

*Mobile Harvest Unit
Fort Berthold Reservation*



*Feasibility Study
2012*

By

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Funded by

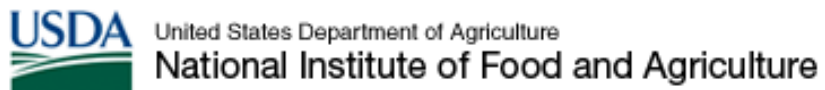


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EXECUTIVE SUMMARY

The Fort Berthold Community College received funding from the United States Department of Agriculture to investigate the feasibility of a mobile animal harvesting unit (MHU) to be used on Fort Berthold Reservation. MHUs are self-contained facilities that can be moved from site to site for the harvesting of livestock. This method of harvesting animals for meat allows for “local” slaughter, thereby (1) reducing animal stress, (2) increasing access to markets by small producers, and (3) helping community producers meet the growing demand for forage fed, natural, and organic meat products.

Fort Berthold Reservation, a U.S. Indian reservation in western North Dakota, is home to 5,915 members of the federally recognized Mandan, Hidatsa, and Arikara Nation, also known as the Three Affiliated Tribes. The Reservation consists of 988,000 acres (4,000 km²), of which 457,837 acres (1,853 km²) are owned by Native Americans, either as individual allotments or communally by the tribe. According to the 2007 Census for Indians, Fort Berthold Reservation has 140 farms with livestock production. Beef production is the primary livestock enterprise on the reservation with 16,266 beef cows. The market value of all agricultural production in 2007 was 64.3 million dollars. The largest communities on the reservation are New Town, Parshall, White Shield, Twin Buttes, Mandaree, and Four Bears Village.

The purpose of this feasibility study and economic analysis is to provide agriculture producers on Fort Berthold Reservation with the best information pertaining to harvesting animals via a mobile harvest unit (MHU) and transporting the carcasses to “local” meat processing facilities.

An investigation about the interest by producers to make use of a mobile harvest unit was conducted by RightRisk, LLC. A series of Town Hall meetings were conducted in July 2012 to introduce the concept of alternative marketing of livestock through a mobile harvest unit. The meetings were conducted in four locations, but were not well attended. While participants, primarily beef producers, were interested in using a mobile harvest unit to harvest their animals, the meetings did not provide enough information to determine the potential number of animals that might be available to support a MHU.

Financial information was developed for an animal harvesting with the animal carcasses transported to an existing meat processing facility. It was projected that the MHU would operate at full capacity of eight (8) beef equivalents per day for 16 days per month. Using a charge of \$85.00 per beef equivalent harvested, projected revenues totaled \$130,560 per year. Projected revenues in Year 1 totaled \$395,856. Projected expenses did not include any costs associated with disposal of hides and offal. Animal owners will be responsible for such disposal. However, there may be future opportunities for income from the sales of hides, offal, and other by-products. The net of cash flows were negative in each of the five years that revenues and expenses were projected. A sensitivity analysis of harvest prices needed to be charged suggested that harvest rates to cover all expenses would need to exceed \$250 (in Year 1) and \$275 (in Year 5) if the MHU is operated at full capacity. Conversely, almost 25 beef equivalents would need to be harvested per day at a rate of \$85 to cover all cash outflows in Year 1.

While the MHU proposed for livestock producers on the Fort Berthold Reservation is not economically feasible, the MHU may create other opportunities and financial gains.

1. Three new jobs would be created by the proposed MHU,
2. Existing meat processing facilities in the region would enjoy the benefits of additional carcasses to process,

3. Producers may realize increased profits from the sale of meat rather than live animals, or
4. Animal owners may realize even greater profits by selling meat into niche or specialty markets. For example, there may be price premiums for: “locally grown meat”, “grass raised animals”, organic meat, or “Native raised animals”.

The authors of this study recommend that Fort Berthold Community College Agricultural Department or other interested entities further investigate animal producers and potential meat buyers (schools, other institutions, grocers, chefs, etc.) across the Reservation to better determine their level of interest to supply and purchase local meat harvested from a MHU.

PROJECT DESCRIPTION

Fort Berthold Community College received funding from the United States Department of Agriculture (North Central Center for Risk Management Education and the National Institute of Food and Agriculture Beginning Farmer and Rancher Development Program) to investigate the feasibility of developing a mobile livestock harvesting on Fort Berthold Reservation. The primary objectives of the project are to:

1. Verify the willingness of producers to supply meat for the described markets, and
2. Determine the feasibility of a mobile harvest unit.



The Fort Berthold Reservation is a U.S. Indian reservation in western North Dakota. It is home for the federally recognized Mandan, Hidatsa, and Arikara Nation, also known as the Three Affiliated Tribes. The Reservation, created in 1870 by the U.S. government, is located on the Missouri River in (in descending order of reservation land) McLean, Mountrail, Dunn, McKenzie, Mercer and Ward counties. The Reservation consists of 988,000 acres (4,000 km²) of which 457,837 acres (1,853 km²) are owned by Native Americans, either as individual allotments or communally by the tribe.

The population of the Reservation was 3776, with a total enrollment of 8400 registered tribe members. The 2000 census reported a reservation population of 5,915 persons living on a land area of 1,318.895 square miles (3,415.923 km²). The largest communities on the reservation are New Town, Parshall, White Shield, Twin Buttes, Mandaree, and Four Bears Village.

Agriculture is an important industry on the Reservation. According to the 2007 Census for Indians, there were 233 farms representing 610,484 acres. The primary agricultural crops are wheat, barley, canola, hay, corn, and sunflowers. Because there is a significant amount of grazing lands on the reservation, livestock production, primarily beef cattle, is common throughout the area. Fort Berthold Reservation had 140 farms with livestock production. Beef production is the primary livestock enterprise on the reservation with 16,266 beef cows. The market value of all agricultural production in 2007 was 64.3 million dollars.

In the last four years oil and gas production has become a major industry in the area. The Fort Berthold Reservation sits right above the Bakken Formation which is rich with oil and gas. The energy industry and related activities has provided many jobs for tribal people looking for employment opportunities.

BACKGROUND AND RATIONAL

A mobile harvest unit (MHU) is a self-contained slaughter facility that can travel from site to site. These mobile slaughter and processing units have been getting attention in recent years as a potentially expedient means to provide access to inspected processing to a community or region. Typically, the units offer animal harvesting services to regionally small producers at conveniently located host locations in areas where animal harvesting services might be unaffordable or otherwise unavailable. They are popular first because they are typically less expensive to build (including lower capital costs) than stationary facilities and processing costs are less expensive. Second, by traveling throughout the region, they allow local slaughter, which many people consider the most humane approach because the animals are less stressed due to not having to be transported long distances. These smaller producers often serve the needs of their community and the growing demand for forage-fed, natural, and organic meat products. And third, there is typically less resistance from the general public for the mobile units compared to a stationary facility.

