SAN JUAN COUNTY
FARM MANAGEMENT PLAN REQUIREMENTS

As a condition of approval or continuance for Open Space Farm & Agriculture Classification, the owner will be required to submit a Farm Management Plan. The Plan will indicate the work to be done in managing the land for maximum farm production and will include all items listed below:

1. Map and Tax Parcel Number (1" to 200' scale preferred)
- Farm map showing buildings, production areas, roads, ponds, fences, processing areas, tree boundaries, wetland boundaries, etc..

2. Narrative of past and present farm condition, including:
- A history of the kinds of cash crops and/or animals produced and sold during the past five years.
- Number of livestock and/or poultry by type.
- How many acres of various crops are present such as pasture, hay, grain, etc.?
- Provide a survey of existing noxious weed populations and a weed management plan, if required.
- What is the farming experience of owner and/or operator?

3. Land owner's proposed five year plan, including:
- Provide a short outline of goals and objectives for the farm.
- Is farm operation conducted by owner or lessee?
    - ✓ If land is leased, provide a copy of the lease and a five year farm plan for the lessee.
- Provide a farm activity plan for each year of the next five years.
- Provide present and future income projections. **(This will be kept confidential)**
- Provide proof of present agriculture farm income for at least three of the past five years such as, IRS 1040 Schedule F or income statement showing gross income and expenses, receipts, lease agreements and receipts, government payments and subsidies. **(This will be kept confidential)**

4. Soil and Site Information
- Information source: USDA Soil Survey of San Juan County
- Provide soil classification map
- Provide soil description
- Provide agricultural capability class description

5. Statement that all owners (current or prospective) have read, understand, and agree to abide by the terms of the management plan, with signatures of all owners.

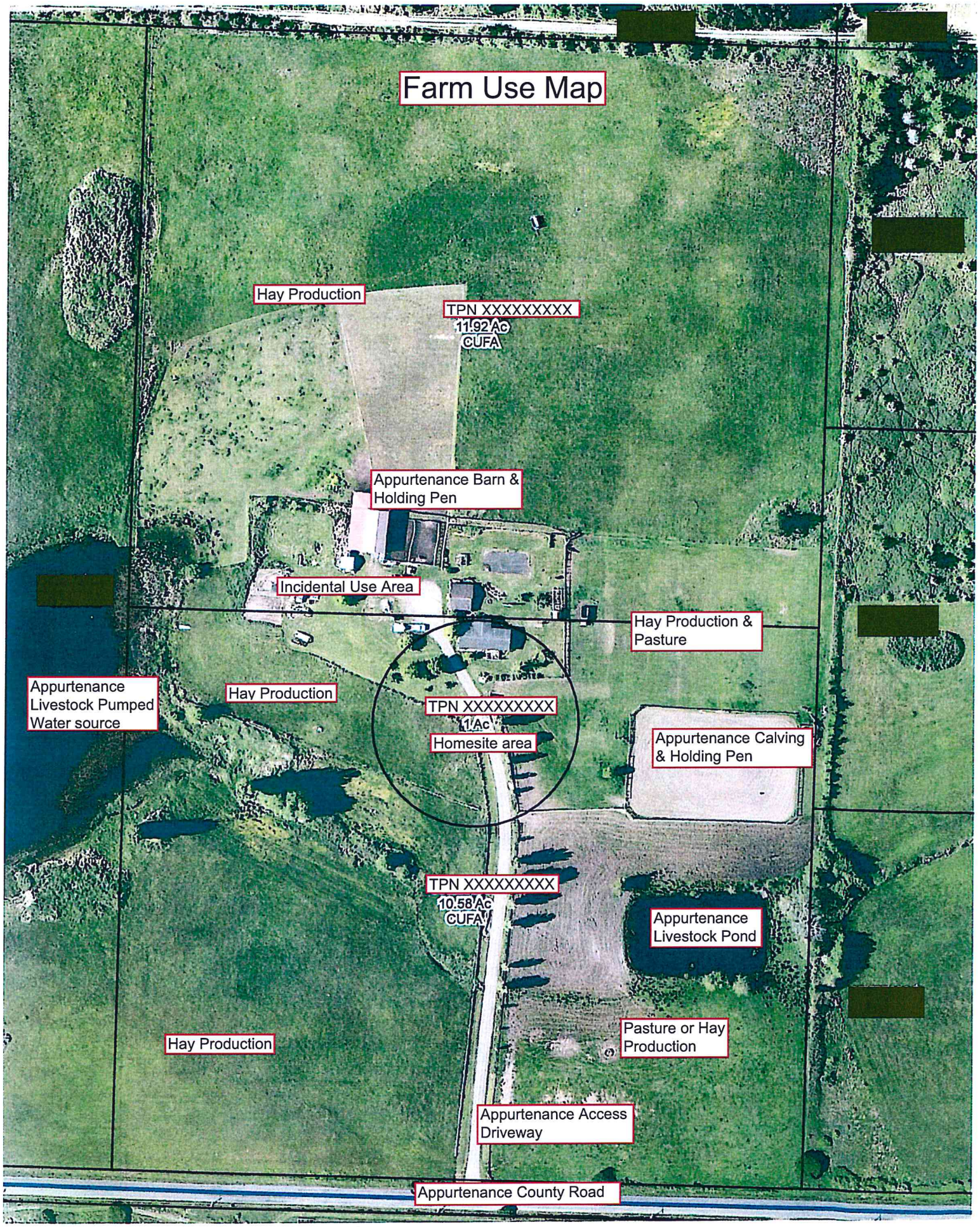
The Farm Management Plan shall become a binding part of the application or continuance and shall contain <u>all</u> required elements listed above. Nonperformance to reasonably carry out the Farm Management Plan shall be considered failure to meet the conditions of approval of the Open Space Farm & Agricultural application and may result in withdrawal of the land from classification.

