

REGIONAL STRATEGIC, LTD.

**Estimating Economic Impacts Accruing to
the Activities of Farm Rescue**

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**Mark Imerman
Regional Strategic, Ltd.
Des Moines, Iowa 50320**

Key Takeaways

Farm Rescue provides support to farms in 12 states ranging from Montana to Indiana and from Minnesota to Texas.

This analysis covers activities and expenditures in the five states that comprised the majority of Farm Rescue's operations in 2024:

- North Dakota
- South Dakota
- Nebraska
- Minnesota
- Iowa

Farm Rescue had organizational expenditures of \$3.2 million in the most recent fiscal year.

- \$2.83 million of this is estimated to have been expended within the study area.
 - As they circulated through the five-state economy, these expenditures generated \$5.1 million in area output (economic transactions).
 - Of this, \$2.7 million was Value Added or economic production within the area.
 - \$1.4 million of this Value Added was allocated directly to Labor Income, which supported 25 area jobs in addition to Farm Rescue's staff employment.

Farm Rescue coordinated 1,100 days of skilled, trained, and equipped volunteer labor to address farm distress in the area.

- This is equivalent to nearly 4.5 full-time equivalents.
- Volunteers came from within the area and as far away as Texas, Florida, and North Carolina.
- Volunteers logged at least 83,000 miles providing assistance to the five-state area.

Farm Rescue provided over \$1 million worth of planting and harvesting assistance to distressed farms in the area.

- This assistance enabled \$16.7 million worth of crops to go to market.
- Receipts from these crops generated an additional \$13.1 million in economic impact as transactions rippled through the economy.

Farm Rescue located, obtained, and distributed \$143,000 worth of hay to feed cattle within the area. This served at least 4,700 cattle which were at risk due to weather, natural disasters, or family crises.

Major impacts of Farm Rescue are measured in the negative – what would be the impact if Farm Rescue was not around? Farm Rescue exists to ensure there is no impact when illness, injury, natural disaster, or other family crises visit the farm.

Farm Rescue is the evolution of the benevolent function of the neighborhood groups of a previous era when farms were smaller and rural populations were larger.

- Farm Rescue's geographic reach extends benevolence beyond individual farm crises to address regional distress caused by droughts, floods, and other natural disasters.

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Introduction

As the name implies, Farm Rescue is an organization which exists to rescue farms and farmers in distress. Farm Rescue provides services without fees to farmers impacted by

- Illness
- Injury
- Family crises
- Drought
- Flood
- Storms
- Other unforeseen and catastrophic events

The most common of these services include

- Planting crops
- Harvesting field crops
- Baling hay and forage
- Transporting hay

Because it provides services without fees, Farm Rescue depends upon donors and volunteers to support its activities. In many ways, Farm Rescue coordinates the benevolence of these contributors, channeling the assistance that has always been available in small farm communities on a scale that fits today's larger farms. Farm Rescue's coordination also extends the benevolence of individual local farm communities across a greater geographic range, making it possible to effectively address area-wide events as well as singular situations affecting individual farms.

In coordinating volunteered and donated resources rather than directly producing and selling services, Farm Rescue represents a challenge when it comes to valuing its activities and services. A market-oriented enterprise can value its output sales values and directly measure that against its purchased inputs. Farm Rescue, however, does not sell its services and it does not pay for a substantial portion of its inputs.¹ This makes accounting for Farm Rescue's value a challenge.

The analysis that follows will evaluate the values of Farm Rescue's operations from a variety of perspectives.

First, the direct value of Farm Rescue's field services will be estimated.

¹ Farm Rescue pays for its equipment and rentals. The majority of its operational labor, however, is unpaid volunteers.

Second, the outcome values of Farm Rescue’s planting and harvesting activities will be estimated from a community-wide basis.

Third, the direct value of Farm Rescue’s hay distribution activities will be considered.

Fourth, the contributions and expenditures associated with Farm Rescue’s volunteers will be presented.

Finally, the impact of the Farm Rescue organization’s activities will be considered.

While these perspectives are all related, they cannot always be summed to a whole. The analysis will, however, be careful not to directly double-count activities and will be explicit about where outcomes can be summed.

Farm Rescue activities have ranged, geographically, from Indiana to Montana and from Texas to Minnesota. The core of Farm Rescue’s current activities, however, comprises five states in the Upper Midwest:

- North Dakota
- South Dakota
- Nebraska
- Minnesota
- Iowa

This is the area specifically included in this analysis. Where possible and convenient, supporting information from the peripheral areas will be included, but the core analysis can stand on its own.

