Pasture Poultry Production & Processing Feasibility in the Puget Sound Region

Prepared For

Cascade Harvest Coalition

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As part of the initial work of the Puget Sound Food Project, the Cascade Harvest Coalition held discussions with farmers and food buyers representing retail grocers and restaurants. All of these groups consider the absence of poultry processing facilities in the region to be the principal barrier they face in offering pasture-raised poultry to their customers. There was considerable anecdotal evidence for a strong market demand for pasture-raised poultry. In this study we used survey instruments to obtain quantitative information about the size of this market from restaurant and grocery store poultry buyers. This market information was then utilized to evaluate the financial feasibility of a pasture-poultry business, which would process and distribute locally raised poultry to stores and restaurant customers in the Puget Sound region.

Based on the analysis detailed below, we believe that a pasture poultry business is feasible given the following:

1. The processing facility infrastructure can be developed in partnership with a larger agricultural processing facility;
2. The business operates with seasonal production and processing during the initial years;
3. Sufficient numbers of poultry producers can be interested in participating and a program of producer education be implemented;
4. Producers form a purchasing "cooperative" that enables the cost effective procurement of feed and other inputs; and
5. An individual or other entity will come forward to own and operate the processing and distribution portion of the enterprise.

All of these conditions are possible and there are a number of organizations in the Puget Sound Region available to assist an entrepreneur in this type of project. The economic potential for local producers and input suppliers is well in excess of one million dollars per year in primary wealth creation and employment opportunities.

I. Industry Overview

Today there are no pasture-raised poultry producers in the region that are large enough to supply retail grocers with chickens and turkeys. A number of producers raise a few hundred birds per year (<1000 /yr) for on farm sales and do the processing at the farm under a special license from the WA State Dept of Ag (WSDA). Several other producers operate at a scale of a few thousand birds per year and have set up WSDA licensed facilities for processing. These producers typically sell at farmers markets and to restaurants. Demand for these pasture-raised poultry is high, but the total numbers produced in the region are less than 0.1% of the production of Draper Valley Farms (a vertically integrated conventional producer/processor in the region).

Local retail grocers that have expressed interest in carrying local pasture-raised poultry now sell conventional, "free range" and certified organic poultry sourced from across the country. Just how large the market could be for pasture-raised poultry and what price premium above the competing products available today would be acceptable to customers are key questions that this study attempted to answer.

A. Production and Processing in the Region Today

Raising pastured poultry is a common activity across the country today. Production size varies from many farmers with a few hundred chickens to some raising thousands per season. Producers who currently supply pasture-raised poultry in this region tend to have similar production and marketing operations and fit within one of two basic production models, off- and/or on-farm sales.

Off-Farm Sales:

a. Small 1,000 – 5,000 chickens per year family farms with little or no hired labor;
b. Market directly to individuals through farmers markets and a select number of restaurants; and
c. Do their processing under WA State (WSDA) license.

On-Farm Sales Only:

a. Very small <1,000 chickens per year);
b. Sell only from the farm so as to qualify for the WSDA temporary facility on-farm processing rules; and
c. Processing is done on the farm.

Most of the very small producers see poultry as a small part of their farm operation and generally intend to stay at their current size of operation. Farms with larger numbers rely on poultry for a significant percentage of their farm income and have developed the production skills and marketing knowledge to expand if they choose. To produce and process 10,000 chickens in the 6 month season requires approximately 4,300 labor hours. Delivery to customers and attendance at farmers markets adds additional labor hours. Processing and sales/distribution tend to be inefficient at this scale and producers either hire labor for these tasks, which causes profits to be low or negative, or do everything with family members who wear themselves out. It is no surprise that a common trend across the country among producers in the 5,000 – 20,000 birds per year production size is that they operate for a few years, develop a steady market demand and then burn out and exit the business. There is currently one producer at this scale in the Puget Sound Region and an additional three in Eastern WA who market in Seattle that we have identified. Three former producers are no longer in the poultry business. A new production and distribution model is needed if pasture-raised poultry is to be a viable product.

B. Market Potential for Pasture Poultry

Restaurant chefs and grocery store meat managers who returned survey questionnaires were very interested in the possibility of purchasing pasture-raised poultry. None of the grocery stores contacted have a current source for pasture-raised poultry and while some chefs are purchasing limited quantities there is considerable demand for a larger capacity supplier. Table 1 shows our estimate of the initial potential market for local pasture-raised poultry. The total annual market of approximately 90,000 chickens was developed from the responders estimated purchase needs multiplied by the number of similar establishments in the region. These potential customers represent less than 1% of the current poultry market in the region and were selected based on their history of receptivity to similar products. As such, we are targeting a small, but very loyal, customer niche. Considerable opportunity for expansion exists in the broader market given the trend toward increasing demand for local and humanely raised animal products.

Table 1. Estimated Market Size for Pasture Raised Poultry in the Puget Sound Region

Market	Estimated Weekly Purchase (whole chickens)	Number of Potential Restaurant/Grocery Customers in Region	Number of Chickens Sold per Year
Restaurant	20	50	52,000
Grocery	35	20	36,400
Total	55		88,400

Raising pastured poultry is a seasonal enterprise in the Pacific Northwest climate. The first chickens would be ready to process in May and then production would be steady through October. To supply

chickens throughout the year a surplus would be produced during the summer season and frozen for sale in the winter. All of the survey responders indicated that a frozen product would be acceptable as a way to provide year round availability.