The purpose of completing this feasibility study and economic analysis is to provide agriculture producers on Fort Berthold Reservation with the best information on alternative methods of meat processing which will address food safety, maintaining meat quality, more direct marketing of products, and opportunities to enhance profit margins. The study will determine if livestock producers will be able to process meat products more cost-effectively which will allow them to market a safe, wholesome meat product locally to hospitals, schools, supermarkets, and individuals, as well as across state lines and internationally. With this information and the economic analysis, a decision will be made whether to move ahead with the purchase of mobile harvest and transporting units.

Collaborators on this project include:

- RightRisk, LLC
- Adam Guy, Fort Berthold Community College
- Mary Fredericks, Fort Berthold Community College
- Andrew Jasken, Fort Berthold Community College
- North Central Risk Management Education Center
- USDA/NIFA Beginning Farmer and Rancher Development Program

These entities felt there are compelling reasons to pursue the idea of a mobile harvest unit for the reservation. The reasons included the following:

- Distance of USDA inspected slaughter and processing facilities for producers on the reservation
- The national and international level of concern regarding food safety, including traceability; issues of livestock handling and meat quality, including humane slaughter; the growing interest in alternative marketing strategies that include forage fed, natural and organic meat products.

Processing Facility Limitations: Availability and Access

The meat processing industry has become more consolidated in recent years resulting in fewer locations where animals are processed under USDA inspection. This has created a crisis for limited-resource producers who want to finish and direct market their animals but cannot afford to transport small

numbers of animals long distances for slaughter and processing. In addition, producers marketing their own products typically must make the return trip to the packing house to retrieve packaged meat, which results in additional costs. The current system also makes it difficult to sell inspected meats in the communities where they are produced.

There is currently one USDA inspected facility on the reservation located in Parshall. Another facility is in Williston. Each facility is a significant distance (over 50-100 miles) from many livestock producers on the reservation. This situation requires producers who are interested in interstate marketing of their livestock to travel many miles in search of federal slaughter and processing facilities. This not only increases costs, but also results in greater stress on the animals. Consequently, transportation stress may manifest itself as “dark cutters” in beef or “pale, soft, and exudative” in pork, which ultimately can result in price discounts. Lack of availability and access to USDA inspected facilities tend to discourage producers from pursuing new marketing strategies or expanding their existing markets.

Food Safety and Environmental Concerns

While the safety of foods has long been of paramount importance to the consumer, recent incidents of bovine spongiform encephalopathy (BSE) have highlighted public awareness of the issue both in the U.S. and abroad. Bob Speller, Minister of Agriculture and Agri-Food, Canada, has said, “Over the past decade, the world meat industry has shifted from being production-oriented to being consumer-oriented. Today, consumers around the world are demanding safe, high quality food, produced in an environmentally responsible manner.” A report from the USDA’s Economic Research Service shows that the 14 largest slaughter and packing plants handle 63% of US beef, which is over one million head per year. An episode of contamination in plants with such high volume is guaranteed to be substantial and widely distributed (MacDonald et. al, 2000).

Issues inherent to large slaughter facilities are typically avoided by the use of a mobile harvest unit (MHU). By its very nature, the MHU restricts problems to small lots in a limited geographic area; product is also more readily traceable as to its origin. Traceability or identity preservation is already a major concern in international markets. Countries that have instituted trace back systems in one form or another include the European Union (EU), Denmark, Germany, Sweden, Australia and Japan (Bailey and Hayes, 2002). According to Bailey and Hayes (2002), “The development of traceability systems in the U.S. seems inevitable. U.S. red meat producers and processors should be examining methods to provide more traceability in the U.S. system, not only from the perspective of reducing liability (e.g., tracing the source of food contamination) but also from the perspective of expanding both domestic and export markets.” Traceability is an integral part of the mobile harvest unit operational system.

Another integral part of the MHU is its minimal impact on the environment. Again, because of the nature of the unit, large feedlots and processing plants are not factors in the equation. The MHU is designed to process small numbers of livestock throughout a large area, which results in low daily outputs of animal waste, wastewater, and other emissions. Studies show that more consumers are willing to pay for food grown in an environmentally sound manner, and they are also willing to pay for food grown in their own community (Diel and Associates, 2001; Wimberley et al., 2003).

Waste from concentrated animal feeding operations (CAFOs) has been linked increased levels of nitrates in drinking water, fish kills, and the development of antibiotic resistant bacteria (Natural Resources Defense Council, 2004; Harris, 2004). CAFOs have also been linked to air and water pollution, which stems from the dust and manure produced daily by a large number of animals in a small area (Harris,

2004). The MHU provides producers with slaughter and processing options that are appealing to a growing number of consumers.

Alternative Marketing Opportunities

In recent years, one of the most rigorously challenged segments of American agriculture has been the beef industry (Harding and Korthuis, 2002). A portion of North Dakota's cash receipts from production agriculture are derived from the sale of livestock, particularly beef cattle, and North Dakota producers have felt the impacts of industry fluctuations. Producers are consistently trying to identify new markets to lessen the impacts of price fluctuations. Producers and processors have learned that meat marketing is becoming more "consumer driven" and less "producer-driven." To successfully improve beef demand, the industry must focus on consumer preferences, be conscious of changing tastes and attitudes towards beef, and consider new "value added" products (Harding and Korthuis, 2002). There is a multitude of value-added classifications, but the terms natural and organic appear to be the most prevalent. These classifications have developed to meet the demand from an increasing number of consumers who are interested in how their food is raised and the health benefits attributed to certain production/processing methods.

According to the National Cattlemen's Beef Association, the market share of natural/organic beef was 1.7 percent by volume for the first quarter of 2010 compared to 1.4 percent in 2007. The price of natural/organic beef averaged \$5.42 per pound with consumers paying a premium of \$2.00 per pound. Many natural and organic products are moving beyond the "niche" category to the mainstream supermarket (Agricultural Outlook, 2000; Dimitri and Greene, 2002).

Humane Livestock Slaughter and Meat Quality

Humane treatment of livestock prior to and during slaughter has both social and economic implications. According to Appleby and Hughes, "Meat consumers are increasingly demanding that animals be reared, handled, transported and slaughtered using humane practices. A mobile processing unit comes to the livestock rather than the livestock coming to the processing unit, virtually eliminate transportation related stress and injuries." Temple Grandin states on her web site, "Stress induced meat quality problems such as dark cutters cause large monetary losses to the livestock industry. High financial losses are incurred by the livestock industry as a result of carcass bruising. Bruising is an impact injury that can occur at any stage in the transport chain." Dark cutters, according to the National Beef Quality Estimate, cost the beef industry estimated losses of \$5.00 for every fed animal slaughtered. Other research suggests that dark cutters may result in a 10% or more price discount (Grandin, 2004). Dark cutters often result from fighting when unfamiliar animals are mixed in pens shortly before slaughter (Grandin, 2004). Reducing stress as much as possible prior to slaughter helps insure that the meat will be of the highest possible quality. One of the primary ways to reduce stress prior to slaughter is to avoid shipping and exposing livestock to unfamiliar mates. A MHU system which brings the slaughter unit to the farm or ranch is an ideal way to reduce stress.