Farm Rescue’s Farm Assistance

In the core area, Farm Rescue plants field crops, harvests field crops, harvests hay, and distributes hay. These activities are all undertaken to alleviate extraordinary hardships on the part of the farms served. As such, these activities amount to insurance. This is insurance that, for all practical purposes, would be impossible to buy for at least three reasons:

First, while insurance typically makes a policy-holder whole after a loss, Farm Rescue activities are proactive. They prevent the loss. There are several implications to this. The most important, however, is that, in preventing the triggering loss to the farm, Farm Rescue also prevents the economic shock that would result as the potential loss ripples through the local economy.

Second, Farm Rescue’s obligations are relatively open-ended to the extent that Farm Rescue has the necessary resources at its disposal. Commercial insurance typically either

covers a package of specific risks to a specific limit for an indefinite period (whole life insurance) or a package of specific risks to a specific limit for a fixed period of time (term life insurance, auto insurance, professional liability insurance). Farm Rescue, by contrast, will alleviate a wide variety of interruptions to farm operations that may be due to a broad variety of unforeseen events occurring on a lifetime or even an intergenerational basis.

Third, Farm Rescue can only cover potential farm operation events that are proactively resolvable. Farm Rescue can help with planting or harvesting, but it cannot compensate a farm for unresolvable damages. It cannot compensate for crop damage from hail, wind, or drought. Farm Rescue provides insurance-like services that are proactive resolutions as opposed to the reactive compensation provided by a typical insurance product.

From this perspective, Farm Rescue’s planting and harvest operations can be valued in two ways. First, they can be evaluated directly from custom rate surveys. Second, they can be evaluated from a community-wide basis utilizing Regional Input-Output Modeling System (RIMS-II) coefficients from the United States Bureau of Economic Analysis (BEA).²

Direct Valuation of Field Services

Table One provides information on Farm Rescue’s planting and harvesting activities in the five-state area during the last complete fiscal year (July 1, 2023 through June 30, 2024). Acres planted and harvested³ by state were provided by Farm Rescue.⁴ Direct costs of services are median values from the 2024 Iowa State University Custom Rate Survey.^{5,6,7,8,9}

Field operation direct values totaled over one million dollars during the fiscal year. This is roughly analogous to the average prices served farms would have paid to obtain custom services. Farm Rescue, however, does not require payment for the services it renders, and it handles logistics and planning required to bring those services to the farm. While it cannot be estimated here, the process of arranging field services is time-consuming. This is a cost in any case, but for a farmer dealing with an unanticipated illness, injury, or family crisis, this can be a major cost. In addition, a farm that unexpectedly comes into the custom service market places an additional burden on

² This analysis utilizes the 2022 release of RIMS-II coefficients compiled specifically for the five-state area.

³ Except where separately noted, “Harvest” activities include baling hay and forage.

⁴ Acres planted are understated. Farm Rescue reported one case in South Dakota for which no crop acreage statistics were available. No attempt was made to estimate them, here.

⁵ Planting assumed no preplant tillage operations on the part of Farm Rescue.

⁶ Grain harvest was assumed to be complete, including actual harvest, grain cart operation, and hauling grain to storage.

⁷ Grain harvest acres are understated. Two cases were provided without acreage statistics. No attempt was made to estimate them, here.

⁸ Baling hay is assumed to include mowing, raking, and baling hay. Bales are assumed to weigh 0.75 ton and yield is assumed to be two tons per acre per cutting.

⁹ Baling cornstalks is assumed to include stalk shredding, raking, and baling. Bales are assumed to weigh 0.75 ton and yield is assumed to be 2.25 tons per acre.

neighboring farms. Time is of the essence at planting and harvesting time. An unexpected addition to demand for custom services places timing-related losses on others.

It should also be noted that the served farm does not pay for these services. In that sense, Farm Rescue services can be looked upon as an addition to the served farms' household incomes. As such, it offers some retroactive compensation for whatever unforeseen circumstance led to Farm Rescue's intervention.

The bottom line, here, is that direct valuation of field services provided by Farm Rescue totaled over one million dollars in the most recent fiscal year. This represents the minimum valuation of Farm Rescue's field service operation.

A Community Economic Valuation of Farm Rescue's Field Services

The first four columns of **Table Two** provide the same information as the first four columns of **Table One**. They provide the acreage serviced by Farm Rescue in the most recent fiscal year. The assumptions regarding these acreages are identical to the assumptions in **Table One**.

Whereas the final two columns in **Table One** illustrated average market values of the services provided, the next three columns in **Table Two** provide valuations of outcomes – the value of crops that would not have been produced if services had not been available from Farm Rescue or another provider.¹⁰ In the extreme case that planting, harvesting, or baling had not been done on these farms, the lost value of crops would have totaled an estimated \$16.7 million. The outcome valuation is \$15.7 million higher than the direct service valuation.

On the assumption that services could not or would not have otherwise been provided, this results in an estimated loss of \$16.7 million in receipts on the farms served by Farm Rescue in the most recent fiscal year.