From these market projections, the business projections evaluated are based on a minimum production capacity of 100,000 chickens per year. Since we believe that there is a significant potential upside to the market it is reasonable to build in greater processing capability.

II. Pasture Poultry Business Concept

The business concept evaluated here envisions that there will be an entity we refer to as the "Puget Sound Chicken Company" that coordinates with poultry producers to raise poultry for sale to PSCC, which would then process the poultry in its own facility and manage sales and distribution to retail grocery and restaurant customers of a branded Puget Sound Region pasture-raised poultry product. Custom processing of poultry for smaller producers would be done as a fee for service business.

There are two natural divisions to this business. They are: 1) production of pasture-raised poultry; and 2) processing of poultry to whole and cut-up birds and Sales & Distribution. Each of these areas of activity is described in more detail in the following section.

A. Pasture Poultry Production and Processing Financial Projections

The pasture poultry business model we are evaluating is divided into two separate components: production of live birds and the subsequent processing and distribution to customers. The processing component is envisioned to be a stand-alone operating company that purchases live birds from allied but independent farmers. While there may be some overlap in ownership, for instance some or all of the farmers who supply birds may have an ownership interest in Puget Sound Chicken Co., the two components would be run as separate businesses.

The financial evaluation therefore will look at each component to estimate the capital costs to develop any required facilities and operational costs. The total annual production assumed for this business is 100,000 chickens or the equivalent in other poultry such as turkeys. Production of pasture-raised poultry is of necessity a seasonal business, so this annual capacity is produced and processed in a six-month period.

1. Pastured Poultry Production

Participating farmers will each produce some portion of the total chickens with an average production level of 1,000-10,000 birds. The production model is based on a standard production unit, nominally defined as 1,000 birds delivered to the processing facility. To produce a unit of production, a new batch of 75 chicks is started each week for 14 weeks. The chicks are held in brooders for 3 weeks then moved to field pens to grow out for an additional 5 weeks. At any one time a producer will have up to 375 chickens, 3 batches in brooders and 5 batches in field pens for each unit. A producer may raise one to ten units each year depending on their individual situation and experience. Experienced producers strongly advised starting small and increasing production only after gaining experience.

Clearly not many farmers are interested in operating a production/processing/sales pastured poultry operation by themselves. Locating producers who would be interested in raising poultry, as part of a collaborative processing and marketing agreement may be a significant challenge. Providing a central processing facility addresses one of the major impediments deterring potential producers. However, there still needs to be sufficient return on labor and capital investment to make it a profitable venture.

To evaluate the potential return for producers a pasture chicken production budget was developed. Input cost data, production assumptions and labor requirements were derived from: interviews with producers, published poultry production budgets by Anne Fanactico[2] and data compiled by Andy Bary[3] from the pastured poultry research project at WSU. (See Appendix C for a detailed listing) A sample production operating budget is shown below in Table 4 and capital requirements for each unit of production capacity in Table 2.

Table 2. Poultry Production Equipment
Requirements for one "unit" of production

		Number of batches	3
Brooder		$/batch	Total
	Feeders	$5.00	$15.00
	Waterers	$20.00	$60.00
	Heat Lamps	$34.00	$102.00
		Total for Brooders	$177.00
		Number of batches	5
Field Pens			
	Pens	$200.00	$1,000.00
	Feeders	$30.00	$150.00
	Waterers	$90.00	$450.00
		Total for Field Pens	$1,600.00
Total Cost of Production Equipment			$1,777.00
Building Cost for Brooding			
200	sq ft of space.		$5,000.00
$25.00	Per sq ft build cost		

In this budget the cost of labor is not included in the expenses, but rather the labor hours are calculated and the net return divided by the total labor to show the net return in dollars per labor hour. For a selling price of $3.00/lb dressed weight, producers who perform all of the labor themselves would be essentially earning $12.40 per hour. A production rate greater than two units per year would require hired labor, as the workload becomes more than one full time person can do.

Feed is the single largest cost item and the feed cost used here of $0.30/lb is unusually high compared to historical trends. Recent grain prices are significantly lower than was the case a few months ago, however, given the current volatility of the grain and energy markets there is no way to reliably predict pricing a year or two ahead. If one looks at the selling price and the cost of feed in relation to the return on labor projected by our budget model in Table 3 the production of chickens can be an attractive enterprise.

Table 3. Return per Labor Hour for Selected Feed Cost and Selling Price

Selling Price ($/lb)	$2.75	$3.00	$3.25
Feed Cost ($/lb)			
$0.20	$14.33	$17.17	$20.02
$0.25	$11.95	$14.79	$17.64
$0.30	$9.57	$12.41	$15.26

2. Poultry Processing

There are no processing facilities in the Puget Sound region operating under USDA Inspection that exist today suitable for this enterprise to utilize. Consequently a processing facility will need to be built and operated by PSCC. This will require a significant capital investment and management talent to construct and operate.

The seasonality of agricultural production presents some significant challenges to a processing operation. Pastured poultry can be produced in Western WA approximately 6 months of the year. Consequently the processing facility will be required to process an entire years worth of product in 6 months and store ready to sell chickens frozen for delivery in the off season. The use of frozen product to meet the customer's needs for a year round product supply is relatively straightforward and our survey results from potential customers indicate that they understand this issue and a frozen or previously frozen product will be accepted in the market. This will require the company to own or lease approximately 1000 sq ft of frozen storage space plus a freezer for quick-freezing the chickens.