SAMPLE FARM MANAGEMENT PLAN

2016

PID/TPN's: XXXXX/XXXXXXXXX

Current Use Farm and Agricultural Classification


Farm Use Map
Hay Production
TPN XXXXXXXXX
11.92 Ac
CUFA
Appurtenance Barn & Holding Pen
Incidental Use Area
Hay Production & Pasture
Appurtenance Livestock Pumped Water source
Hay Production
TPN XXXXXXXXX
1 Ac
Homesite area
Appurtenance Calving & Holding Pen
TPN XXXXXXXXX
10.58 Ac
CUFA
Appurtenance Livestock Pond
Hay Production
Pasture or Hay Production
Appurtenance Access Driveway
Appurtenance County Road

SAMPLE FARM NARRATIVE

Sample Farmers have owned and operated their farm at XXX Farmer Rd. for the past 27 years. Mrs. Sample Farmer was raised on a San Juan Island farm which mainly raised sheep, cattle and hay. Mr. Farmer earned a Bachelor of Science degree in Agriculture at Washington State University in 1985. His agricultural experience includes management and operation of irrigated and dryland farming, rangeland management, and large cow/calf and feedlot agribusinesses.

In the beginning, the Sample Farm was largely involved with the production of hay which was sold from the field, by the ton, and by the single bale. As the cattle market has strengthened, the Samples have added cow/calf production to the farm. Cows are kept for breeding purposes to raise calves to be sold at weaning. Through the years, a few calves have been retained for growing and fattening to be sold as locker beef, but the market emphasis has always been on the sale of calves weaned from the cows. Presently the Sample's Farm has 10 cow/calf pairs, 3 yearling replacement heifers which will be bred this spring to replace any cull cows, 1 registered Simmental bull, and 2 yearly steers to be fattened for locker beef.

The Farmer Rd. farm is run in coordination with other farmland owned by the Samples in Farmer Valley. Because that land is not contiguous to this farm, a separate farm plan has been written for that farmland. It is appropriate to note that these two farms rely heavily on each other's contribution for the combined farm operation. The Farmer Rd farm is used for the production of hay to sustain the cows through the winter and a wintering area to calve the cows. Because the Samples reside at Farmer Rd., it is much easier to monitor the pregnant cows for calving problems throughout the winter nights. Once spring grass is growing sufficiently, the cows and calves are moved to the other farmland and remain on that pasture throughout the summer and fall.

Summer farming at Farmer Rd. is largely comprised of the production of hay. Approximately 15 acres of this land, combined with a neighboring hay field, usually produces enough hay to feed the cows through the winter. It should be noted that uncharacteristic summer draught and unusual long winters have occasionally required hay to be purchased to sustain the cows until spring pasture is available, but that is not the norm.

Noxious weeds are monitored and controlled constantly. Because of this, these weeds do not present a problem to the Sample's farm. Canadian thistle, bull thistle, wild rose, and hawthorn are the most common weed controlled. There is an occasional tansy ragwort. These weeds are most commonly controlled with an appropriate herbicide. Mowing and pulling weeds are also used as a method of control but have not been found to be as effective as the responsible use of herbicide.

PROPOSED FIVE YEAR PLAN (2016-2020)

Most of our goals are stated in the Farm Narrative and will be continued in the future. Approximately 15 acres will continue to be used for producing hay silage bales and the front pasture will remain the winter calving area. The cover crop pasture will be planted with oats to be used as fall pasture for the pregnant cows. The standing oats provide additional protein and carbohydrates for the development of the fetal calf as well as contributing to the overall condition of the mother cow. It may be desirable to add a variety of legume to this cover crop pasture. This will boost the protein even more and make the forage more palatable. The legume will also add nitrogen to the soil by its nitrogen-fixating nodules on its root system. An agricultural field agent will be consulted when choosing the legume.

There is a need for fence repair and maintenance. The fences are of an age that most need to be replaced. It is cost prohibitive to replace them all at once. Priorities will be placed on perimeter fences for replacement. Cross fences will continue to be repaired rather than replaced until the perimeter fences are finished.

Rain saturation of winter pasture is a problem. Proper ditching will improve drainage. The worst areas will be identified in the winter and ditched in the summer. This will be a gradual ongoing process in regard to the amount of improvement from each ditch and then identify where more ditching is necessary.

A cattle squeeze chute was purchased this year for handling cattle while processing or doctoring. A new set of working corrals will be built for holding the cattle as they wait their turn. Treated 6x6's will be used for posts. We will mill 2x6's for the boards out of local logs.

Year One: The owner will produce hay silage bales on the 15 acres of hay ground. Yield should be 80 – 90 round bales (50 ton). It should be noted that because hay silage is high in moisture, the bales weigh up to 30% more than dry hay. The measure of yield should focus more on volume (80-90 bales) than tonnage. The cow's volume of intake in this case is not affected by the weight of the feedstuff.

The cow herd will remain at 10 head calving. Three cows have been culled. After their calves are weaned, two cows will be sold as bred running age cows and one cow will be butchered for hamburger to be sold. These cows will be replaced with three yearling heifers of better quality. They will be bred this summer and give birth to their first caves in the winter of 2017.

The owners will continue to monitor noxious weed control by spot spraying with herbicide. Larger weed areas will be mowed before the weed goes to seed.

The owners, with hired help, will build a new working corral with an alley to accommodate a squeeze chute. The corral will be used to aid with any dystocia that may occur during calving season, annual processing of cows and calve, and any cattle doctoring needed.

The owner will replace perimeter fences on the south and east sides of the winter calving pasture. They are long past due. Once this is done, cross fencing of certain areas will be helpful with pasture management.

Five Year Plan (cont.):

Year Two: The owner will continue to produce hay silage bales on the 15 acres of hay ground.