For most farms, however, receipts do not stay on the farm for long. Farms must pay for inputs. Families must pay for groceries, automobiles, and dance lessons. Farm receipts and household income soon circulate through the local economy and become another's.

¹⁰ With the exception of the price of wheat in North Dakota, yields in bushels or hundredweights per acre and prices per bushel and hundredweight are annual averages for 2023 taken from the United States Department of Agriculture's (USDA's) National Agricultural Statistics Service (NASS) for each individual state. The price for wheat in North Dakota is an eyeball estimate across all types of wheat produced in North Dakota, as no information on type of wheat was available from Farm Rescue.

Table One: Direct Valuation of Field Services

State	Crop	Service	Acres	Direct Rate \$/Acre	Total (\$)
PLANTING					
Iowa	Corn	Plant	1,229	27.00	33,177
Iowa	Soybeans	Plant	1,848	20.00	36,961
Minnesota	Soybeans	Plant	205	20.00	4,100
North Dakota	Wheat	Plant	7,137	18.00	128,473
North Dakota	Barley	Plant	410	18.00	7,380
North Dakota	Canola (cwt)	Plant	592	18.00	10,661
North Dakota	Corn	Plant	1,561	27.00	42,147
North Dakota	Peas (cwt)	Plant	259	20.00	5,180
North Dakota	Soybeans	Plant	1,073	20.00	21,463
North Dakota	Oats	Plant	236	18.00	4,248
South Dakota	Soybeans	Plant	914	20.00	18,280
TOTAL		PLANT			312,070
HARVESTING					
Iowa	Corn (bu)	Harvest	1,879	65.00	122,103
Iowa	Soybeans (bu)	Harvest	1,522	63.50	96,647
Minnesota	Soybeans (bu)	Harvest	229	63.50	14,542
Minnesota	Wheat (bu)	Harvest	266	63.50	16,891
North Dakota	Corn (bu)	Harvest	250	65.00	16,250
North Dakota	Soybeans (bu)	Harvest	3,216	63.50	204,216
North Dakota	Canola (cwt)	Harvest	150	63.50	9,525
North Dakota	Wheat (bu)	Harvest	1,660	63.50	105,410
Nebraska	Corn (bu)	Harvest	418	65.00	27,170
Nebraska	Soybeans (bu)	Harvest	366	63.50	23,241
South Dakota	Wheat (bu)	Harvest	484	63.50	30,734
TOTAL		HARVEST			666,728
BALING (Large Round)					
North Dakota	Hay	Bale	457	62.05	28,329
South Dakota	Hay	Bale	143	62.05	8,901
Iowa	Corn Stalks	Bale	500	67.50	33,750
TOTAL		BALE			70,980
TOTAL FIELD OPERATION DIRECT VALUE					1,049,778

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Table Two: Field Service Outcome Valuations

State	Crop (units)	Service	Acres	Units per acre	\$/Unit	Potential \$	Rent (\$)	Rent Exp (\$)
PLANTING								
Iowa	Corn (bu)	Plant	1,229	201.0	4.85	1,197,866	269	330,539
Iowa	Soybeans (bu)	Plant	1,848	58.0	12.60	1,350,570	269	497,131
Minnesota	Soybeans (bu)	Plant	205	48.0	12.50	123,000	198	40,590
North Dakota	Wheat (bu)	Plant	7,137	76.0	8.50	4,610,747	77	549,578
North Dakota	Barley (bu)	Plant	410	71.0	6.67	194,164	77	31,570
North Dakota	Canola (cwt)	Plant	592	18.1	24.40	261,579	77	45,606
North Dakota	Corn (bu)	Plant	1,561	143.0	4.45	993,342	77	120,197
North Dakota	Peas (cwt)	Plant	259	23.0	15.50	92,334	77	19,943
North Dakota	Soybeans (bu)	Plant	1,073	35.5	12.30	468,582	77	82,631
North Dakota	Oats (bu)	Plant	236	76.0	3.99	71,565	77	18,172
South Dakota	Soybeans (bu)	Plant	914	44.0	12.40	498,678	128	116,992
TOTAL		PLANT				9,862,427		1,852,950
HARVESTING								
Iowa	Corn (bu)	Harvest	1,879	201.0	4.85	1,831,256		
Iowa	Soybeans (bu)	Harvest	1,522	58.0	12.60	1,112,278		
Minnesota	Soybeans (bu)	Harvest	229	48.0	12.50	137,400		
Minnesota	Wheat (bu)	Harvest	266	62.0	7.16	118,083		
North Dakota	Corn (bu)	Harvest	250	143.0	4.45	159,088		
North Dakota	Soybeans (bu)	Harvest	3,216	35.5	12.30	1,404,266		
North Dakota	Canola (cwt)	Harvest	150	18.1	24.40	66,246		
North Dakota	Wheat (bu)	Harvest	1,660	76.0	8.50	1,072,360		
Nebraska	Corn (bu)	Harvest	418	182.0	4.95	376,576		
Nebraska	Soybeans (bu)	Harvest	366	51.5	12.60	237,497		
South Dakota	Wheat (bu)	Harvest	484	45.1	6.78	147,997		
TOTAL		HARVEST				6,663,046		
BALING (Large Round)								
North Dakota	Hay	Bale	457	2.7	85.50	104,225		
South Dakota	Hay	Bale	143	2.7	115.50	44,237		
Iowa	Corn Stalks	Bale	500	3.0	40.00	60,000		
TOTAL		BALE				208,461		
TOTAL FIELD OPERATION OUTCOME VALUE						16,733,934		