Meat Inspection

There are basically four types of inspections a meat processor can operate under: Federal, State, Retail-Exempt, and Custom-Exempt.

Federal Inspection (USDA)

The United States Department of Agriculture's Food Safety and Inspection Service (USDA FSIS) is responsible for Federal Inspection. FSIS is responsible for ensuring the safety, wholesomeness, and correct labeling and packaging of meat, poultry, and egg products. FSIS operates under the authority of the Federal Meat Inspection Act, the Poultry Products Inspection Act, and the Egg Products Inspection Act. FSIS sets standards for food safety and inspects and regulates all raw and processed meat and poultry products, and egg products sold in interstate commerce, including imported products. Federally inspected products can be shipped over state lines and internationally.

FSIS inspectors examine animals before and after slaughter, preventing diseased animals from entering the food supply and examining carcasses for visible defects that can affect safety and quality. Inspectors also test for the presence of harmful pathogens and drug and chemical residues. As part of the inspection process, FSIS tests for the presence of pathogens and toxins such as Salmonella, Listeria monocytogenes, and Staphylococcal enterotoxin in ready-to-eat processed products. FSIS continues to have a zero tolerance for these pathogens in ready-to-eat and other processed products. Federal inspection requires a Hazard Analysis and Critical Control Point (HACCP) plan, Safety Standards and Operating Procedures (SSOPs), daily inspection of processing facilities, and, if the plant slaughters livestock, antemortem and postmortem inspection of every animal.

In 2000, FSIS completed implementation of its landmark rule, Pathogen Reduction/ HACCP Systems. The rule addresses the serious problem of foodborne illness in the United States associated with meat and poultry products by focusing more attention on the prevention and reduction of microbial pathogens on raw products that can cause illness. It also clarifies the respective roles of government and industry in food safety. Industry is accountable for producing safe food. Government is responsible for setting appropriate food safety standards, maintaining vigorous oversight to ensure that these standards are met, and for operating a strong enforcement program to, among other things, deal with plants that do not meet regulatory standards.

The Pathogen Reduction/HACCP rule: (1) requires all meat and poultry plants to develop and implement written SSOPs; (2) requires meat and poultry slaughter plants to conduct microbial testing for generic E.coli to verify the adequacy of their process controls for the prevention of fecal contamination; (3) requires all meat and poultry plants to develop and implement a system of preventive controls, known as HACCP, to improve the safety of their products; and (4) sets pathogen reduction performance standards for Salmonella that slaughter plants and plants producing raw ground products must meet.

There are seven basic steps required for obtaining Federal meat and poultry inspection in the Federal Grant of Inspection Guide:

http://www.fsis.usda.gov/Regulations_&_Policies/Grant_of_Inspection_Guideline/index.asp

1. File an application for inspection (FSIS Form 5200.2).
2. Facilities must meet regulatory performance standards. These requirements include the following Regulations – 416.2(a) (b) (c) (d) (e) (f) (g) (h) and Regulation 416.3.
3. Obtain approved labels or brands (Form 7234-1).
4. Obtain approved water source letter.
5. Obtain approved sewage system letter.
6. Provide a written standard operating procedure for sanitation (CFR Parts 304.3a, 416.11-416.17).
7. Provide a written hazard analysis and HACCP plan (CFR Parts 304.3b,304.3c, and 417).

Only the application for inspection is to be submitted to the District Office (DO). All other documents are to be maintained on file with the facility and made available for review by inspection program personnel upon request. DO representatives are available to assist with the application process and to answer questions concerning regulatory requirements.

State Inspection

27 states offer state meat inspection programs in the U.S. USDA FSIS maintains a listing of these programs. Only 25 of these states offer state poultry inspection in addition to red meat inspection. While state inspection programs are required by law to be "at least equal to" federal inspection in terms of regulatory rigor, state inspected meat and poultry products cannot be sold across state lines (restricted to *intrastate* commerce).

North Dakota legislatures voted to enact a State Meat Inspection program in 1999 to increase the opportunities for meat processors and livestock producers in the state of North Dakota. The Federal Meat Inspection Act (FMIA) grants authority to an appropriate State agency to develop and administer a State meat inspection program. The program must have laws, regulations and procedures that are "at least equal to" the FMIA. Once a state is approved of by FSIS, they will receive federal funds of up to 50% of the total cost of the program. North Dakota gained approval from FSIS on October 19, 2000, and became the 26th state to have a program. In June, 2005, North Dakota gained approval to also provide state inspection service for poultry and became the State Meat and Poultry Inspection Program (MPIP).

Retail-Exempt

Retail exemption allows a meat processor to sell meat at its own retail storefront without developing a HACCP plan. However, the processor is still subject to periodic, risk-based inspection by USDA FSIS and/or state authorities, and the meat used to produce retail products (fresh cuts or processed meats) must come from livestock inspected by USDA FSIS or the state inspection agency in the processor's own state. A retail-exempt processor can also sell a limited amount of product on a wholesale basis to hotel, restaurant, or institutional customers, as long as the product has NOT been cooked, cured, smoked, rendered, refined, or otherwise processed in a manner not listed in 9 CFR 303.1(d)(2)(i)(a),(b),(d), or (e). Retail-exempt wholesaling is limited to 25% of the dollar value of the processor's total sales or \$60,200 for red meat and meat products and \$50,200 for poultry products per calendar year, whichever is less.

Custom-Exempt

Custom-exempt plants can only slaughter and process livestock for the exclusive use of the owner(s). Like a retail exempt plant, the facilities will still be subject to periodic, risk-based inspection by USDA FSIS and/or state authorities.

LIVESTOCK PRODUCER INTEREST

A series of Town Hall meetings were conducted in July 2012 to introduce the concept of alternative marketing of livestock through a mobile harvest unit. The meetings were conducted in four locations, but were not well attended. While participants, primarily beef producers, were interested in using a mobile harvest unit to harvest their animals, the meetings did not provide enough information to determine the potential number of animals that might be available to support a MHU.

Table 1. Town Hall Meeting Locations and Dates in 2012.

Twin Buttes, ND	July 10 th
Mandaree, ND	July 10 th
New Town, ND	July 11 th
White Shield, ND	July 11 th

The authors of this study recommend that Fort Berthold Community College Agricultural Department or other interested entities further investigate animal producers and potential meat buyers (schools, other institutions, grocers, chefs, etc.) across the reservation to better determine their level of interest to supply and purchase local meat harvested from a MHU.