More problematic is the seasonal operation of a processing facility. Retention of trained employees and efficient use of capital investment is difficult for a stand-alone facility that operates seasonally. To alleviate some of these issues we propose that the chicken processing facility be incorporated into a larger agricultural food processing center as an anchor tenant. (The potential feasibility of an agricultural processing facility is being evaluated by the NW Agricultural Business Center).

In taking this approach the capital investment for poultry-specific processing equipment and dedicated building space is fully allocated to the PSCC. The shared facilities, such as office, restroom space, refrigerated storage, and utility infrastructure are leased according to the anticipated percentage use. Employees and management would also be shared throughout the facility. Products with ingredients that can be stored in their raw form could be processed primarily during the winter, helping to even out the facility use over the year.

Table 4. Chicken Production Budget

Budget is for one nominal unit of production (1,000 chickens per year)

Inputs				Outputs		
					Annual Total	Per Bird
Revenue			Input Values	Number of birds processed and sold	976.5	1
				Weight of birds processed (lb)	3906	4
Selling Price of Chickens ($/lb)			$3.00	Price per pound	$3.00	$3.00
Average dressed bird weight (lb)			4			
Number of Chickens per batch			75	**Total Revenue**	$11,718.00	$12.00
Number of Batches per year			14			
Death Loss Percentage			7%	**Variable Expenses**		
Expenses				Chick purchase cost	$1,050.00	$1.08
				Feed costs	$4,452.84	$4.56
Variable Costs				Supplies	$74.70	$0.08
				Paid Labor	$0.00	$0.00
Purchase price for chicks			$1.00	Transportation	$700.00	$0.72
Feed						
	Feed Price ($/lb)		$0.30			
	Pounds of feed per lb of chicken		3.8			
Medicines & Feed Supplements		Cost per batch	0	**Total Variable Expenses**	$6,277.54	$6.43
Supplies	Bedding	Price per unit	$6.10	**Fixed Costs**		
		Number of units per batch	0.5			
	Other	Total for season	$32.00			
Hired Labor	Wage ($/hr)		$0.00	Overhead	$627.75	$0.64
	Labor hours per batch			Capital Depreciation	$555.40	$0.57
		Brooding Chicks	7	**Total Fixed Expenses**	$1,183.15	$1.21
		Feeding & Moving Birds	17.5			
				Total Expenses	$7,460.69	$7.64
Transportation	Time and expenses for picking up feed or chicks or delivering birds to processor per batch		$50.00			
				Total Net Revenue	$4,257.31	$4.36
Utilities & Fuel		Cost per batch	$9.00			
Fixed Costs				Total Labor Hours	343	
				Return to labor	$12.41	per hour
Overhead	10% of Variable costs		$627.75			
	Insurance, Rent, Accounting, Legal Expenses, Other Overhead					
Capital Equipment						
Production Equipment (waterers, feeders, chicken tractors etc.)			$1,777.00	per unit		
New Structures such as barns used for brooders			$5,000.00	per unit		

3. Financial Projection for Poultry Processing and Distribution

The addition of dedicated building space for poultry processing adds 1500 sq ft to the overall building. Capital investment required for construction of this building and outfitting it with poultry processing equipment is estimated to be $250,000. See Table 5 below. In this analysis all of the capital is assumed to be borrowed and repaid as amortized loans, 10 yr for the equipment and 25 yrs for the building. These loan payments are included in the P&L projections as fixed expenses. Details for these loans and all of the income and expense assumptions used to develop the Profit & Loss projections are shown in Appendix D.

Table 5. Poultry Processing Facility Capital Investment

Building & Facilities					
Dedicated chicken processing building		1500	sq ft	$75	$112,500
Total Building Capital					**$112,500**
Equipment Specific to Poultry Processing & Distribution					
Refrigerated Delivery Truck (used good condition)					$ 30,000.00
Complete Equipment package for 600 birds per hour					$ 90,000.00
Chicken Transport Crates(sufficient for 2 days production)	500 crates @	$25	per crate		$12,500
Air Chilling racks	10 racks @	$500	per rack		$5,000
Total Equipment Capital					**$ 137,500.00**
Total Capital Investment					**$250,000**

The minimum design capacity desired was 100,000 chickens per year. In the process of researching the equipment and labor requirements for various capacity processing lines we determined that it would be much more labor efficient to purchase higher rated equipment and operate less days per month. Partnering with a larger facility, where labor could be used across both facilities, makes this possible. Consequently there is considerable upside potential capacity available should the market expand.

A summary of the estimated operating P&L is shown in Table 6 for years 1 and 3 when the facility is operating at 25% and 100%, respectively, of the estimated market demand of 100,000 chickens per year. The first case shown is for year round delivery and the second case is for a seasonal operation only. Complete year 3 P&L projections by month are in Appendix E. As can be seen from this analysis, there is a significant cost to providing a year round supply. The case shown as year 3+ assumes the facility has reached a constant production level of 100,000 chickens per year.