The cow herd will remain at 10 head calving. A new bull will be introduced to the cows to prevent inbreeding.

The owners will continue to monitor noxious weed control by spot spraying with herbicide. Larger weed areas will be mowed before the weed goes to seed.

The owner will replace the boundary fence on the west hay field and the fence along the road.

Year Three: The owner will continue to produce hay silage bales on the 15 acres of hay ground.

The cow herd will remain at 10 head calving.

The owners will continue to monitor noxious weed control by spot spraying with herbicide. Larger weed areas will be mowed before the weed goes to seed.

The owner will replace the fence associated with the barn pasture.

Year Four: The owner will continue to produce hay silage bales on the 15 acres of hay ground.

The cow herd will remain at 10 head calving.

The owners will continue to monitor noxious weed control by spot spraying with herbicide. Larger weed areas will be mowed before the weed goes to seed.

The owner will replace the fence associated with the Northwest boundary line.

Year Five: The owner will continue to produce hay silage bales on the 15 acres of hay ground.

The cow herd will remain at 10 head calving.

The owners will continue to monitor noxious weed control by spot spraying with herbicide. Larger weed areas will be mowed before the weed goes to seed.

Projected Income: Present income from the sale of calves has averaged around $1200/hd. The price of cattle has been very strong for the last few years and is not expected to decrease in the near future. Projection is based on two factors; demand of beef products and inventory of national cow population. Demand is not only the highest it has been in the US, but also worldwide. There has never been more US beef exported than there is today. The sanitary restrictions and high quality of US beef have been a major contributing factor to this. This herd of 10 mother cows will produce approximately $10-12,000 per year.

2015 INCOME STATEMENT

Income:

Cattle Sales	$4736		
Cost of Resale Livestock	$ 375		
Net Sales	$4361		
			$ 4361
Retained Raised Cattle for Breeding and Butcher Sales			$ 7900
		Gain	$12,261
3-Hfrs	$3900		
2-Strs	$2900		
1-Cull Cow (Hamburger)	$1100		
Total Retained Investment	$7900		
		Gain	$12,261
		Expenses	$ 9,639
Expenses:		Net Gain	$ 2,622
Pasture Rent (Davis 10 ac)	$ 375		
Feed	$1826		
Chemicals	$ 161		
Custom Hire	$3864		
Fuel	$1762		
Supplies	$1651		
Total Cost	$9639		

2014 INCOME STATEMENT

Income:

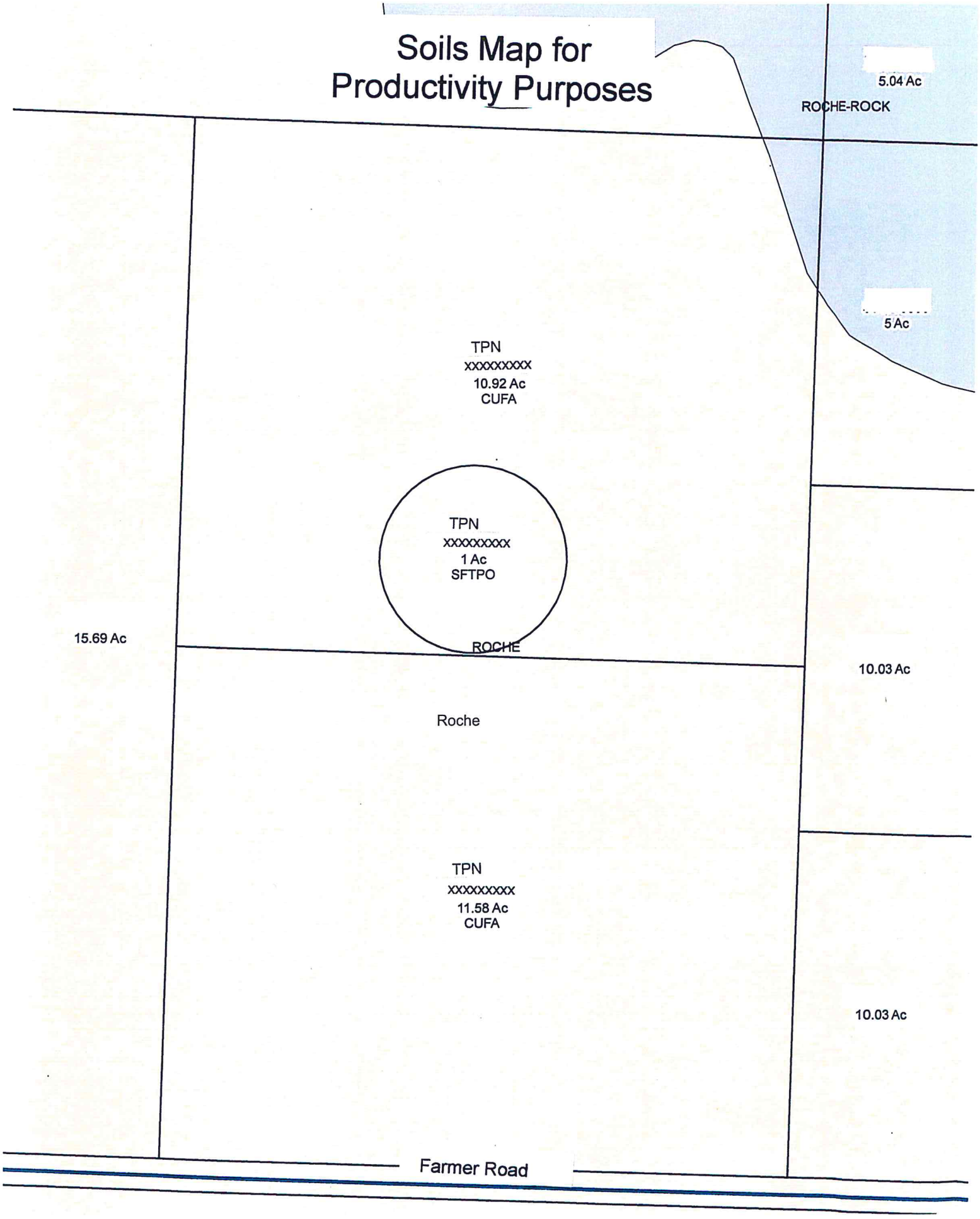
Cattle Sales	$4622		
Cost of Resale Livestock	$ 375		
Net Sales	$4247		$4247
Retained Raised Cattle for Breeding			$3300
		Gain	$7547
3-Hfrs	$3300		
		Gain	$ 7547
		Expenses	$ 6029
Expenses:		Net Gain	$ 2,997
Feed	$1796		
Chemicals	$ 43		
Custom Hire	$1132		
Fuel	$1815		
Supplies	$1066		
Medicine	$ 60		
Total Cost	$6029		