ECONOMIC FEASIBILITY

Projected Capital Investment/Start-up Costs

The initial capital investment for the MHU and associated equipment is \$305,740. The MHU consists of the semi-truck (or vehicle of similar towing capacity), trailer, accompanying refrigerated truck, and three and one-half percent (3.50%) sales tax. The accompanying equipment includes eight livestock panels and gates; saws, knives, etc.; and twenty barrels for disposal of the offal.

The start-up costs for the enterprise are projected to be \$42,000. These costs include a security deposit on rented office space, legal and filing fees for forming the enterprise, computer and telephone systems, office furniture, development of the required HACCP plan, and staff training.

Details pertaining to the initial investment and startup costs can be found in Appendix C.

Projected Sales

Revenues will be generated from the harvesting of animals on a per head basis. Once harvested, the carcasses will be hauled in a refrigerated truck to a “local” processing facility, or the animal owner may choose to take home the carcass.

The mobile harvesting unit will operate for an average of four (4) days per week or 16 days per month. One day per week is allocated for statutory holidays, regular maintenance, employee vacations, and unscheduled downtime. Feasibility studies conducted in other states suggest that 8-10 beef, 30-35 lambs, 30-35 goats, or 30-35 pigs can be slaughtered each day using a mobile harvest unit. This study uses the more conservative number of eight (8) harvested beef animals per day and does not account for any seasonality in harvest numbers.

Table 2. Projected Gross Revenues Generated Per Year Via a Mobile Harvest Unit.

Harvest Days Per Month	16
Beef Equivalents Harvested Per Day	8
Beef Equivalents Harvested Per Month	128
Beef Equivalents Harvested Per Year	1,536
Rate Per Beef Equivalent Harvested	\$85.00
Gross Revenues Per Year	\$130,560

Because beef is the most commonly produced species on the reservation, all animal harvesting will be based on finished beef equivalence. Lambs, goats, and pigs can also be harvested in the MHU. Four lambs, four goats, and three pigs are equivalent to one beef animal. It is expected that the actual number of days used to harvest the particular species will be adjusted as supply of animals and demand for meat fluctuates over time.

Informal surveys of existing slaughter facilities in and around Fort Berthold Reservation were conducted via telephone, one-on-one contacts, and emails to determine the rates currently charged for the harvest of beef cattle. A rate of \$85.00 per beef animal was commonly reported in these investigations and in other feasibility studies. To account for the costs of transporting the carcasses to a USDA inspected processing facility, a rate of \$85.00 per beef equivalent was used in this study.

Projected revenues for a proposed mobile harvest unit were estimated by multiplying the number of beef equivalents harvested by the proposed rate. The analysis of a possible mobile harvest unit operated on the Fort Berthold Reservation could be expected to generate monthly revenues of almost

\$11,000 per month or just more than \$130,500 per year.

Projected Expenses

There are significant costs of operating a mobile harvest unit. The analysis of a proposed MHU on the Fort Berthold Reservation has expenses categorized according to (1) operating the MHU, (2) personnel, (3) operations, and (4) debt payments. A two percent (2.00%) rate of increase per year was used for all non-personnel costs, while salaries were increased three percent (3.00%) per year. Details of expenses are provided in Appendix C.

Animal Harvesting Enterprise (MHU)

It is projected that the MHU will have a “home base” in New Town, North Dakota. The MHU will rotate weekly between New Town and one of three remote locations. For the purposes of this analysis those remote locations are: Twin Buttes, White Shield, and Mandaree. The carcasses will be transferred daily to a processing facility; for example, Meyer’s Meats in Parshall, North Dakota.

Fuel: Fuel costs for both the MHU and refrigerated truck total \$1,382 per month or a total of \$16,585 in Year 1. Fuel costs increase to almost \$18,000 in Year 5. Mileage estimates were calculated with the MHU making a round trip from the base location to the designated site and include an adjustment of approximately ten percent (10%). Thus, the MHU would travel just over 400 miles per month. The MHU will average four miles per gallon of fuel at a cost of \$4.15 per gallon of diesel. Mileage estimates were calculated for the refrigerated truck making a round trip from New Town to the remote location each day. The truck would also transport carcasses to the processing plant each day. Thus, the refrigerated truck would travel almost 2,150 miles per month. It will average nine miles per gallon of fuel at a cost of \$4.00 per gallon.

Insurance: Insurance – liability and auto – is a significant cost to the operation of a MHU. It was projected that insurance costs would be \$2,000 per month in Year 1. This cost is consistent with insurance costs reported in similar studies.

MHU & Truck Maintenance and Repairs: The two trucks and trailer will need regular maintenance (oil changes, etc.) and periodic repairs. The analysis includes \$500 per month or \$6,000 in Year 1.

Other: Knives, saws, and other equipment will need to be regularly maintained and replaced at a cost of \$100 every other month beginning in the first month of Year 1. Purchases of unforeseen equipment needs are included in the projected costs for equipment. Potable water will be required to harvest live animals and clean the slaughter unit. Water available at the proposed sites may not meet quality standards. Thus, \$600 per year is allocated for water purchases and/or purification. Electricity will be needed to operate harvesting equipment and provide adequate lighting within the mobile harvest unit. \$120 is allocated for purchasing electricity and/or generator fuel.

Total: Projected expenses for operation of the MHU and refrigerated truck are \$51,425 in Year 1 and increase to almost \$55,700 in Year 5.

Personnel

Three people will be needed to operate the MHU enterprise. Salaries for the three positions are assumed to be reasonable and competitive for North Dakota. The employer would be responsible for paying its share of Social Security and Medicare tax (7.65%). Employees will receive a benefits package (health insurance, etc.) costing the employer twenty-five percent (25.00%) of salaries. The rate for

federal payroll is fixed by the U.S. government, while the costs of benefits are consistent with other employers and with other feasibility study reports.

Table 3. Personnel Costs in Year 1 Associated with the Proposed Mobile Harvest Unit.

Position	Initial Salary	Benefits	Payroll Taxes	Total
Manager/Harvester	\$80,000	\$6,120	\$20,000	\$106,120
Harvester	60,000	4,590	15,000	79,590
Administrative Assistant	40,000	3,060	10,000	53,060

Manager/Harvester: One person will be responsible for managing the enterprise, including supervision of other employees. This person will serve as the company’s primary liaison with livestock producers and lead the sales team. Additionally, this person will travel with the MHU to harvest animals and assist with the overall care, maintenance, and cleanliness of the MHU. The person will need to hold, or be qualified to obtain, licenses to drive large vehicles (CDL). An initial salary of \$80,000 per year was included in the analysis.

Harvester: The second person will be responsible for harvesting animals and the overall care, maintenance, and cleanliness of the MHU. This person will need meat harvesting skills and experience, and would need a CDL. An initial salary of \$60,000 per year was included in the analysis.

Administrative Assistant: The third person will serve as an administrative assistant. The person in this position would be responsible for receptionist duties, invoicing, paying animal owners, maintaining appropriate and necessary records, and general office management. Additionally, the secretary/receptionist will assist with coordination of MHU site location, animal harvesting, and carcass movements to processing facilities, and distributions of meat to vendors. The administrative assistant would be expected to work 40 hours per week at a rate of \$20.00 per hour.