Going back to the alternative scenario – that crops would not have been realized in the absence of Farm Rescue’s services – two situations arise:

If crops had not been planted, inputs would not have been purchased from local farm suppliers for crop production. Rent or land costs would have been the only production input committed prior to the decision not to plant.

If crops had been cultivated but not harvested or baled, farm inputs would have been purchased. The result of not harvesting would impact only a substantial loss in farm household income.

The results of these scenarios can be illustrated utilizing RIMS-II economic coefficients from the BEA. These illustrations are shown in [Table Three](#) and [Table Four](#).

[Table Three](#) shows the potential area-wide economic impact of Farm Rescue’s planting operations. It was developed on the assumption that if timely services had not been available from Farm Rescue these acres would not have been planted. In effect it removes the harvest value of the crops planted (\$9.9 million) minus the land rent value of the planted acreage (\$1.9 million).¹¹ The result is that an output value of \$8 million is removed from the five-state area.¹²

The upper portion of [Table Three](#) provides an impact summary. The four rows represent:

1. Output – The total market value of output resulting from the initial change (Direct Impacts).
2. Value Added – The portion of Output that was created within the area by economic activity. Output minus Value Added represents the value of production inputs imported into the area.¹³
3. Labor Income – The portion of Value Added paid out to employees in the production process.
4. Jobs – The number of jobs supported by Labor Income. Jobs are not necessarily full-time. The number of jobs supported reflects the hours-per-job typical of the area industry.

¹¹ It is assumed that land not planted is still rented. All other production costs are assumed to be foregone.

¹² The impacts were calculated using Type 2 multipliers from the BEA’s 2022 RIMS-II release (the most recent available).

¹³ Three entries in the Value Added row are blacked out. The model will not separately calculate the portions of Direct Output that are generated by Direct Impacts and Indirect and Induced Impacts. There is only a Value Added calculation for Total Impacts. As a result, the Value Added Multiplier cannot be calculated.

The four columns represent:

- a. Direct Impacts – This is the event that started the model. In this case it is an Output change of \$8.0 million (the potential harvest value of planted crops minus the rental value of the planted acreage).
- b. Indirect and Induced Impacts – Indirect Impacts are impacts going upstream. They include the economic impacts generated when producers purchase inputs produced by area industries. Induced impacts are downstream. They include the economic impacts generated when employees spend their earnings with area enterprises.
- c. Total Impacts – The sum of “Direct Impacts” and “Indirect and Induced Impacts.”
- d. Multiplier – A measure of scale generated by the simple division of Total Impacts by Direct Impacts.

The result is that the direct impact of not planting this acreage is a reduction of \$1.5 million in Labor Income supporting 24 jobs in the five-state area. The lost purchase of production inputs and the lost expenditures of employee earnings will result in the area-wide loss of an additional \$13.8 million in economic activity. This will result in the loss of an additional \$3.15 million in labor income which would have supported an additional 61 jobs in the five-state area.

Overall, the inability to plant this acreage would result in a loss of \$21.8 million in area economic transactions. \$8.9 million of this would represent economic production or Value Added within the area. Total Labor Income would drop by \$4.7 million, which would cause a reduction in employment by 84 jobs.

Table Four shows a similar summary for Farm Rescue’s harvest impacts across the five-state area, including both field crop harvest and baling hay and forage. The assumption driving the impact calculations for harvest operations is identical to the assumption driving the planting scenario – that in the absence of timely services from Farm Rescue the acreage would not have been harvested.

There is a major difference in area-wide effect, however. A decision not to plant eliminated the purchase of production inputs throughout the growing season. At harvest time, however, those inputs have already been purchased and applied. The related impacts have already happened whether or not the acreage is harvested. As a result, in the harvest scenario, the value of crops harvested is entirely subtracted from household income.

Table Four starts with a reduction in area-wide Output of \$6.9 million. This is household income rather than production output. As a result, there is no Direct Effect for either Labor Income or Jobs upstream of the farm. All impacts beyond the starting point are generated downstream through the expenditure of this household income on goods and services within the area.