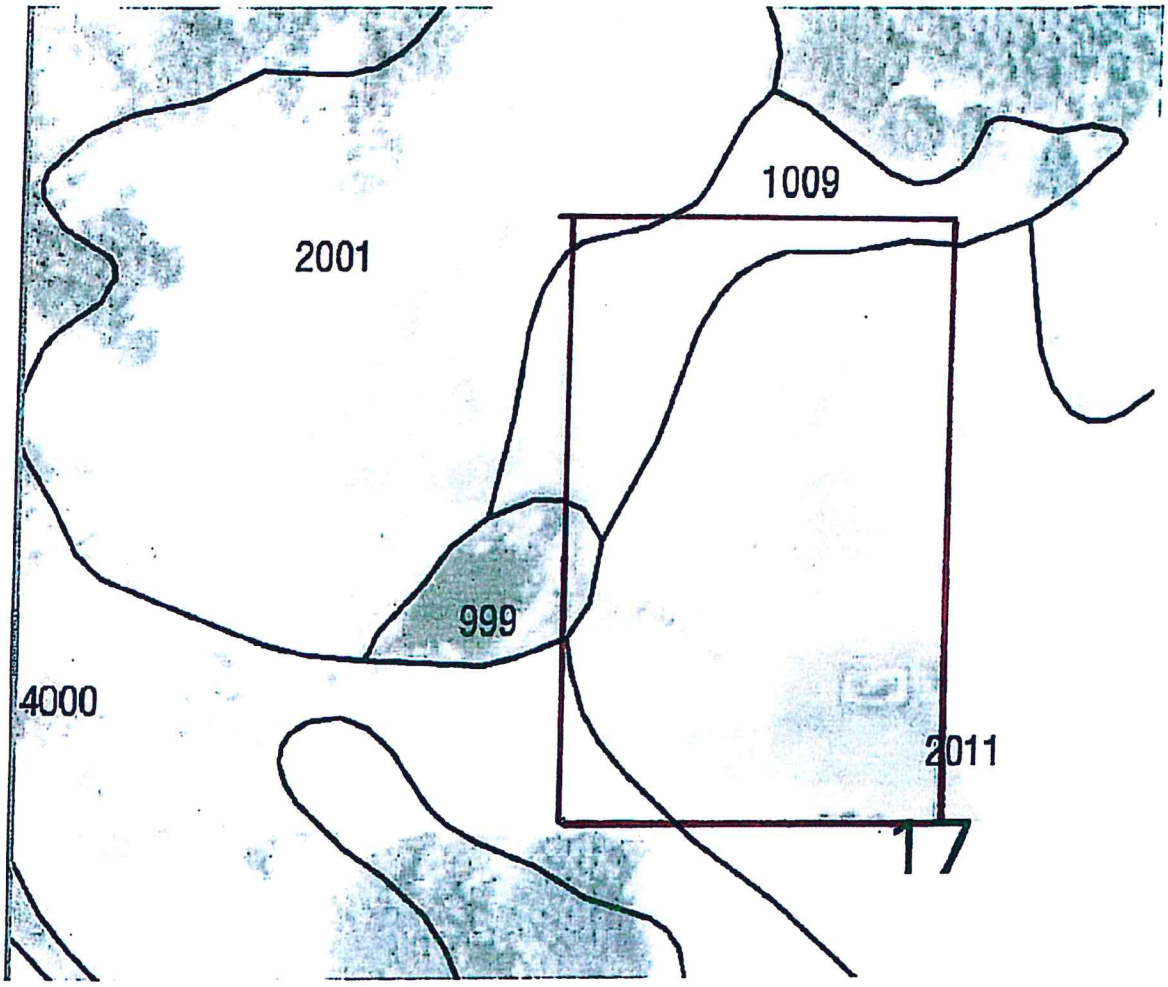
2013 INCOME STATEMENT

Income:

Cattle Sales	$9531		
Cost of Resale Livestock	$3050		
Net Sales	$6481		
			$6481
Retained Raised Cattle for Breeding			$4650
		Gain	$11,131
3-Hfrs	$2850		
1-Bull	$1800		
Total Retained Investment	$4650		
		Gain	$ 11,131
		Expenses	$ 8976
Expenses:		Net Gain	$ 2155
Feed	$2941		
Chemicals	$ 167		
Custom Hire	$2041		
Fuel	$1843		
Supplies	$1886		
Medicine	$ 49		
Total Cost	$8976		