Attempting to provide a year round supply at the same time as the business is growing exacts a huge cost on a calendar year basis. This is due to sales in the first months of the year at the previous year's production rate. When the business reaches a steady production level this cost is reduced. However there is still a real cost of the year round supply of about $120,000 per year. This is a pretty high cost to bear for a business with under $2 million in annual sales. While a year round supply would be of benefit in marketing pasture poultry we can hardly recommend planning to do so in the early years of operation. A better strategy might be to position the product as special because of its seasonal nature.

Distribution for this business should be done in house. The regular contact with customers afforded by delivering every week will be important in developing strong support for the product. A suitable refrigerated delivery truck would be purchased and a driver/salesperson would make deliveries to customers once per week. In the first year this is one day per week and increases to 2 days per week by year 3.

Table 6: Poultry Processing Profit & Loss Projections Summary

	Year Round			Seasonal	
	Year 1	Year 3	Year 3+	Year 1	Year 3
INCOME					
Poultry Sales	$256,000	$1,376,000	$1,632,000	$384,000	$1,632,000
Custom Processing Fees	$6,000	$24,000	$24,000	$6,000	$6,000
TOTAL INCOME	**$256,000**	**$1,376,000**	**$1,632,000**	**$384,000**	**$1,632,000**
PROCESSING SCHEDULE					
Number of Chickens Processed for Resale	24,000	102,000	102,000	24,000	102,000
Pounds of dressed chicken	96,000	408,000	408,000	96,000	408,000
Payments to Producers	$288,000	$1,224,000	$1,224,000	$288,000	$1,224,000
EXPENSES					
Processing Facility					
Processing Labor	$16,320	$69,120	$69,120	$16,320	$16,320
Payroll tax & Benefits	$4,080	$17,280	$17,280	$4,080	$4,080
Utilities					
Electricity	$66	$66	$66	$66	$66
Gas					
Water	$0	$0	$0	$0	$0
Microbiological testing	$1,920	$8,160	$8,160	$1,920	$8,160
Laundry	$1,344	$5,712	$5,712	$1,344	$5,712
Equipment Repair	$0	$0	$0	$0	$0
Equipment Calibration	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0
Rendering Pickup & Disposal	$1,632	$6,936	$6,936	$1,632	$6,936
Small Tools	$1,248	$5,304	$5,304	$1,248	$5,304
Supplies	$4,800	$20,400	$20,400	$4,800	$20,400
Total Processing Costs	**$31,410**	**$132,978**	**$132,978**	**$31,410**	**$66,978**
G&A					
General Manager	$10,000	$10,000	$10,000	$10,000	$10,000
Payroll tax & Benefits	$2,500	$2,500	$2,500	$2,500	$2,500
Telephone	$1,834	$9,800	$11,592	$2,730	$11,466
Internet e-mail	$240	$240	$240	$240	$240
Insurance	$4,500	$4,500	$4,500	$4,500	$4,500
Licenses & Permits	$150	$150	$150	$150	$150
Office Supplies	$1,179	$6,300	$7,452	$1,755	$7,371
Accounting & Legal	$1,048	$5,600	$6,624	$1,560	$6,552
State Business Tax	$0	$0	$0	$0	$0
Postage	$540	$540	$540	$540	$540
Bank Charges	$192	$192	$192	$192	$192
Facility Capital Loan Payment	$8,982	$8,982	$8,982	$8,982	$8,982

Equipment Loan Payment	$19,158	$19,158	$19,158	$19,158	$19,158
Facility Rent Payment	$12,000	$12,000	$12,000	$6,000	$6,000
Total G&A	**$62,322**	**$79,961**	**$83,929**	**$58,306**	**$77,650**
Sales & Distribution					
Salesperson/Delivery labor	$4,320	$19,440	$19,440	$3,240	$3,240
Payroll tax & Benefits	$1,080	$4,860	$4,860	$810	$810
Frozen Storage Cost	$3,200	$20,400	$20,400	$0	$0
Truck Operating expenses					
Fuel	$1,543	$6,943	$6,943	$1,157	$1,157
Maintenance	$720	$3,240	$3,240	$540	$540
Total Sales & Distribution	**$10,863**	**$54,883**	**$54,883**	**$5,747**	**$5,747**
Total Expenses	**$104,596**	**$267,823**	**$271,791**	**$95,464**	**$150,376**
Cost of Goods	$288,000	$1,224,000	$1,224,000	$288,000	$1,224,000
OPERATING PROFIT (LOSS)	**-$136,596**	**-$115,823**	**$136,209**	**$536**	**$257,624**

III. Conclusions and Next Steps

A. Project Feasibility

We believe that a pasture poultry business as described herein is feasible given the following:

a. The processing facility infrastructure can be developed in partnership with a larger agricultural processing facility,
b. The business operates with seasonal production and processing during the initial years,
c. Sufficient numbers of poultry producers can be interested in participating and a program of producer education be implemented,
d. Producers form a purchasing "cooperative" that enables the cost effective procurement of feed and other inputs, and
e. An individual or other entity will come forward to own and operate the processing and distribution portion of the enterprise.

All of these conditions are possible and there are a number of organizations in the Puget Sound Region available to assist an entrepreneur in this type of project. The economic potential for local producers and input suppliers is well in excess of one million dollars per year in primary wealth creation and employment opportunities.

B. Future Business Development

Given the positive indication of the feasibility of this business concept the next step is to move into development of an actual business. Our next goal is to locate and assist key individuals and a producer group through the business development stage and into the start of operations.