Table Three: Planting Economic Impacts

Impact Summary and Multipliers (\$millions)

	In millions of dollars			Multiplier
	Direct Impacts	Indirect & Induced	Total	
Output	-8.009	-13.822	-21.832	2.726
Value Added			-8.891	
Labor Income	-1.536	-3.148	-4.684	3.049
Jobs	-24	-61	-84	3.578

Total Impacts By Industry (\$millions)

	In millions of dollars			
	Output	Value Added	Labor Income	Jobs
Total	-21.831	-8.892	-4.684	-84.423
1 Agriculture, forestry, fishing and hunting	-13.026	-4.184	-2.450	-47.2
2 Mining, quarrying, and oil and gas extraction	-0.140	-0.080	-0.028	-0.4
3 Utilities*	-0.249	-0.158	-0.043	-0.4
4 Construction	-0.153	-0.079	-0.067	-1.1
5 Durable goods manufacturing	-0.227	-0.092	-0.050	-0.8
6 Nondurable goods manufacturing	-1.843	-0.645	-0.287	-3.1
7 Wholesale trade	-1.872	-1.072	-0.436	-4.9
8 Retail trade	-0.354	-0.223	-0.108	-3.3
9 Transportation and warehousing*	-0.767	-0.408	-0.229	-4.0
10 Information	-0.147	-0.082	-0.030	-0.4
11 Finance and insurance	-0.724	-0.410	-0.167	-2.4
12 Real estate and rental and leasing	-0.673	-0.459	-0.112	-4.0
13 Professional, scientific, and technical services	-0.285	-0.196	-0.139	-1.8
14 Management of companies and enterprises	-0.191	-0.124	-0.089	-0.7
15 Administrative and support and waste management and remediation services	-0.199	-0.113	-0.079	-1.9
16 Educational services	-0.053	-0.037	-0.025	-0.8
17 Health care and social assistance	-0.403	-0.247	-0.179	-3.0
18 Arts, entertainment, and recreation	-0.040	-0.024	-0.015	-0.5
19 Accommodation	-0.036	-0.024	-0.010	-0.3
20 Food services and drinking places	-0.124	-0.067	-0.040	-1.6
21 Other services*	-0.324	-0.164	-0.098	-2.0
22 Households	0.000	-0.003	-0.003	-0.2

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Table Four: Harvest (including hay and forage baling) Economic Impacts

Impact Summary and Multipliers (\$millions)

	In millions of dollars			Multiplier
	Direct Impacts	Indirect & Induced	Total	
Output	-6.872	-1.178	-8.049	1.171
Value Added			-4.638	
Labor Income	0.000	-2.400	-2.400	
Jobs	0	-52	-52	

Total Impacts By Industry (\$millions)

	In millions of dollars			
	Output	Value Added	Labor Income	Jobs
Total	-8.049	-4.638	-2.401	-51.6
1 Agriculture, forestry, fishing and hunting	-0.144	-0.050	-0.028	-0.5
2 Mining, quarrying, and oil and gas extraction	-0.028	-0.017	-0.006	-0.1
3 Utilities*	-0.214	-0.135	-0.034	-0.3
4 Construction	-0.067	-0.035	-0.030	-0.5
5 Durable goods manufacturing	-0.181	-0.078	-0.041	-0.6
6 Nondurable goods manufacturing	-0.658	-0.192	-0.106	-1.5
7 Wholesale trade	-0.530	-0.304	-0.124	-1.4
8 Retail trade	-0.842	-0.537	-0.259	-7.9
9 Transportation and warehousing*	-0.285	-0.151	-0.091	-1.8
10 Information	-0.246	-0.137	-0.049	-0.7
11 Finance and insurance	-0.897	-0.500	-0.213	-3.3
12 Real estate and rental and leasing	-0.958	-0.667	-0.153	-6.3
13 Professional, scientific, and technical services	-0.261	-0.181	-0.129	-1.8
14 Management of companies and enterprises	-0.157	-0.102	-0.073	-0.6
15 Administrative and support and waste management and remediation services	-0.192	-0.109	-0.076	-1.8
16 Educational services	-0.164	-0.112	-0.076	-2.3
17 Health care and social assistance	-1.316	-0.807	-0.583	-9.7
18 Arts, entertainment, and recreation	-0.104	-0.061	-0.037	-1.3
19 Accommodation	-0.096	-0.059	-0.025	-0.7
20 Food services and drinking places	-0.322	-0.172	-0.102	-4.0
21 Other services*	-0.388	-0.221	-0.157	-3.8
22 Households	0.000	-0.010	-0.010	-0.7

After the reduction in expenditures is calculated, this loss in household income results in a total loss of \$8 million in area economic transactions (most of which is the initial loss of household income due to failure to harvest crops). This generates a loss in area economic production (Value Added) of \$4.6 million. Of this, area-wide Labor income is reduced by \$2.4 million, eliminating 52 area jobs.