Soils Map for Productivity Purposes





Soils Survey of
San Juan Conty, Washington

Physical Soil Properties

The table described in this section shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$- or $^1/_{10}$-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (K_{sat}) refers to the ability of a soil to transmit water or air. The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hyraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and

management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Physical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*In/hr*	*In/in*	*Pct*	*Pct*					
997:														
Pits, gravel--------	0-60	---	---	---	---	---	---	---	---	---	---	---	---	---
998:														
Water, saline-------	---	---	---	---	---	---	---	---	---	---	---	---	---	---
999:														
Water, fresh--------	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1000:														
Sholander-----------	0-8	30-55	30-50	8-18	1.10-1.45	0.6-2	0.10-0.18	0.0-2.9	7.0-12	.15	.24	4	5	56
	8-16	60-85	5-35	2-12	1.50-1.80	2-6	0.07-0.13	0.0-2.9	0.2-1.0	.05	.17			
	16-28	60-90	5-30	0-8	1.50-1.70	6-20	0.03-0.08	0.0-2.9	0.2-1.0	.02	.05			
	28-51	65-95	0-30	0-5	1.50-1.70	20-101	0.03-0.06	0.0-2.9	0.2-1.0	.02	.05			
	51-60	35-70	30-50	8-18	1.70-1.90	0.00-0.06	0.00-0.00	0.0-2.9	0.2-1.0	.28	.37			
Spieden-------------	0-4	20-45	50-75	6-18	0.80-1.20	0.2-0.6	0.26-0.37	0.0-2.9	10-25	.28	.37	5	3	86
	4-11	25-50	30-65	6-18	0.80-1.45	0.2-6	0.15-0.21	0.0-2.9	7.0-12	.28	.37			
	11-24	80-95	0-20	0-5	1.50-1.70	6-101	0.04-0.08	0.0-2.9	0.2-1.0	.05	.10			
	24-36	80-95	0-20	0-5	1.50-1.70	6-101	0.03-0.07	0.0-2.9	0.2-1.0	.02	.02			
	36-48	80-100	0-20	0-5	1.50-1.70	6-101	0.03-0.06	0.0-2.9	0.2-1.0	.02	.02			
	48-60	80-100	0-20	0-5	1.50-1.70	6-101	0.03-0.06	0.0-2.9	0.2-1.0	.02	.02			
1001:														
Coveland------------	0-4	30-50	30-50	7-18	0.80-1.20	0.6-2	0.14-0.18	0.0-2.9	7.0-12	.20	.24	4	5	56
	4-9	15-65	25-70	10-25	0.80-1.20	0.6-2	0.14-0.18	0.0-2.9	2.0-7.0	.20	.24			
	9-20	15-80	15-80	5-25	1.60-1.80	0.6-6	0.09-0.13	0.0-2.9	0.2-1.0	.20	.24			
	20-36	15-50	30-65	18-35	1.50-1.75	0.06-2	0.16-0.21	3.0-5.9	0.2-1.0	.02	.05			
	36-44	15-50	30-65	18-35	1.50-1.75	0.06-2	0.16-0.21	3.0-5.9	0.2-1.0	.49	.55			
	44-60	15-50	30-65	18-35	1.70-1.90	0.00-0.06	0.00-0.00	3.0-5.9	0.2-1.0	.49	.55			
1002:														
Sholander-----------	0-8	30-55	30-50	8-18	1.10-1.45	0.6-2	0.10-0.18	0.0-2.9	7.0-12	.15	.24	4	5	56
	8-16	60-85	5-35	2-12	1.50-1.80	2-6	0.07-0.13	0.0-2.9	0.2-1.0	.05	.17			
	16-28	60-90	5-30	0-8	1.50-1.70	6-20	0.03-0.08	0.0-2.9	0.2-1.0	.02	.05			
	28-51	65-95	0-30	0-5	1.50-1.70	20-101	0.03-0.06	0.0-2.9	0.2-1.0	.02	.05			
	51-60	35-70	30-50	8-18	1.70-1.90	0.00-0.06	0.00-0.00	0.0-2.9	0.2-1.0	.28	.37			