Table 4. Total Personnel Costs in Year 1 through Year 5 for a Proposed Mobile Harvest Unit on the Fort Berthold Reservation.

	Year 1	Year 2	Year 3	Year 4	Year 5
Personnel Costs	\$238,770	\$245,933	\$253,311	\$260,910	\$268,738

Administration

Office Space: Office space and garage would need to be rented. The space would need a receptionist area, work and storage rooms, restroom, and two individual offices. Such space would be rented at a monthly rate of \$1,500 or \$18,000 in Year 1.

Utilities: The office would require basic utilities for water, sewage, electricity, and propane. Projected costs of \$400 per month assume heating and cooling costs would be similar.

Telephone/Cell Phones/Internet: An in-house telephone system, cell phone plan, and internet service would need to be procured. Long distance telephone rates are very reasonable, and multiple cell phone providers have coverage in Western North Dakota with cost-effective plans. Internet service and web site support will be essential in marketing the company and its products, communicating with vendors and buyers, and watching commodity and meat markets. There is at least one company in the area providing either cable or DSL connectivity. Projections include a cost of \$600 per month for telephone,

cell phone, and internet service. There may be some savings (not included in the projections) from combining internet and telephone services.

Office Supplies, Postage, and Bank Charges: Office supplies, copying, postage, bank charges, etc. are necessary for all businesses. Costs of \$200 per month were included in projected expenses for Year 1.

Travel: Employees will need to travel throughout the Reservation and other locations to meet with livestock owners, attend conferences, visit sites where the MHU will harvest animals, etc. Travel reimbursement at \$500 per month in Year 1 was included in projected expenses.

Accounting/Tax Preparation/Legal: The Company will need to procure the services of an accountant (possibly Certified Public Accountant) to perform accounting duties and income tax preparation. Also, there may be occasional need for legal counsel. Such professional services are available in many towns in North Dakota. In Year 1, \$250 was allocated in each month with additional costs for tax preparation of \$2,500 in April for tax preparation and \$1,000 in each April and December for legal fees.

Licenses and Fees: There will be various licenses and fees associated with the business. A cost of \$500 in January and July were included in Year 1 projected costs.

Insurance: Insurance will need to be purchased for the facilities and contents, liability, and vehicles. A quarterly payment of \$1,500 was included in Year 1 of the study.

Other: All businesses have expenses which cannot be easily identified. In this feasibility projection, \$250 per month was budgeted for miscellaneous expenses.

Total: Projected expenses for administration total just more than \$56,000 in Year 1. Projected monthly expenses ranged from \$3,700 to \$8,450.

Costs of Capital

The financial analysis of the proposed mobile harvest unit includes borrowing all (100%) of the initial investment and startup costs. The MHU, refrigerated truck, and associated equipment will cost almost \$306,000. Formation of the company, office startup, HACCP plan, and staff training will cost an additional \$42,000. Thus, the total amount needed to be borrowed will be almost \$348,000.

Debt repayment was calculated using an interest rate of seven percent (7.00%) and a repayment term of 10 years. Monthly payments (principal plus interest) in Year 1 were calculated to be \$4,038. Annual total payments would be \$49,510. It should be noted that slight differences in stated monthly payments and annual payments in Year 1 are attributed to interest savings associated with monthly verses annual payments. Also, no accelerated payments are projected as uses for annual profits realized in any given year.

A line of credit will need to be established to cover operating expenses throughout the year. No "interest on borrowed operating funds" was included in the analysis associated with the proposed enterprises.

Appendix D provides greater detail regarding monthly payments made in Year 1 and annual payments made in Year 1 through Year 5.

Projected Profits or Losses

The proposed MHU and carcass transportation enterprises are projected to generate pre-tax losses of between \$265,296 Year 1 and just more than \$293,846 in Year 5. These amounts would increase if interest was charged on borrowed operating funds.

Table 5. Projected Pre-Tax Profits or Losses in Year 1 Through Year 5 for a Proposed Mobile Slaughter Unit on the Fort Berthold Reservation.

	Year 1	Year 2	Year 3	Year 4	Year 5
Gross Revenues	\$130,560	\$130,560	\$130,560	\$130,560	\$130,560
Total Cash Outflows	<u>395,856</u>	<u>402,783</u>	<u>409,848</u>	<u>417,055</u>	<u>424,406</u>
Pre-Tax Profits/Losses	(\$265,296)	(\$272,223)	(\$279,288)	(\$286,495)	(\$293,846)

Based on this analysis and results from other feasibility studies, the proposed MHU and transport enterprises will have difficulty being profitable by themselves. Keys to being profitable as reported in other studies include:

1. Livestock owners providing high quality animals in a consistent timeliness throughout the year,
2. Sale of the meat at a price sufficient to cover the cost of the animal, harvesting, processing, and distribution,
3. Operating the MHU at as high a capacity as possible, and
4. Combine MHU and transporting enterprises with meat processing and retail sales.

Investment Analysis Summary

Net present value (NPV) was used to evaluate the investment of the MHU and carcass transporting enterprises. This analysis procedure is one of the more desirable methods to use in capital budgeting.

A discount rate of five percent was used for the NPV analysis. This rate reflects the time value of money and adjusts futures flows of income back to present value. The 5 percent rate reflects the minimum acceptable rate of return for the MHU investment.

An initial investment of \$347,740 was assumed to include the total working capital required to purchase the MHU trailer and equipment, to purchase the truck and equipment required for the hauling enterprise, and the office start-up costs. The projected annual net cash flows from operations were then calculated and multiplied by the appropriate discount factor to compute the overall net present value.

The projected net present value for this project at full capacity is a loss of more than \$3.44 million over a twenty year period (Table 6). Operating the MHU at less than 100 percent causes the projected NPV to be even less (have greater losses). A positive value indicates that the investment would be profitable and generate a minimum five percent return on investment. A negative value indicates that the project would not generate sufficient income to pay for the cost of the funds used to finance the purchase and the project would be rejected as an undesirable investment.