Overall, the decision not to harvest has a lower impact on the area than the decision not to plant. This is because the decision not to plant eliminates input purchases during the production season. At the point of harvest, these inputs have already been purchased and utilized, so their associated impacts are already baked into the system. In short, the decision not to plant hurts the economy harder than it hurts the farm while the decision not to harvest hurts the farm harder than it hurts the economy. The difference is the farm's purchase of inputs during the growing season.

The Distribution of Hay

The third avenue of Farm Rescue's direct assistance to farms in the five-state area is its efforts to haul (distribute) hay from farms with surplus to farms with shortages driven by natural disasters or family crises.

Evaluating hay distribution is a substantially different challenge than evaluating planting and harvest operations. Cropping has annual initiation and termination dates. This makes it easy to put values on outcomes. Livestock do not have such a well-defined production calendar. In addition, the crops affected above have standard values as commodities. For example, a bushel of corn in Iowa can be valued at \$4.85. Livestock value depends upon type, age, weight, and other factors. Finally, it is difficult to say what the disposition of a population of livestock will be if hay does not arrive. Will it perish? Will it be sold (and for what value)? Will it simply deteriorate?

As a result, no attempt was made to estimate an area-wide impact of livestock loss in the absence of Farm Rescue's hay distribution program. Within the area, however:

Farm Rescue redistributed 1,233 large round bales of hay from farms that donated them to farms that needed them. While the hay was certainly more immediately valuable to recipients than it was to donors, there is no difference in production values to model. The hay already existed in the area. The production impacts already existed.¹⁴

¹⁴ Outside of the five-state area, Farm rescue redistributed 1,508 large bales valued at \$169,085 affecting over 6,808 cattle. Trucks logged 7,097 loaded miles. At \$6 per loaded mile, transport value was \$42,582. See footnotes 13 and 14, also.

The redistributed hay was valued at \$148,203.¹⁵ This represents a transfer of value, benevolence, that was mediated by Farm Rescue as a disaster clearing house.

A minimum of 4,736 cattle were impacted on recipient farms.¹⁶

Farm Rescue's trucks logged approximately 2,600 loaded miles within the five-state area (primarily in Nebraska). At a rate of \$6 per loaded mile, transport costs are estimated at \$15,600.

While these are all important contributions to farms in distress, and coordinating these transfers is a valuable service of Farm Rescue, the only item that can reasonably be valued for an area-wide economic impact evaluation is the smallest by value, transportation. After adjusting for volunteer drivers, however, the \$15,600 in transport value only generated an additional \$16,000 in economic transactions, area-wide, and only \$3,000 in additional labor income.

Volunteer Contributions, Expenditures, and Impacts

Volunteer contributions, expenditures, and impacts are important components of Farm Rescue's activities within the five-state area. Farm Rescue is not a profit-making enterprise. While people generally recognize Farm Rescue as a benevolent enterprise supporting critical operations for farms facing distress, Farm Rescue is primarily a clearinghouse for matching volunteers and donors with farms facing illness, injury, and natural disasters. In this sense, Farm Rescue performs a function that neighborhood groups performed in an era of smaller farms and more populous countrysides. Farm Rescue is not a new concept. It is an evolution of what has traditionally been a cornerstone of rural Midwestern culture.

Contribution: Volunteer Days

To begin with, volunteer contributions and expenditures are often two distinct things. One of the major volunteer contributions is time. One of Farm Rescue's primary purposes is to match people offering time to farms that need time and to provide those volunteers with the tools to be effective in their endeavors.

Volunteers provided through Farm Rescue's clearinghouse dedicated almost 1,100 working days to planting, harvesting, baling, and hay hauling in the five-state area. Given information regarding hours-on-farm, there are almost certainly 85 committed volunteer days to out-of-area planting and harvesting. There are another 71 days committed to hay hauling out of the five-state area. While it is

¹⁵ Hay values per ton by state were obtained from the NASS. It is assumed that bales weigh 0.75 ton apiece.

¹⁶ This is the number of livestock listed in the data available. A substantial number of recipient records do not list the number of livestock impacted.

hard to pin down, there are almost certainly 20 to 40 additional days involved in travel to and from remote homes.

Add it all up, and volunteers committed the equivalent of at least five full-time equivalents to farms being served by Farm Rescue. Matching this high-quality trained and equipped volunteer corps to farms in distress is a major contribution of Farm Rescue to the Midwest community. This contribution of time does not provide a significant economic impact to the five-state area, however, except in its absence. In its absence, crops don't get planted, harvested, and distributed in a timely and efficient manner. Ironically, it is easier to measure the economic impact cost of not having Farm Rescue than it is to capture the entire impact of Farm Rescue's contributions.

Volunteer Expenditures

Volunteers do, however, make expenditures within the area that do generate economic impacts. These expenditures are primarily for either food, lodging, or transportation (mileage). While these expenditures made anywhere in relation to their Farm Rescue activities are volunteer contributions, only those expenditures made within the five-state area contribute to the estimated economic impacts of this study.