References and Bibliography

a. Pereira, Kathryn, M. "Pastured Poultry: Its Potential as a sustainable Agricultural System in Wisconsin", Masters Thesis, University of WI, 2000.

b. Fanatico, Anne, et al. "Growing Your Range Poultry Business: An Entrepreneur's Toolbox", National Center for Appropriate Technology, 2002.

c. Bary, Andy. Personal Communication, Washington State University, Puyallup, WA. Research Center, 2008.

Appendix A
Survey Questionnaires for Producers, Restaurants, & Grocery Stores

Restaurant Buyers Survey

Name of Restaurant _____

Contact Person(s)_____

Contact Information_____

_____

The Cascade Harvest Coalition is working to develop processing infrastructure to increase purchases of locally produced food in the Puget Sound region. As part of this effort, we are evaluating the market demand for pasture-raised poultry to determine whether development of the production and processing facilities for poultry is warranted. We anticipate that restaurants that already purchase other local food ingredients would be interested in a source for locally produced pasture-raised poultry. Please help us by filling out this survey. Your answers will be aggregated with those from others and not linked to your specific restaurant in any published materials.

1. How much chicken do you serve and in what form do you purchase it? Whole chickens, or certain parts only.

	Item	lb/week
a.	whole chicken	_____
b.	_____	_____

2. What are its characteristics? ie. natural/free range/organic and price today for each. Please indicate the amount you purchase of each type.

		lb/week	Price/lb
a.	Conventional	_____	_____
b.	Natural (no antibiotics)	_____	_____
c.	Free range	_____	_____
d.	Certified organic	_____	_____
e.	Pasture raised	_____	_____
f.	Other _____	_____	_____

3. If you do not purchase local pasture-raised poultry would you like to?

4. How much could you pay for pasture raised chickens?

5. Approximately how many pounds per week would you expect to need?

6. What delivery schedule would you like?

7. Other comments

Poultry Producers Survey

Background Information

Name of Producer/Farm _____
Contact Person(s)_____
Contact Information_____
_____

1. How many years have you raised poultry?

2. How many pasture raised birds do you produce each year.
    1. Chickens
    2. Turkeys

3. Are they sold live or processed?

4. Where do you sell them? And at what price?

	Percentage	Price /lb 2007	2008
a. Farm Sales	_____	_____	_____
b. Grocery Stores	_____	_____	_____
c. Restaurants	_____	_____	_____
d. Farmers Markets	_____	_____	_____
e. Other	_____	_____	_____

5. Where do you have them processed and under which inspection agency?

6. What is the processing cost per bird?

7. Would you be interested in producing and selling pasture raised live birds to a business that worked with a number of local producers to source, process and sell poultry to regional groceries stores and restaurants?

8. If so, what price would you need to sell for to cover your production costs and make an acceptable return?

9. Given an acceptable arrangement how many chickens/turkey would you be able to raise and when during the season would they be ready for processing?

10. Do you know of other farms that might be interested in raising poultry if they did not have to do the processing?

Grocery Buyers Survey

Name of Store _____
Contact Person(s)_____
Contact Information_____
_____

Project Background
The Cascade Harvest Coalition is working to develop processing infrastructure to increase purchases of locally produced food in the Puget Sound region. As part of this project, we are evaluating the market demand for pasture-raised poultry to determine whether development of the production and processing facilities for poultry is warranted. We anticipate that grocery stores that already purchase other local food ingredients would be interested in a source for locally produced pasture-raised poultry. Please help us by filling out this survey. Your answers will be aggregated with those from others and not linked to your specific store in any published materials.

1. How much chicken do you sell and what are its characteristics? ie. natural/free range/organic and price today for each. Please indicate the pricing and amount you sell of each type of whole chickens.

	lb/week	Wholesale Price/lb	Retail Price/lb
a. Conventional	_____	_____	_____
b. Natural (no antibiotics)	_____	_____	_____
c. Free range	_____	_____	_____
d. Certified organic	_____	_____	_____
e. Pasture raised	_____	_____	_____
f. Other _____	_____	_____	_____

2. If you do not sell local pasture-raised poultry would you like to?
3. Please estimate the maximum pricing for local pasture raised whole chickens your customers would support?
   Retail price _____
   Wholesale price_____
4. Approximately how many pounds per week would you expect to sell?
5. Does your store have meat cutting/ packaging capabilities for poultry or would you prefer case ready product?
6. Would organic certification be valuable to your customers and what price premium would be they find acceptable for certified organic pasture-raised chicken?
7. There have been significant increases in feed costs for poultry and other livestock producers in the past year. What price increases have you seen for chicken you purchase and have you been able to pass the increases on in your retail pricing.
8. Production of pasture-raised poultry in the Northwest is seasonal. How do they feel about a seasonal supply and/or the sale of frozen chickens during the winter?
9. Other Comments

Please return this survey by mail or email to:
Bruce Dunlop
Lopez Island Farm
193 Cross Rd.
Lopez Island, WA 98261

bruce@lopezislandfarm.com

Appendix B
Summary of Survey Results

Poultry Survey Results

Restaurant

projected purchases per week was on average 80 lb

acceptable price range $3.75 – $4.50 $4.00 most likely is the upper limit today.

Size of the chicken is important for the restaurant trade. Whole chickens need to be 3.5 – 4 lb

Estimate of supplying 50 restaurants for a 6 month season of fresh and 6 months stored frozen birds is 50,000 chickens per year.