Table 6. Investment Analysis at Full Capacity

Year	Capital Purchases	Cash Revenues	Total Cash Expenses	Loan Interest Expense	Net Cash Flow	Discount Factor 5%	Present Value Of Cash Flow
0	347,740	0	0	0	(347,740)	1.0000	(347,740)
1		130,560	346,345	24,342	(240,127)	0.9524	(228,693)
2		130,560	353,272	22,580	(245,292)	0.9070	(222,487)
3		130,560	360,338	20,695	(250,473)	0.8638	(216,368)
4		130,560	367,545	18,678	(255,662)	0.8227	(210,334)
5		130,560	374,895	16,520	(260,855)	0.7835	(204,387)
6		130,560	374,895	14,210	(258,546)	0.7462	(192,931)
7		130,560	374,895	11,739	(256,075)	0.7107	(181,987)
8		130,560	374,895	9,095	(253,431)	0.6768	(171,532)
9		130,560	374,895	6,266	(250,602)	0.6446	(161,540)
10		130,560	374,895	3,239	(247,574)	0.6139	(151,989)
11		130,560	374,895	0	(244,335)	0.5847	(142,858)
12		130,560	374,895	0	(244,335)	0.5568	(136,055)
13		130,560	374,895	0	(244,335)	0.5303	(129,576)
14		130,560	374,895	0	(244,335)	0.5051	(123,406)
15		130,560	374,895	0	(244,335)	0.4810	(117,530)
16		130,560	374,895	0	(244,335)	0.4581	(111,933)
17		130,560	374,895	0	(244,335)	0.4363	(106,603)
18		130,560	374,895	0	(244,335)	0.4155	(101,526)
19		130,560	374,895	0	(244,335)	0.3957	(96,692)
20		130,560	374,895	0	(244,335)	0.3769	(92,087)
Present Value of Annual Cash Flows							(\$3,448,253)

Financial Feasibility

The purpose of the financial feasibility analysis is to determine whether or not an investment in a mobile harvest unit will generate sufficient cash income to make principal and interest payments on borrowed funds used for the project. If cash deficits result, the project is not financially feasible – it will not generate sufficient cash income to make the loan payments. Cash deficits do not mean that the investment is unprofitable or should not be made; they simply mean that loan servicing problems will likely be encountered.

At full capacity the two enterprises will generate adequate revenues to cover expenses and loan payments (principal and interest) every year throughout the life of the project. The financial feasibility of the project at full capacity is illustrated in Table 7.

Table 7. Financial Feasibility Analysis at Full Capacity

Year	Cash	Cash	Net	Payment Schedule			Surplus/
	Revenues	Expenses	Cash Flow	Principal	Interest	Total	Deficit
1	130,560	346,345	(215,785)	25,169	24,342	49,510	(265,296)
2	130,560	346,345	(215,785)	26,930	22,580	49,510	(265,296)
3	130,560	360,338	(229,778)	28,815	20,695	49,510	(279,288)
4	130,560	367,545	(236,985)	30,833	18,678	49,510	(286,495)
5	130,560	374,895	(244,335)	32,991	16,520	49,510	(293,846)

Sensitivity Analysis

The analysis shows that the proposed MHU will generate even greater losses as the number of beef equivalents harvested declines (reduced capacity). Losses – at 100% of capacity – range from \$265,296 to \$293,846. If capacity were to be 80 percent of capacity, losses would range from \$297,936 to \$326,486.

Table 8. Profits or Losses Associated With Harvest Capacity for the Proposed Mobile Harvest Unit.

Capacity	Year 1	Year 2	Year 3	Year 4	Year 5
100%	(\$265,296)	(\$272,223)	(\$279,288)	(\$286,495)	(\$293,846)
90%	(\$281,616)	(\$288,543)	(\$295,608)	(\$302,815)	(\$310,166)
80%	(\$297,936)	(\$304,863)	(\$311,928)	(\$319,135)	(\$326,486)
50%	(\$330,576)	(\$337,503)	(\$344,568)	(\$351,775)	(\$359,126)

Analysis of the harvest capacity and beef equivalents harvested each year shows that the price needing to be charge for harvesting would need to be significantly higher than the market will bear and that is financially feasible for livestock owners. If the MHU operates at 100 percent of capacity, 1,536 beef equivalents would be harvested each year. In order to cover all costs, a harvest rate of \$258 per beef equivalent would need to be charged.

Table 9. Harvest Prices for the Proposed Mobile Harvest Unit.

	Year 1	Year 2	Year 3	Year 4	Year 5
Capacity (beef equivalents)	~ Harvest Price Per Beef Equivalent ~				
100% (1,536)	\$258	\$263	\$267	\$272	\$277
90% (1,344)	\$295	\$300	\$305	\$311	\$316
80% (1,152)	\$344	\$350	\$356	\$363	\$369
50% (768)	\$516	\$525	\$534	\$544	\$553

Further analysis of the data allows for the calculation of the number of beef equivalents that would need to be harvested each day or month at various harvesting rates. In Year 1, the MHU would need to harvest 59 beef equivalents per day (943 per month) at a harvest rate of \$35 to cover all expenses. If the rate was increased to \$100 per beef equivalent harvested, 21 beef equivalents would need to be harvested each day.

Table 10. Beef Equivalents to Be Harvested Per Day at Alternative Harvest Rates.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Total Expenses	395,856	402,783	409,848	417,055	424,406
<i>Harvest Price</i>	<i>Beef Equivalents to Be Harvested Per Day</i>				
\$35	59	60	61	62	63
\$50	41	42	43	43	44
\$85	24	25	25	26	26
\$100	21	21	21	22	22
\$125	16	17	17	17	18
\$150	14	14	14	14	15
\$175	12	12	12	12	13
\$200	10	10	11	11	11
\$225	9	9	9	10	10
\$250	8	8	9	9	9
\$275	7	8	8	8	8
\$300	7	7	7	7	7

Table 11. Beef Equivalents to Be Harvested Per Month at Alternative Harvest Rates.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Total Expenses	395,856	402,783	409,848	417,055	424,406
<i>Harvest Price</i>	<i>Beef Equivalents to Be Harvested Per Month</i>				
\$35	943	959	976	993	1,010
\$50	660	671	683	695	707
\$85	388	395	402	409	416
\$100	330	336	342	348	354
\$125	264	269	273	278	283
\$150	220	224	228	232	236
\$175	189	192	195	199	202
\$200	165	168	171	174	177
\$225	147	149	152	154	157
\$250	132	134	137	139	141
\$275	120	122	124	126	129
\$300	110	112	114	116	118

Appendix

Appendix A: Authors and Collaborators

RightRisk, LLC

RightRisk, LLC is a premier organization helping today's and tomorrow's agricultural firms and farm and ranch families better understand their problems associated with financial, market, production, legal, and human risks. Its mission is to "help decision-makers throughout the world discover innovative and effective risk management solutions.

The professional staff of RightRisk, LLC consists of members having more than 20 years of experience in education; consulting with individual farm and ranch families, small business owners, and policy makers; and research. Collectively, members of RightRisk, LLC have conducted educational programs and addressed audiences in more than 35 U.S. states and seven non-U.S. countries. They have worked with more than 7,000 farm and ranch families.

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Collaborators

Collaborators on this project include:

- RightRisk, LLC
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- Andrew Jasken, Fort Berthold Community College
- North Central Risk Management Education Center
- USDA/NIFA Beginning Farmer and Rancher Development Program

Appendix B: References

Appleby, M.C. and B.O. Hughes. Introduction. In Animal Welfare. M.C. Appleby and B.O. Hughes (Eds.) Wallingford: CAB International, U.K. 1997.