Physical Soil Properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
1009:														
Coveland----------	0-4	30-50	30-50	7-18	0.80-1.20	0.6-2	0.14-0.18	0.0-2.9	7.0-12	.20	.24	4	5	56
	4-9	15-65	25-70	10-25	0.80-1.20	0.6-2	0.14-0.18	0.0-2.9	2.0-7.0	.20	.24			
	9-20	15-80	15-80	5-25	1.60-1.80	0.6-6	0.09-0.13	0.0-2.9	0.2-1.0	.20	.24			
	20-36	15-50	30-65	18-35	1.50-1.75	0.06-2	0.16-0.21	3.0-5.9	0.2-1.0	.02	.05			
	36-44	15-50	30-65	18-35	1.50-1.75	0.06-2	0.16-0.21	3.0-5.9	0.2-1.0	.49	.55			
	44-60	15-50	30-65	18-35	1.70-1.90	0.00-0.06	0.00-0.00	3.0-5.9	0.2-1.0	.49	.55			
Mitchellbay---------	0-1	55-65	10-35	8-18	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	4	3	86
	1-6	55-65	10-35	8-18	1.10-1.45	0.6-6	0.07-0.13	0.0-2.9	7.0-12	.10	.15			
	6-15	30-70	20-45	8-18	1.10-1.45	0.6-6	0.12-0.20	0.0-2.9	1.0-4.0	.10	.17			
	15-20	30-70	20-45	4-12	1.60-1.80	0.6-6	0.05-0.18	0.0-2.9	0.2-1.0	.20	.24			
	20-26	15-50	30-65	18-35	1.50-1.75	0.2-2	0.14-0.21	3.0-5.9	0.2-1.0	.32	.37			
	26-38	15-50	35-65	18-35	1.50-1.75	0.2-2	0.09-0.21	3.0-5.9	0.2-1.0	.32	.37			
	38-60	15-50	35-65	12-27	1.70-1.90	0.00-0.06	0.00-0.00	3.0-5.9	0.2-1.0	.37	.37			
1010:														
Deadmanbay----------	0-1	20-35	50-75	8-20	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	4	5	56
	1-5	20-35	50-75	8-20	0.80-1.20	0.2-0.6	0.16-0.21	0.0-2.9	7.0-12	.28	.37			
	5-16	20-45	35-70	8-27	0.80-1.20	0.2-2	0.25-0.37	0.0-5.9	1.0-4.0	.32	.43			
	16-29	60-95	10-35	1-15	1.50-1.70	2-20	0.03-0.13	0.0-2.9	0.2-1.0	.02	.02			
	29-57	10-30	40-70	18-35	1.50-1.75	0.06-0.6	0.11-0.21	3.0-5.9	0.2-1.0	.20	.49			
	57-60	10-30	40-70	18-35	1.70-1.90	0.00-0.06	0.00-0.00	3.0-5.9	0.2-1.0	.37	.49			
Morancreek----------	0-1	50-80	5-45	4-12	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	5	3	86
	1-3	50-80	5-45	4-12	1.10-1.45	2-6	0.09-0.13	0.0-2.9	7.0-12	.24	.24			
	3-10	20-80	10-60	4-14	1.10-1.45	2-6	0.12-0.37	0.0-2.9	1.0-4.0	.24	.24			
	10-21	20-80	10-60	4-14	1.10-1.45	2-6	0.12-0.37	0.0-2.9	0.5-2.0	.24	.24			
	21-28	50-85	5-45	5-14	1.60-1.80	2-6	0.05-0.13	0.0-2.9	0.2-1.0	.20	.24			
	28-60	50-85	5-45	4-12	1.60-1.80	2-6	0.05-0.13	0.0-2.9	0.2-1.0	.24	.24			
1013:														
Bazal----------	0-1	15-65	25-60	10-20	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	4	5	56
	1-4	15-65	25-60	10-20	0.80-1.20	0.6-2	0.28-0.32	0.0-2.9	10-25	.20	.20			
	4-10	15-65	25-60	10-20	0.80-1.20	2-6	0.20-0.25	0.0-2.9	7.0-12	.17	.20			
	10-17	15-65	25-60	3-18	0.80-1.45	2-6	0.16-0.21	0.0-2.9	1.0-4.0	.20	.24			
	17-24	45-80	15-30	2-19	1.50-1.70	2-20	0.04-0.07	0.0-2.9	0.2-1.0	.02	.02			
	24-39	20-45	30-50	18-33	1.50-1.75	0.2-0.6	0.14-0.18	3.0-5.9	0.2-1.0	.37	.43			
	39-60	15-45	30-70	19-30	1.70-1.90	0.00-0.06	0.00-0.00	3.0-5.9	0.2-1.0	.37	.43			

Physical Soil Properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
2009:														
Alderwood, warm-----	0-1	50-70	20-40	5-15	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	4	3	86
	1-10	50-70	20-40	5-15	1.10-1.45	2-6	0.04-0.10	0.0-2.9	7.0-12	.02	.15			
	10-18	50-70	20-40	5-15	1.10-1.45	2-6	0.04-0.08	0.0-2.9	1.0-4.0	.02	.10			
	18-36	50-70	20-35	5-15	1.60-1.80	2-6	0.02-0.07	0.0-2.9	0.2-1.0	.05	.28			
	36-60	10-30	45-70	18-35	1.70-1.90	0.00-0.06	0.12-0.21	3.0-5.9	0.2-1.0	.24	.49			
Sholander-----------	0-8	30-55	30-50	8-18	1.10-1.45	0.6-2	0.10-0.18	0.0-2.9	7.0-12	.15	.24	4	5	56
	8-16	60-85	5-35	2-12	1.50-1.80	2-6	0.07-0.13	0.0-2.9	0.2-1.0	.05	.17			
	16-28	60-90	5-30	0-8	1.50-1.70	6-20	0.03-0.08	0.0-2.9	0.2-1.0	.02	.05			
	28-51	65-95	0-30	0-5	1.50-1.70	20-101	0.03-0.06	0.0-2.9	0.2-1.0	.02	.05			
	51-60	35-70	30-50	8-18	1.70-1.90	0.00-0.06	0.00-0.00	0.0-2.9	0.2-1.0	.28	.37			
2010:														
Whidbey-------------	0-2	30-80	10-45	6-15	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	4	3	86
	2-6	30-80	10-45	6-15	0.80-1.20	2-6	0.09-0.32	0.0-2.9	7.0-12	.15	.28			
	6-20	35-75	10-45	4-15	1.10-1.45	2-20	0.03-0.16	0.0-2.9	1.0-4.0	.05	.24			
	20-37	55-80	5-40	5-18	1.60-1.80	2-20	0.02-0.11	0.0-2.9	0.2-1.0	.05	.24			
	37-60	50-75	5-30	9-24	1.70-1.90	0.00-0.06	0.05-0.14	0.0-2.9	0.2-1.0	.10	.24			
Hoypus--------------	0-1	55-75	0-30	0-15	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	5	3	86
	1-5	55-75	0-30	0-15	1.10-1.45	2-6	0.05-0.13	0.0-2.9	7.0-12	.05	.10			
	5-20	60-90	0-25	0-5	1.25-1.50	6-20	0.05-0.14	0.0-2.9	1.0-4.0	.02	.02			
	20-36	70-100	0-20	0-5	1.25-1.50	6-20	0.01-0.05	0.0-2.9	0.8-3.5	.02	.05			
	36-60	70-100	0-15	0-5	1.50-1.70	20-101	0.01-0.04	0.0-2.9	0.2-1.0	.02	.02			
2011:														
Roche---------------	0-1	35-75	10-50	0-18	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	4	5	56
	1-5	35-75	10-50	5-18	0.80-1.20	2-6	0.14-0.18	0.0-2.9	7.0-12	.20	.24			
	5-15	35-85	5-50	2-18	0.80-1.40	2-6	0.12-0.22	0.0-2.9	1.0-4.0	.10	.15			
	15-23	35-85	5-50	2-18	1.50-1.75	0.2-0.6	0.10-0.18	0.0-2.9	0.5-2.0	.32	.37			
	23-39	35-75	10-50	5-18	1.50-1.75	0.2-0.6	0.10-0.18	0.0-2.9	0.2-1.0	.37	.43			
	39-60	15-70	30-75	8-18	1.70-1.90	0.00-0.06	0.00-0.00	0.0-2.9	0.2-1.0	.55	.64			
Killebrew-----------	0-1	55-75	15-35	5-18	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	3	3	86
	1-5	55-75	15-35	5-18	1.10-1.45	2-6	0.10-0.12	0.0-2.9	7.0-12	.10	.15			
	5-9	45-75	15-35	5-18	1.10-1.45	2-6	0.12-0.32	0.0-2.9	1.0-4.0	.15	.20			
	9-17	45-70	15-35	5-18	1.70-1.90	0.6-2	0.07-0.18	0.0-2.9	0.2-1.0	.10	.24			
	17-27	20-45	40-70	18-35	1.70-1.90	0.06-0.6	0.10-0.21	3.0-5.9	0.2-1.0	.49	.55			
	27-60	20-45	30-50	18-35	1.70-1.90	0.00-0.06	0.00-0.00	3.0-5.9	0.2-1.0	.32	.43			