Grocery Store

Retail prices

Conventional no antibiotics $1.69 /lb

Free range $2.00 - $4.23 /lb

Certified Organic $5.00 /lb

Wholesale is 30-35% of retail

Anticipated sales 35 chickens per week per store @ $3.50 - $4.00 /lb wholesale price
If 20 store accounts could be served then 36,000 chickens per year.

Producers

Producers who are currently growing and selling chickens do not want to fill out surveys! However we were able to conduct interviews with several current and former poultry producers

Conversations with them have gleaned the following.

1. Retail price at farmers markets is $4.00 lb in Seattle area. Less in other parts of the state.
2. Each of these producers is vertically integrated and using Cornish Cross breed. All of the producers interviewed produced between 1,000 and 15,000 chickens per year.
3. Historically many producers across the country who follow this model burn out and exit the business.

Appendix C
Poultry Production Information

General Information

1. Chicks used are Cornish Cross Broilers
2. Cost per chick is $1.00
3. Feed consumption is 3.8 lb feed per lb dressed carcass
4. Feed cost is $600.00/ton
5. Overall death loss is 7%

Brooders

We are using a standard unit of production of 75 chicks per batch. Starting a new batch every week and moving them to field pens, therefore there will be 3 batches in the brooder at any time.

1. The area needed for a batch of 75 chicks for 3 weeks is 40 sq ft
2. Each batch requires the following equipment:
   a. 1 Heat lamps $34.00
   b. watering container or nipples $20.00
   c. feeders $5.00
3. Supplies required include bedding
4. Additional storage space of 100 sq ft is needed to store feed and equipment in the brooder building space.
5. The estimated labor hours per batch is 7 hr. This includes the time required to:
   a. set up a clean brooder space,
   b. provide daily feeding and general care
   c. Moving of chicks to field pens, and
   d. Cleaning the brooder space and equipment

Field Pens

Batches of 75 chicks are transferred to the outside field pens at 3 weeks of age. Each pen is constructed in a similar manner to the "chicken tractors" in common use so that they can be moved to fresh pasture on a daily basis. Each batch of chickens will spend approximately 5 weeks in the field pens (harvesting at 4 lb dressed weight)

1. Cost for materials to build a 10x12 pens is $200.00
2. Pen life is 5 years
3. Equipment required per pen is 2 waterers and 3 feeders cost is $90 for waterers and $30 for feeders.
4. The estimated labor per batch is 17.5 hr. This includes
   a. Time required to set up a pen and transfer chicks,
   b. Daily chores of moving, feeding and watering the pen,
   c. Catching finished chickens and loading in crates for shipment to processor

5. Land are required per pen is approximately 1/10 acre of pasture

Appendix D
General Calculation Inputs for Processing Financial Projections

Direct labor costs

		$/hr		
Processing Labor Average cost		12	Benefits	
Processing Supervision		18	Soc Sec and other mandatory	15%
Sales / Delivery Labor		15	vacation, holiday, sick time	10%
General Manager	40000	per year salary allocated	25%	to Poultry

Processing Facility Operation Assumptions

Processing Operation per day	8	hr
Average Dressed Weight of Chickens	4	lb
Price Paid to Producers	3.00	$/lb dressed carcass weight
Selling Price	4.00	$/lb
Custom Processing Fee	4.00	$/bird
Consumable Supplies	5%	of lbs processed
Microbiological testing	2%	of lbs processed
Rendering Pickup	1.7%	of lbs processed
Equipment Repair	1%	of lbs processed
Accounting & legal Services	0.4%	of lbs processed
Office Supplies	0.45%	of lbs processed
Telephone	0.70%	of lbs processed
Laundry	1.40%	of lbs processed
Small Tools	1.30%	of lbs processed

Sales & Delivery

Delivery schedule of	1.00	days per week
Average Daily Mileage	200.00	
Fuel Cost	3	$/gal
Maintanence Cost	0.1	$/mile
Frozen Storage Cost (off site storage)	20	$/pallet/month
	300	chickens per pallet

Capital Loans	Facility	Equipment
Principle	112,500	137,500
Term	30 yr.	10 yr.
Interest rate	7%	7%
Payment	$748.47	$1,596.49

Utilities	Usage		Rate	
Electrical	52	kwhr/operating day	0.12	$/kwhr
Water	2500	gal/operating day		
Facility Rent	Size	1000	Square Ft	
	Rate	1	per sq ft per month	