Bailey, D. and D. Hayes. "The Evolution of Identity Preservation in Red Meat Markets." 2002.

Benfalk, Christel, K. Lindgren, M. Edstrom, Q. Geng, and A. Nordberg. "Mobile Slaughter of Cattle and Pigs". Lantbruk & Industri JTI Report 339, 2005.

Boehlje and Eidman. "Farm Management". 1984.

Colorado Department of Agriculture.

Colorado Department of Demographics.

Curtis, Kynda R., M.W. Cowee, A.R. Acosta, W. Hu, S.R. Lewis, and T.R. Harris. "Locally Produced Livestock Processing and Marketing Feasibility Assessment". University of Nevada-Reno Technical Report 2006/07-13, February 2007.

Diel and Associates. "Study of Consumer Perceptions of All Natural Meat Products. Kerr Center for Sustainable Agriculture," Perkins, OK. 2001.

Federal States Marketing Improvement Program Grant. "Mobile harvest unit for Wyoming. Assessment of Need and Values". July 1, 2004.

Fisher, Dave, J. Bennage, T. Craig, M. Randolph, J. Etchepare, L. Stratton, R. King. "Mobile harvest unit for Wyoming: Assessment of Needs and Values". Federal States Marketing Improvement Program Project Report, July 2004.

Grandin, T. www.grandin.com. 2004.

Harding, T. and K. Korthuis. "The Value Added Options for the Beef Industry". Washington State University. 2002.

Harris, W. Small-scale, "Grass-based Ranching: A Safe, Healthy and Sustainable Beef Alternative." www.foodandsocietyfellows.org website. 2004.

Livestock Marketing Information Service. www.lmic.info

MacDonald, J. M., M. E. Ollinger, K. E. Nelson, and C. R. Handy. "Consolidation in U.S. Meatpacking." Economic Research Service, U.S. Department of Agriculture. 2000.

Natural Resources Defense Council Fact Sheet. www.nrdc.org/water/pollution/ffarms.asp

Taos County Economic Development Corp. www.tcedc.org

United States Department of Agriculture - Agricultural Marketing Service. www.ams.usda.gov

United States Department of Agriculture – Economic Research Service. “Cash Receipts by Commodities”.

United States Department of Agriculture - Food Safety and Inspection Service. www.fsis.usda.gov

United States Department of Agriculture – National Agricultural Statistics Service.

Wimberley, R. W., B. J. Vander Mey, B. L. Wells, G. D. Ejimakor. “Food from Our Changing World: The Globalization of Food and How Americans Feel About It.” North Carolina State University, College of Humanities and Social Sciences. 2003.

Appendix C: Projected Capital Investment/Start-up Costs

Table C-1. Initial Investment in a Mobile Harvest Unit, Trucks, and Associated Equipment.

Item and Description	Estimated Cost
MHU Trailer { <i>harvesting unit</i> }	\$154,000
Semi-Truck or Similar Vehicle { <i>needed to pull MHU trailer</i> }	75,000
Refrigerated Truck { <i>used to transport carcasses from harvest location to processing facility</i> }	60,000
Sales Tax on Trailer, Semi, and Refrigerated Truck { <i>calculated at 3.50% of purchase costs</i> }	10,115
Livestock Panels { <i>eight 8-ft panels, 8-ft gate, and small gate used to handle animals</i> }	2,625
Saws, Knives, Etc. { <i>equipment used to harvest animals</i> }	2,500
Barrels { <i>20 containers loaned to animal owners for transporting offal to disposal sites</i> }	1,500
Total Initial Investment in MHU and Equipment	\$305,740

Table C-2. Investment in Formation of Business and Office Start-up.

Item and Description	Estimated Cost
Office Space Deposit { <i>first and last months' rent</i> }	\$3,000
Legal and Filing Fees { <i>fees for forming legal organization, review of contracts, etc.</i> }	3,000
Computer System { <i>network server, 2 workstations, 2 laptops, installation, etc.</i> }	6,000
Telephone System	1,500
Cell Phones { <i>for manager/harvester and harvester</i> }	1,000
Office Furniture { <i>desks, lateral file cabinets, chairs, table, etc.</i> }	10,000
Copying Machine	5,000
MHU Testing/HACCP Plan	5,000
Staff Training	4,500
Miscellaneous	3,000
Total Initial Investment in MHU and Equipment	\$42,000

Appendix D: Scheduled Debt Repayments

Initial Investment	347,740	Interest Rate	7.00%
Down Payment	0	Term (in years)	10
Amount Borrowed	347,740		

YEAR	BEGINNING BALANCE	TOTAL PAYMENT	INTEREST PORTION	PRINCIPAL PORTION	ENDING BALANCE
1	347,740	49,510	24,342	25,169	322,571
2	322,571	49,510	22,580	26,930	295,641
3	295,641	49,510	20,695	28,815	266,826
4	266,826	49,510	18,678	30,833	235,993
5	235,993	49,510	16,520	32,991	203,002
6	203,002	49,510	14,210	35,300	167,702
7	167,702	49,510	11,739	37,771	129,931
8	129,931	49,510	9,095	40,415	89,516
9	89,516	49,510	6,266	43,244	46,272
10	46,272	49,510	3,239	46,271	1
11	1	49,510	0	49,510	(49,509)
12	0	0	0	0	0
13	0	0	0	0	0
14	0	0	0	0	0
15	0	0	0	0	0
16	0	0	0	0	0
17	0	0	0	0	0
18	0	0	0	0	0
19	0	0	0	0	0
20	0	0	0	0	0

Appendix E: Personnel Expenses: Year 1 – Year 5

	Manager/ Harvestor	Harvestor	Admin. Assistant	Total
Initial Salary	80,000	60,000	40,000	180,000
Year 1				
Salary	80,000	60,000	40,000	180,000
Benefits (@ 25%)	20,000	15,000	10,000	45,000
Federal Payroll Taxes (@ 7.65%)	6,120	4,590	3,060	13,770
Total Personnel Costs	106,120	79,590	53,060	238,770
Year 2				
Salary Increase (@ 3.0%)	2,400	1,800	1,200	5,400
Salary	82,400	61,800	41,200	185,400
Benefits (@ 25%)	20,600	15,450	10,300	46,350
Federal Payroll Taxes (@ 7.65%)	6,304	4,728	3,152	14,183
Total Personnel Costs	109,304	81,978	54,652	245,933
Year 3				
Salary Increase (@ 3.0%)	2,472	1,854	1,236	5,562
Salary	84,872	63,654	42,436	190,962
Benefits (@ 25%)	21,218	15,914	10,609	47,741
Federal Payroll Taxes (@ 7.65%)	6,493	4,870	3,246	14,609
Total Personnel Costs	112,583	84,437	56,291	253,311
Year 4				
Salary Increase (@ 3.0%)	2,546	1,910	1,273	5,729
Salary	87,418	65,564	43,709	196,691
Benefits (@ 25%)	21,855	16,391	10,927	49,173
Federal Payroll Taxes (@ 7.65%)	6,687	5,016	3,344	15,047
Total Personnel Costs	115,960	86,970	57,980	260,910
Year 5				
Salary Increase (@ 3.0%)	2,623	1,967	1,311	5,901
Salary	90,041	67,531	45,020	202,592
Benefits (@ 25%)	22,510	16,883	11,255	50,648
Federal Payroll Taxes (@ 7.65%)	6,888	5,166	3,444	15,498
Total Personnel Costs	119,439	89,579	59,719	268,738