Physical Soil Properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
4003:														
Hoypus	0-1	55-75	0-30	0-15	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	5	3	86
	1-5	55-75	0-30	0-15	1.10-1.45	2-6	0.05-0.13	0.0-2.9	7.0-12	.05	.10			
	5-20	60-90	0-25	0-5	1.25-1.50	6-20	0.05-0.14	0.0-2.9	1.0-4.0	.02	.02			
	20-36	70-100	0-20	0-5	1.25-1.50	6-20	0.01-0.05	0.0-2.9	0.8-3.5	.02	.05			
	36-60	70-100	0-15	0-5	1.50-1.70	20-101	0.01-0.04	0.0-2.9	0.2-1.0	.02	.02			
Whidbey	0-2	30-80	10-45	6-15	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	4	3	86
	2-6	30-80	10-45	6-15	0.80-1.20	2-6	0.09-0.32	0.0-2.9	7.0-12	.15	.28			
	6-20	35-75	10-45	4-15	1.10-1.45	2-20	0.03-0.16	0.0-2.9	1.0-4.0	.05	.24			
	20-37	55-80	5-40	5-18	1.60-1.80	2-20	0.02-0.11	0.0-2.9	0.2-1.0	.05	.24			
	37-60	50-75	5-30	9-24	1.70-1.90	0.00-0.06	0.05-0.14	0.0-2.9	0.2-1.0	.10	.24			
4005:														
Roche	0-1	35-75	10-50	0-18	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	4	5	56
	1-5	35-75	10-50	5-18	0.80-1.20	2-6	0.14-0.18	0.0-2.9	7.0-12	.20	.24			
	5-15	35-85	5-50	2-18	0.80-1.40	2-6	0.12-0.22	0.0-2.9	1.0-4.0	.10	.15			
	15-23	35-85	5-50	2-18	1.50-1.75	0.2-0.6	0.10-0.18	0.0-2.9	0.5-2.0	.32	.37			
	23-39	35-75	10-50	5-18	1.50-1.75	0.2-0.6	0.10-0.18	0.0-2.9	0.2-1.0	.37	.43			
	39-60	15-70	30-75	8-18	1.70-1.90	0.00-0.06	0.00-0.00	0.0-2.9	0.2-1.0	.55	.64			
Haro	0-1	35-55	30-45	8-15	0.80-1.45	0.6-20	0.14-0.18	0.0-2.9	7.0-12	.17	.24	1	5	56
	1-5	40-65	20-45	5-15	0.80-1.45	2-20	0.07-0.18	0.0-2.9	4.0-8.0	.15	.24			
	5-11	50-70	20-40	5-15	1.10-1.45	2-20	0.07-0.13	0.0-2.9	1.0-4.0	.10	.17			
	11-21	---	---	---	---	---	---	---	---	---	---			
Rock outcrop	0-60	---	---	---	---	---	---	---	---	---	---	---	---	---
4006:														
Alderwood, warm	0-1	50-70	20-40	5-15	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	4	3	86
	1-10	50-70	20-40	5-15	1.10-1.45	2-6	0.04-0.10	0.0-2.9	7.0-12	.02	.15			
	10-18	50-70	20-40	5-15	1.10-1.45	2-6	0.04-0.08	0.0-2.9	1.0-4.0	.02	.10			
	18-36	50-70	20-35	5-15	1.60-1.80	2-6	0.02-0.07	0.0-2.9	0.2-1.0	.05	.28			
	36-60	10-30	45-70	18-35	1.70-1.90	0.00-0.06	0.12-0.21	3.0-5.9	0.2-1.0	.24	.49			
Hoypus	0-1	55-75	0-30	0-15	0.10-0.30	6-101	0.30-0.60	---	60-90	---	---	5	3	86
	1-5	55-75	0-30	0-15	1.10-1.45	2-6	0.05-0.13	0.0-2.9	7.0-12	.05	.10			
	5-20	60-90	0-25	0-5	1.25-1.50	6-20	0.05-0.14	0.0-2.9	1.0-4.0	.02	.02			
	20-36	70-100	0-20	0-5	1.25-1.50	6-20	0.01-0.05	0.0-2.9	0.8-3.5	.02	.05			
	36-60	70-100	0-15	0-5	1.50-1.70	20-101	0.01-0.04	0.0-2.9	0.2-1.0	.02	.02			

disposal of wastewater by rapid infiltration and slow rate treatment; and large animal carcass disposal
Water features: Hydrologic group, water table, ponding, and flooding
Water management: Pond reservoir areas; embankments, dikes, and levees; aquifer-fed excavated ponds

