capacity?
   - Yes
     - If yes, please explain ________________________________
12. Do you distribute meat under your own label?
   - Yes
   - No

13. If you buy live animals for processing, where do you purchase them?
   - Auction
   - Direct from farm
     - Please list location(s) of farm(s): _________________________________
   - Other: ______________
   - Not applicable

14. What is your method of product distribution? (Check all that apply)
   - Retailers
   - Direct marketing
   - Distributors/Wholesalers
   - Restaurant and institutional foodservice market
   - Farmer distributes own meat
   - Other: ______________
   - Not applicable

15. How far from your facility do you ship your products for sale?
   - <60 miles
   - 61-120 miles
   - 121-180 miles
   - 181-240 miles
   - Other: __________________
   - Not applicable

16. Do you currently need assistance with product distribution?
   - Yes
     - If yes, please explain _________________________________
   - No
   - Not applicable

17. If you were to expand your operation, would you need assistance with product distribution?
   - Yes
     - If yes, please explain _________________________________
   - No
   - Not applicable

18. What services do you provide for prepared products? (Check all that apply)
   - Cut and wrap
     - Paper wrap
     - Tray and shrink
     - Vacuum sealed (ex: Cryovac®)
     - Other: ______________
19. If you process hogs, does your procedure involve skinning or scalding the animals?
   - Skinning
   - Scalding
   - Other: ______________
   - Not applicable

20. What is your cold storage capacity, in square feet, for carcasses?

21. What level of training are your meat cutters required to have?

22. What final cuts of meat that you produce are in highest demand?

23. In your experience, what is the demand for locally grown meats at retailers and restaurants?
   - Very strong
   - Somewhat strong
   - Low
   - Very low
   - No demand
   - Do not know

24. In your experience, what is the demand for certified meats in the marketplace (examples: organic or Food Alliance)?
   - Very strong
   - Somewhat strong
   - Low
   - Very low
   - No demand
   - Do not know

25. If you provide certified services, does it give you a price or marketing advantage for your products and services?
   - Yes
   - No
   Please explain _____________________________________________________________________

26. Do you know of any slaughter/processing facilities that exist but are currently closed?
   - Yes
     If yes, please describe ___________________________________________________________________
   - No
27. What is the price point for each stage of production? (Complete all that apply)

<table>
<thead>
<tr>
<th>Stage of Process</th>
<th>Price (per pound)</th>
<th>Price (per pound)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Conventional</td>
<td>Organic</td>
</tr>
<tr>
<td>Cattle</td>
<td></td>
<td></td>
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<tr>
<td>Live weight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dressed/Carcass weight</td>
<td></td>
<td></td>
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<tr>
<td>Processed – primal cuts:</td>
<td></td>
<td></td>
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<tr>
<td>Round</td>
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<tr>
<td>Flank</td>
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<td>Loin</td>
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<td>Rib</td>
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<td>Plate</td>
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<td>Brisket</td>
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<td>Chuck</td>
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<tr>
<td>Shank</td>
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<td>Hogs</td>
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<td>Live weight</td>
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<tr>
<td>Dressed/Carcass weight</td>
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<tr>
<td>Processed – primal cuts:</td>
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<td></td>
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<tr>
<td>Leg/Ham</td>
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<tr>
<td>Belly</td>
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<td>Loin</td>
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<tr>
<td>Shoulder</td>
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<tr>
<td>Jowl</td>
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<td>Sheep</td>
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<tr>
<td>Live weight</td>
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<tr>
<td>Dressed/Carcass weight</td>
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<td>Processed – primal cuts:</td>
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<td>Leg</td>
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<td>Loin</td>
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<td>Rack</td>
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<td>Breast</td>
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<td>Goat</td>
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<tr>
<td>Dressed/Carcass weight</td>
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<tr>
<td>Stage of Process</td>
<td>Price (per pound)</td>
<td>Price (per pound)</td>
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<td>------------------</td>
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<td>-------------------</td>
</tr>
<tr>
<td></td>
<td>Conventional</td>
<td>Organic</td>
</tr>
<tr>
<td>Processed – primal cuts:</td>
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<td>Flank</td>
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</tbody>
</table>

Notes/Comments:

PLEASE SEND COMPLETED SURVEY TO:
Aurora Martin
Research Assistant
Ecotrust
721 NW Ninth Avenue, Ste 200
Portland, OR 97209
Phone: (503) 467-0770
Fax: (503) 222-1517

Thank you!
Appendix VIII: Revised Processor Survey – Second Mailing
Solving the Local Meat Conundrum
Survey for Slaughter/Processing Facilities
Due October 10, 2005

1. What services do you provide? (Check all that apply)
   - Slaughter
   - USDA inspected processing
   - Custom processing
   - Certified organic processing
   - Kosher processing
   - Halal processing
   - Other: ______________

2. What services do you provide for prepared products? (Check all that apply)
   - Cut and wrap
     - Paper wrap
   - Tray and shrink
   - Vacuum sealed (ex: Cryovac®)
   - Other: ______________
   - Market-ready packaging
   - Smoking
   - Sausage
   - Dry-aging
   - Wet-aging
   - Grinding
   - Other: ______________

3. Do you have a minimum processing requirement per customer?
   - Yes
     - If yes, how much? $ ______________
     - How many animals? ______________
   - No

4. How would you describe the availability of a USDA inspector at your facility?
   - A USDA inspector is on-site at all times
   - A USDA inspector is on-site part-time
     - If on patrol, how often is the inspector on-site? ______________
   - This is solely a custom processing facility and does not require the services of an inspector
   - Other: ______________

5. If your facility is not USDA inspected, why not? (Check all that apply)
   - Too expensive to comply with USDA inspection requirements
   - No demand from clients for USDA inspection
   - Other: ______________
   - Not Applicable

6. If you had access to a larger supply of animals in the future, would your facility be able to accommodate the increased input?
   - Yes, our facility is not operating at full capacity.
   - Yes, our facility could accommodate increased input by implementing the following changes (ex: hiring more workers): ______________
   - No, our facility is already processing at maximum capacity.
   - Other: ______________

7. On average, how many years of experience do your meat cutters have?
8. In your experience, what is the demand for locally grown meats at retailers and restaurants?
   - Very strong
   - Somewhat strong
   - Low
   - Very low
   - No demand
   - Do not know

9. If you buy live animals for processing and distribution under your own label, where do you purchase them?
   - Auction
   - Direct from farm
     Please list location(s) of farm(s): _______________________________
   - Other: ______________
   - Not applicable

10. If you distribute your meat, what is your method of product distribution? (Check all that apply)
    - Retailers
    - Direct marketing
    - Distributors/Wholesalers
    - Restaurant and institutional foodservice market
    - Distribute meat under your own label
    - Other: ______________
    - Not applicable

11. If you distribute your meat, how far from your facility do you ship your products for sale?
    - <60 miles
    - 61-120 miles
    - 121-180 miles
    - 181-240 miles
    - Other: ______________
    - Not applicable

12. Do you know of any slaughter/processing facilities that exist but are currently closed?
    - Yes
      If yes, please describe _______________________________
    - No

13. In 2005, what is your processing capacity?

<table>
<thead>
<tr>
<th>Species</th>
<th>Actual head processed per week in 2005</th>
<th>Current capacity of facility per week (head that could be processed assuming sufficient manpower and supply)</th>
<th>Head needed to process to reach break even point (point at which costs equal revenue)</th>
<th>Average cost to process each animal ($ per pound)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
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<td>Hogs</td>
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<td>Bison</td>
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Appendix IX: Maps

Meat Production and Processing in Oregon and Washington