Appendix E: Fabrication Facility P&L Projections
Year Round Operation, Year 3

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
INCOME													
Poultry Sales	$72,000	$72,000	$72,000	$72,000	$136,000	$136,000	$136,000	$136,000	$136,000	$136,000	$136,000	$136,000	$1,376,000
Custom Processing Fees	$0	$0	$0	$0	$4,000	$4,000	$4,000	$4,000	$4,000	$4,000	$0	$0	$24,000
TOTAL INCOME	**$72,000**	**$72,000**	**$72,000**	**$72,000**	**$140,000**	**$140,000**	**$140,000**	**$140,000**	**$140,000**	**$140,000**	**$136,000**	**$136,000**	**$1,376,000**
PROCESSING SCHEDULE													
Number of Chickens Processed for Resale	0	0	0	0	17,000	17,000	17,000	17,000	17,000	17,000	0	0	102,000
Pounds of dressed chicken	0	0	0	0	68,000	68,000	68,000	68,000	68,000	68,000	0	0	408,000
Payments to Producers	$0	$0	$0	$0	$204,000	$204,000	$204,000	$204,000	$204,000	$204,000	$0	$0	**$1,224,000**
EXPENSES													
Processing Facility													
Processing Labor	$0	$0	$0	$0	$11,520	$11,520	$11,520	$11,520	$11,520	$11,520	$0	$0	$69,120
Payroll tax & Benefits	$0	$0	$0	$0	$2,880	$2,880	$2,880	$2,880	$2,880	$2,880	$0	$0	$17,280
Utilities													
Electricity	$0	$0	$0	$0	$11	$11	$11	$11	$11	$11	$0	$0	$66
Gas													
Water	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Microbiological testing	$0	$0	$0	$0	$1,360	$1,360	$1,360	$1,360	$1,360	$1,360	$0	$0	$8,160
Laundry	$0	$0	$0	$0	$952	$952	$952	$952	$952	$952	$0	$0	$5,712
Equipment Repair	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Equipment Calibration	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Rendering Pickup & Disposal	$0	$0	$0	$0	$1,156	$1,156	$1,156	$1,156	$1,156	$1,156	$0	$0	$6,936
Small Tools	$0	$0	$0	$0	$884	$884	$884	$884	$884	$884	$0	$0	$5,304
Supplies	$0	$0	$0	$0	$3,400	$3,400	$3,400	$3,400	$3,400	$3,400	$0	$0	$20,400
Total Processing Costs	**$0**	**$0**	**$0**	**$0**	**$22,163**	**$22,163**	**$22,163**	**$22,163**	**$22,163**	**$22,163**	**$0**	**$0**	**$132,978**
G&A													
General Manager	$833	$833	$833	$833	$833	$833	$833	$833	$833	$833	$833	$833	$10,000
Payroll tax & Benefits	$208	$208	$208	$208	$208	$208	$208	$208	$208	$208	$208	$208	$2,500
Telephone	$504	$504	$504	$504	$980	$980	$980	$980	$980	$980	$952	$952	$9,800
Internet e-mail	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$240
Insurance	$375	$375	$375	$375	$375	$375	$375	$375	$375	$375	$375	$375	$4,500
Licenses & Permits	$13	$13	$13	$13	$13	$13	$13	$13	$13	$13	$13	$13	$150

Office Supplies	$324	$324	$324	$324	$630	$630	$630	$630	$630	$630	$612	$612	$6,300
Accounting & Legal	$288	$288	$288	$288	$560	$560	$560	$560	$560	$560	$544	$544	$5,600
State Business Tax	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Postage	$45	$45	$45	$45	$45	$45	$45	$45	$45	$45	$45	$45	$540
Bank Charges	$16	$16	$16	$16	$16	$16	$16	$16	$16	$16	$16	$16	$192
Facility Capital Loan Payment	$748	$748	$748	$748	$748	$748	$748	$748	$748	$748	$748	$748	$8,982
Equipment Loan Payment	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$19,158
Facility Rent Payment	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$12,000
Total G&A	**$5,971**	**$5,971**	**$5,971**	**$5,971**	**$7,025**	**$7,025**	**$7,025**	**$7,025**	**$7,025**	**$7,025**	**$6,963**	**$6,963**	**$79,961**
Sales & Distribution													
Salesperson/Delivery labor	$1,620	$1,620	$1,620	$1,620	$1,620	$1,620	$1,620	$1,620	$1,620	$1,620	$1,620	$1,620	$19,440
Payroll tax & Benefits	$405	$405	$405	$405	$405	$405	$405	$405	$405	$405	$405	$405	$4,860
Frozen Storage Cost	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$1,700	$20,400
Truck Operating expenses													
fuel	$579	$579	$579	$579	$579	$579	$579	$579	$579	$579	$579	$579	$6,943
Maintenance	$270	$270	$270	$270	$270	$270	$270	$270	$270	$270	$270	$270	$3,240
Total Sales & Distribution	**$4,574**	**$4,574**	**$4,574**	**$4,574**	**$4,574**	**$4,574**	**$4,574**	**$4,574**	**$4,574**	**$4,574**	**$4,574**	**$4,574**	**$54,883**
Total Expenses	**$10,545**	**$10,545**	**$10,545**	**$10,545**	**$33,762**	**$33,762**	**$33,762**	**$33,762**	**$33,762**	**$33,762**	**$11,537**	**$11,537**	**$267,823**
Cost of Goods	**$0**	**$0**	**$0**	**$0**	**$204,000**	**$204,000**	**$204,000**	**$204,000**	**$204,000**	**$204,000**	**$0**	**$0**	**$1,224,000**
OPERATING PROFIT (LOSS)	**$61,455**	**$61,455**	**$61,455**	**$61,455**	**($97,762)**	**($97,762)**	**($97,762)**	**($97,762)**	**($97,762)**	**($97,762)**	**$124,463**	**$124,463**	**($115,823)**