Yields per Acre

The table "Nonirrigated Yields by Map Unit Component" is described in this section. The average yields per acre shown in the table are those that can be expected of the principal crops under a high level of management. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Nonirrigated Yields by Map Unit Component

(Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability	Grass-legume hay	Grass-legume pasture
		Tons	*AUM*
997: Pits, gravel	8	---	---
998: Water, saline	---	---	---

Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability	Grass-legume hay	Grass-legume pasture
		Tons	*AUM*
999:			
Water, fresh	---	---	---
1000:			
Sholander	4w	2.00	4.40
Spieden	5w	2.00	4.40
1001:			
Coveland	6w	3.00	6.60
1002:			
Sholander	4w	2.00	4.40
1003:			
Coupeville	6w	3.00	6.60
1004:			
Limepoint	6w	3.00	6.60
Sholander	4w	2.00	4.40
1005:			
Shalcar	5w	3.00	6.60
1006:			
Semiahmoo	5w	3.00	6.60
1009:			
Coveland	6w	3.00	6.60
Mitchellbay	4w	2.50	5.50
1010:			
Deadmanbay	4w	2.50	5.50
Morancreek	3w	2.00	4.40
1013:			
Bazal	5w	3.00	6.60
Mitchellbay	4w	2.50	5.50
1014:			
Beaches	8	---	---
Endoaquents, tidal	7w	---	---
Xerorthents	7s	---	---
1015:			
Deadmanbay	4w	2.50	5.50
Bazal	6w	3.00	6.60
Cady	6s	1.00	2.20
1016:			
Orcas	5w	3.00	6.60
1053:			
Dugualla	6s	---	---

Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability	Grass-legume hay	Grass-legume pasture
		Tons	*AUM*
2000:			
Whidbey	4s	1.00	2.20
2001:			
Mitchellbay	4w	2.50	5.50
2002:			
Sucia	3s	1.50	3.30
2004:			
Mitchellbay	4w	2.50	5.50
2007:			
Alderwood, warm	4s	1.50	3.30
Everett, warm	4s	1.50	3.30
2008:			
Mitchellbay	4w	2.50	5.50
Sholander	4w	2.00	4.40
Bazal	5w	3.00	6.60
2009:			
Limepoint	6w	3.00	6.60
Alderwood, warm	4s	1.50	3.30
Sholander	4w	2.00	4.40
2010:			
Whidbey	4s	1.00	2.20
Hoypus	3s	1.00	2.20
2011:			
Roche	3w	2.00	4.40
Killebrew	6s	1.50	3.30
3000:			
Pilepoint	3w	2.00	4.40
3001:			
Hoypus	4e	1.00	2.20
3002:			
Keystone	3s	1.50	3.30
3005:			
San Juan	4s	2.00	4.40
3006:			
San Juan	6e	2.00	4.40
3007:			
San Juan	4s	2.00	4.40
3008:			
Xerorthents	7e	---	---
Endoaquents, tidal	7w	---	---

Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability	Grass-legume hay	Grass-legume pasture
		Tons	*AUM*
3010:			
San Juan	4s	2.00	4.40
Dune land	8s	---	---
3012:			
Hoypus	6e	1.00	2.20
3013:			
Everett, warm	4s	1.50	3.30
3014:			
Everett, warm	6e	1.50	3.30
3015:			
Indianola, warm	3s	2.00	4.40
3016:			
Sucia	4e	1.50	3.30
Sholander	4w	2.00	4.40
4000:			
Roche	3w	2.00	4.40
Killebrew	6s	1.50	3.30
Rock outcrop	8	---	---
4002:			
Laconner, warm	4s	1.00	2.20
4003:			
Hoypus	4e	1.00	2.20
Whidbey	4s	1.00	2.20
4005:			
Roche	3w	2.00	4.40
Haro	6s	0.50	1.10
Rock outcrop	8	---	---
4006:			
Alderwood, warm	4s	1.50	3.30
Hoypus	4e	1.00	2.20
4007:			
Roche	3w	2.00	4.40
Mitchellbay	4w	2.50	5.50
4008:			
Mitchellbay	4w	2.50	5.50
Rock outcrop	8	---	---
Killebrew	6s	1.50	3.30

Nonirrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability	Grass-legume hay	Grass-legume pasture
		Tons	*AUM*
5000:			
Cady	6s	1.00	2.20
Rock outcrop	8	---	---
5001:			
Rock outcrop	8	---	---
Haro	7e	---	---
5002:			
Doebay, moist	7e	---	---
Cady	7e	---	---
Doebay	7e	---	---
5003:			
Doebay	4e	1.50	3.30
Morancreek	3w	2.00	4.40
5004:			
Pickett	7e	---	---
Kahboo	7e	---	---
Rock outcrop	8	---	---
5005:			
Constitution	4e	---	---
Skipjack	3e	---	---
Kahboo	7e	---	---
5006:			
Cady	7e	---	---
Doebay	7e	---	---
Rock outcrop	8	---	---
5007:			
Haro	6s	0.50	1.10
Hiddenridge	4s	1.50	3.30
Rock outcrop	8	---	---
5008:			
Doebay	4e	1.50	3.30
Cady	6e	1.00	2.20
Rock outcrop	8	---	---
5009:			
Haro	7e	---	---
Hiddenridge	7e	1.50	3.30
Rock outcrop	8	---	---

OWNER SIGNATURES

All farm owners have read, understand, and agree to abide by the terms of the farm management plan:

_____

Joe Sample/Date

_____

Mary Sample/Date