Transportation

Beginning with mileage, data provided by Farm Rescue indicates that volunteers logged at least 83,313 miles in personal vehicles as part of their volunteer commitments to planting, harvesting, baling, and hay hauling in the five-state area and hay hauling outside the five-state area. Data was not available on mileage commitments to planting, harvesting, and baling outside the area. At the current Internal Revenue Service mileage rate (\$0.67 per mile), this translates into a volunteer contribution of \$55,821.

This does not all translate into economic impact in the five-state area. 24,831 of these miles were logged by volunteers in remote areas traveling to the five-state area. Miles within the area (by both local and remote volunteers) were 58,482, but we cannot multiply this all by the full IRS rate. Of in-area mileage, 21,331 miles were logged by nonlocal automobiles. It can be assumed that the fixed costs of owning those vehicles are expended at home. For these miles, only about one-third of the IRS mileage rate is expended while in the five-state area.

The result is that only \$29,655 of the total \$55,821 mileage contribution is expended within the five-state area and supports an area-wide economic impact calculation.

It should also be noted that volunteers from remote areas regularly fly into or across the five-state area as part of their commitments. While complete records are not available, perusing the volunteer records made available revealed several roundtrips:

Cedar Rapids, Iowa, to Fargo, North Dakota	(1)
Quad Cities, Iowa, to Fargo, North Dakota	(4)
Bradenton, Florida, to Fargo, North Dakota	(2)
Dallas-Fort Worth, Texas, to Fargo, North Dakota	(2)
Chicago, Illinois, to Fargo, North Dakota	(1)
Raleigh, North Carolina, to Fargo, North Dakota	(1)
Nashville, Tennessee, to Fargo, North Dakota	(1)
Niceville, Florida, to Omaha, Nebraska	(1)
Sioux Falls, South Dakota, to Fargo, North Dakota	(3)
Lanesville, Indiana, to Greenfield, Iowa (own plane)	(1)

No attempt was made to value these trips. It is almost certain that the lion's share of carriers are nonlocal, so the five-state impact would be limited. The air travel and mileage data show, however, that volunteers (many of them repeat volunteers) value the clearinghouse services of Farm Rescue.

Lodging

Volunteer records indicate that Farm Rescue volunteers spent approximately 855 overnights in hotels while working on projects in the five-state area.¹⁷ The reimbursement log for operations in the five-state area shows a total of \$58,281.60 for an average reimbursement of \$68.17. While this might seem low, it is likely fairly accurate for two reasons. First, the ubiquity of corporate credit cards on the log indicates that most volunteer lodging was paid by Farm Rescue staff or group leaders. Second, the majority of multiple room charges could be decomposed to match other charges in the same lodging, indicating that the log likely did include all or the great majority of volunteer lodging.

Daily Expenses

In addition to lodging, volunteers have daily expenses. Volunteer records indicated at least 1,082 volunteer expense days in the five-state area.¹⁸ The reimbursement data file for the five-state area only shows 72 entries totaling \$5,282.92 for an average of \$4.88 per volunteer day. The median value in the record is \$48.28, which appears to be more reasonable. At this level, daily expenses for 1,082 volunteers would sum to \$52,239 in the five-state area.

¹⁷ An additional 59 overnights were identified with hay hauling outside the five-state area. No information was available for out-of-area field service volunteers.

¹⁸ This is approximately 4.3 full-time equivalents within the five-state area.

Contribution Impact

All told, volunteers accounted for approximately \$140,000 in direct expenditures in the five-state area. This generated an additional \$134,000 in area economic activity, \$83,000 in labor income, and 2 additional jobs. This is not insignificant, but the real contribution of volunteers is unpaid time, and that unpaid time generates the on-farm values of field services, saved crops, and drought assistance outlined above.

Farm Rescue Organization

In the most recent fiscal year, Farm Rescue had expenditures of \$3.2 million. Farm Rescue does not sell goods or services, so its output cannot be valued through quantity and price. It hardly resembles the professional or benevolent organizational categories provided for in the National Income and Product Accounts (NIPA), so it does not directly fit into any of the categories provided for in an input-output model.

To estimate Farm Rescue's economic impact, Farm Rescue's expenditures were divided up among the types of industries it purchases from. These amounts were entered into the input-output model by industry. The model then generated an impact for this "Bill of Goods." In effect, the impact generated is one step removed from Farm Rescue. It represents the output, income, and employment generated when Farm Rescue buys inputs rather than when Farm Rescue sells outputs.

A further caveat is that Farm Rescue's expenditures are not confined to the five-state core area which is the focus of this analysis. Looking back at the volunteer contributions, however, we can use them as a proxy of Farm Rescue operations. In-area volunteer time was approximately 88 percent of total volunteer time, so 88 percent of Farm Rescue's expenditures were modeled in each category.