Appendix F: Statement of Projected Cash Flows

Statement of Cash Flows: Monthly Revenues in Year 1

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
<u>REVENUES</u>													
Animal Harvesting	10,880	10,880	10,880	10,880	10,880	10,880	10,880	10,880	10,880	10,880	10,880	10,880	130,560
Other	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Revenues	10,880	10,880	10,880	10,880	10,880	10,880	10,880	10,880	10,880	10,880	10,880	10,880	130,560

Statement of Cash Flows: Monthly Cash Outflows in Year 1

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
EXPENSES													
Animal Harvesting													
Fuel	1,382	1,382	1,382	1,382	1,382	1,382	1,382	1,382	1,382	1,382	1,382	1,382	16,585
Insurance	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	24,000
Vehicle Licenses & Taxes	0	0	0	0	0	0	0	0	0	0	0	1,000	1,000
Water & Water Purification	50	50	50	50	50	50	50	50	50	50	50	50	600
Equipment (knives, saws, etc.)	0	100	0	100	0	100	0	100	0	100	0	100	600
Generator Fuel	120	120	120	120	120	120	120	120	120	120	120	120	1,440
Offal Disposal	0	0	0	0	0	0	0	0	0	0	0	0	0
MHU & Truck Repairs/Maintenance	500	500	500	500	500	500	500	500	500	500	500	500	6,000
Inspector	0	0	0	0	0	0	0	0	0	0	0	0	0
Supplies	100	100	100	100	100	100	100	100	100	100	100	100	1,200
Subtotal	4,152	4,252	4,152	4,252	4,152	4,252	4,152	4,252	4,152	4,252	4,152	5,252	51,425
Personnel	19,898	19,898	19,898	19,898	19,898	19,898	19,898	19,898	19,898	19,898	19,898	19,898	238,770
Administration													
Office Rent	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	18,000
Office Utilities	400	400	400	400	400	400	400	400	400	400	400	400	4,800
Office Supplies, Postage, and Bank Chrg	200	200	200	200	200	200	200	200	200	200	200	200	2,400
Telephone/Internet	600	600	600	600	600	600	600	600	600	600	600	600	7,200
Business Travel	500	500	500	500	500	500	500	500	500	500	500	500	6,000
Accounting, Tax Preparation, Legal	250	250	250	3,500	250	250	500	250	250	500	250	1,250	7,750
Licenses & Fees	500	0	0	0	0	0	500	0	0	0	0	0	1,000
Insurance	1,500	0	0	1,500	0	0	1,500	0	0	1,500	0	0	6,000
Other	250	250	250	250	250	250	250	250	250	250	250	250	3,000
Subtotal	5,700	3,700	3,700	8,450	3,700	3,700	5,950	3,700	3,700	5,450	3,700	4,700	56,150
Debt Payments													
Principal	2,009	2,021	2,033	2,044	2,056	2,068	2,080	2,093	2,105	2,117	2,129	2,142	24,898
Interest	2,028	2,017	2,005	1,993	1,981	1,969	1,957	1,945	1,933	1,921	1,908	1,896	23,553
Subtotal	4,038	4,038	4,038	4,038	4,038	4,038	4,038	4,038	4,038	4,038	4,038	4,038	48,451
Total Expenses	33,787	31,887	31,787	36,637	31,787	31,887	34,037	31,887	31,787	33,637	31,787	33,887	394,796
Net of Cashflows	(22,907)	(21,007)	(20,907)	(25,757)	(20,907)	(21,007)	(23,157)	(21,007)	(20,907)	(22,757)	(20,907)	(23,007)	(264,236)
Running Balance	(22,907)	(43,914)	(64,822)	(90,579)	(111,486)	(132,493)	(155,650)	(176,657)	(197,565)	(220,322)	(241,229)	(264,236)	(528,472)

Statement of Cash Flows: Revenues, Expenses, and Debt Payments in Year 1 to Year 5.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
REVENUES					
Animal Harvesting	130,560	130,560	130,560	130,560	130,560
Other	0	0	0	0	0
Total Revenues	130,560	130,560	130,560	130,560	130,560
EXPENSES					
	<i>Annual Increase of Expenses =></i>	2.00%	2.00%	2.00%	2.00%
Animal Harvesting					
Fuel	16,585	16,917	17,255	17,601	17,953
Insurance	24,000	24,480	24,970	25,469	25,978
Vehicle Licenses & Taxes	1,000	1,020	1,040	1,061	1,082
Water & Water Purification	600	612	624	637	649
Equipment (knives, saws, etc.)	600	612	624	637	649
Generator Fuel	1,440	1,469	1,498	1,528	1,559
Offal Disposal	0	0	0	0	0
MHU & Truck Repairs/Maintenance	6,000	6,120	6,242	6,367	6,495
Inspector	0	0	0	0	0
Supplies	1,200	1,224	1,248	1,273	1,299
Subtotal	51,425	52,454	53,503	54,573	55,665
Personnel	238,770	243,545	248,416	253,385	258,452
Administration					
Office Rent	18,000	18,360	18,727	19,102	19,484
Office Utilities	4,800	4,896	4,994	5,094	5,196
Office Supplies	2,400	2,448	2,497	2,547	2,598
Telephone/Internet	7,200	7,344	7,491	7,641	7,794
Business Travel	6,000	6,120	6,242	6,367	6,495
Accounting & Tax Preparation Fees	7,750	7,905	8,063	8,224	8,389
Licenses & Fees	1,000	1,020	1,040	1,061	1,082
Insurance	6,000	6,120	6,242	6,367	6,495
Other	3,000	3,060	3,121	3,184	3,247
Subtotal	56,150	57,273	58,418	59,587	60,779
Debt Payments					
Principal	25,169	26,930	28,815	30,833	32,991
Interest	24,342	22,580	20,695	18,678	16,520
Subtotal	49,510	49,510	49,510	49,510	49,510
Total Expenses	395,856	402,783	409,848	417,055	424,406
Net of Cashflows	(265,296)	(272,223)	(279,288)	(286,495)	(293,846)
Running Balance	(265,296)	(537,518)	(816,807)	(1,103,301)	(1,397,147)

Note: The difference in Year 1 debt payments on the Statement of Monthly Cashflows and Statement of Annual Cashflows is due to monthly verses annual payments.