Fabrication Facility P&L Projections
Seasonal operation only, Year 3

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
INCOME													
Poultry Sales	$0	$0	$0	$0	$272,000	$272,000	$272,000	$272,000	$272,000	$272,000	$0	$0	$1,632,000
Custom Processing Fees	$0	$0	$0	$0	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$0	$0	$6,000
TOTAL INCOME	**$0**	**$0**	**$0**	**$0**	**$273,000**	**$273,000**	**$273,000**	**$273,000**	**$273,000**	**$273,000**	**$0**	**$0**	**$1,632,000**
PROCESSING SCHEDULE													
Number of Chickens Processed for Resale	0	0	0	0	17,000	17,000	17,000	17,000	17,000	17,000	0	0	102,000
Pounds of dressed chicken	0	0	0	0	68,000	68,000	68,000	68,000	68,000	68,000	0	0	408,000
Payments to Producers	$0	$0	$0	$0	$204,000	$204,000	$204,000	$204,000	$204,000	$204,000	$0	$0	**$1,224,000**
EXPENSES													
Processing Facility													
Processing Labor	$0	$0	$0	$0	$2,720	$2,720	$2,720	$2,720	$2,720	$2,720	$0	$0	$16,320
Payroll tax & Benefits	$0	$0	$0	$0	$680	$680	$680	$680	$680	$680	$0	$0	$4,080
Utilities													
Electricity	$0	$0	$0	$0	$11	$11	$11	$11	$11	$11	$0	$0	$66
Gas													
Water	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Microbiological testing	$0	$0	$0	$0	$1,360	$1,360	$1,360	$1,360	$1,360	$1,360	$0	$0	$8,160
Laundry	$0	$0	$0	$0	$952	$952	$952	$952	$952	$952	$0	$0	$5,712
Equipment Repair	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Equipment Calibration	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Rendering Pickup & Disposal	$0	$0	$0	$0	$1,156	$1,156	$1,156	$1,156	$1,156	$1,156	$0	$0	$6,936
Small Tools	$0	$0	$0	$0	$884	$884	$884	$884	$884	$884	$0	$0	$5,304
Supplies	$0	$0	$0	$0	$3,400	$3,400	$3,400	$3,400	$3,400	$3,400	$0	$0	$20,400
Total Processing Costs	**$0**	**$0**	**$0**	**$0**	**$11,163**	**$11,163**	**$11,163**	**$11,163**	**$11,163**	**$11,163**	**$0**	**$0**	**$66,978**
G&A													
General Manager	$833	$833	$833	$833	$833	$833	$833	$833	$833	$833	$833	$833	$10,000
Payroll tax & Benefits	$208	$208	$208	$208	$208	$208	$208	$208	$208	$208	$208	$208	$2,500
Telephone	$0	$0	$0	$0	$1,911	$1,911	$1,911	$1,911	$1,911	$1,911	$0	$0	$11,466
Internet e-mail	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$20	$240

Insurance	$375	$375	$375	$375	$375	$375	$375	$375	$375	$375	$375	$375	$4,500
Licenses & Permits	$13	$13	$13	$13	$13	$13	$13	$13	$13	$13	$13	$13	$150
Office Supplies	$0	$0	$0	$0	$1,229	$1,229	$1,229	$1,229	$1,229	$1,229	$0	$0	$7,371
Accounting & Legal	$0	$0	$0	$0	$1,092	$1,092	$1,092	$1,092	$1,092	$1,092	$0	$0	$6,552
State Business Tax	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Postage	$45	$45	$45	$45	$45	$45	$45	$45	$45	$45	$45	$45	$540
Bank Charges	$16	$16	$16	$16	$16	$16	$16	$16	$16	$16	$16	$16	$192
Facility Capital Loan Payment	$748	$748	$748	$748	$748	$748	$748	$748	$748	$748	$748	$748	$8,982
Equipment Loan Payment	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$1,596	$19,158
Facility Rent Payment					$1,000	$1,000	$1,000	$1,000	$1,000	$1,000			$6,000
Total G&A	**$3,855**	**$3,855**	**$3,855**	**$3,855**	**$9,087**	**$9,087**	**$9,087**	**$9,087**	**$9,087**	**$9,087**	**$3,855**	**$3,855**	**$77,650**
Sales & Distribution													
Salesperson/Delivery labor					$540	$540	$540	$540	$540	$540			$3,240
Payroll tax & Benefits					$135	$135	$135	$135	$135	$135			$810
Frozen Storage Cost													$0
Truck Operating expenses													
Fuel					$193	$193	$193	$193	$193	$193			$1,157
Maintenance					$90	$90	$90	$90	$90	$90			$540
Total Sales & Distribution	**$0**	**$0**	**$0**	**$0**	**$958**	**$958**	**$958**	**$958**	**$958**	**$958**	**$0**	**$0**	**$5,747**
Total Expenses	**$3,855**	**$3,855**	**$3,855**	**$3,855**	**$21,208**	**$21,208**	**$21,208**	**$21,208**	**$21,208**	**$21,208**	**$3,855**	**$3,855**	**$150,376**
Cost of Goods	**$0**	**$0**	**$0**	**$0**	**$204,000**	**$204,000**	**$204,000**	**$204,000**	**$204,000**	**$204,000**	**$0**	**$0**	**$1,224,000**
OPERATING PROFIT (LOSS)	**($3,855)**	**($3,855)**	**($3,855)**	**($3,855)**	**$47,792**	**$47,792**	**$47,792**	**$47,792**	**$47,792**	**$47,792**	**($3,855)**	**($3,855)**	**$257,624**