Table Five shows the resulting area-wide economic impact of Farm Rescue's operational expenditures. Expenditures of \$2.83 million were allocated to the area (payroll was allocated directly to households). These expenditures generated \$579,000 in labor income and 9 jobs within the businesses supplying Farm Rescue. These businesses' expenditures for inputs as well as the personal expenditures of these businesses' employees generated an additional \$2.2 million in area economic transactions, \$806,000 in labor income, and 16 jobs.

All told, Farm Rescue's in-area expenditures generated \$5.1 million in area economic transactions. \$2.7 million's worth of these transactions represents economic production within the area. Of this, \$1.4 million in labor income generated 25 jobs. It is worth remembering that this does not include Farm Rescue's internal employment.

Table Five: Economic Impacts of Farm Rescue Expenditures

Impact Summary and Multipliers (\$millions)

	In millions of dollars			Multiplier
	Direct Impacts	Indirect & Induced	Total	
Output	2.843	2.211	5.054	1.778
Value Added			2.662	
Labor Income	0.579	0.806	1.385	2.393
Jobs	9	16	25	2.667

Total Impacts By Industry (\$millions)

	In millions of dollars			
	Output	Value Added	Labor Income	Jobs
Total	5.054	2.662	1.385	24.84
1 Agriculture, forestry, fishing and hunting	0.035	0.012	0.007	0.13
2 Mining, quarrying, and oil and gas extraction	0.012	0.007	0.003	0.03
3 Utilities*	0.074	0.047	0.012	0.09
4 Construction	0.029	0.015	0.013	0.20
5 Durable goods manufacturing	1.405	0.541	0.261	3.67
6 Nondurable goods manufacturing	0.255	0.078	0.043	0.62
7 Wholesale trade	0.278	0.159	0.065	0.72
8 Retail trade	0.330	0.201	0.098	3.01
9 Transportation and warehousing*	0.139	0.078	0.048	0.91
10 Information	0.158	0.089	0.032	0.40
11 Finance and insurance	0.464	0.259	0.120	1.80
12 Real estate and rental and leasing	0.427	0.276	0.079	1.97
13 Professional, scientific, and technical services	0.325	0.225	0.142	1.86
14 Management of companies and enterprises	0.099	0.065	0.046	0.38
15 Administrative and support and waste management and remediation services	0.098	0.057	0.040	0.94
16 Educational services	0.037	0.025	0.017	0.53
17 Health care and social assistance	0.282	0.173	0.125	2.09
18 Arts, entertainment, and recreation	0.025	0.015	0.009	0.31
19 Accommodation	0.140	0.087	0.038	1.08
20 Food services and drinking places	0.096	0.053	0.032	1.22
21 Other services*	0.346	0.197	0.153	2.74
22 Households	0.000	0.002	0.002	0.15

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A Short Summary of Impacts

Farm Rescue expenditures generate \$5.1 million in area economic transactions and 25 jobs, but this isn't the value of Farm Rescue. On its own, Farm Rescue doesn't market any products. On its own, there is no "There" there.

Farm Rescue exists to facilitate the connections between volunteers, donors, and farms in distress. In addition to the impact of its expenditures in the five-state area, Farm Rescue:

- Coordinated over 1,100 days of skilled, trained, and equipped volunteer time.
- Provided \$1 million worth of direct field plant and harvest services to farms in distress, which:
 - Saved \$16.7 million in crops marketed.
 - Generated an additional \$13.1 million in area economic transactions.
- Located, obtained, and distributed \$143,000 worth of hay to support 4,700 cattle distressed due to weather, natural disasters, or family crises.

The value of all of these things is best measured in their absence or by removing them from the economy. The impact of Farm Rescue activities is primarily to ensure that there is no impact to be seen in the face of unforeseen adversities.

The minimum perspective of Farm Rescue's impact is the \$5.1 million directly attributable to its expenditures. At its maximum, that impact would be over \$35 million and would include the impact of crops saved on the area economy, volunteer expenditures, and the impact of hay distribution on the value of area cattle herds.

Conclusion

In the most recent fiscal year, Farm Rescue provided over \$1 million worth of planting and harvesting services over the five-state area.

But Farm Rescue is not a custom farming enterprise.

Farm Rescue stands ready to assist 250,000 farms producing over \$134 billion worth of crops and livestock over the five-state area. In the most recent fiscal year, Farm Rescue was critical in guaranteeing the production and harvest of \$16.7 million worth of cash crops. Farm Rescue's activities in these cases ensured that local community economies maintained \$29.9 million in economic activity, \$7.1 million in labor income, and 136 jobs.

But Farm Rescue is not an insurance company.

Within the five-state area, Farm Rescue delivered 1,233 bales of hay worth \$148,000 to feed 4,700 cattle in drought-stricken areas. Beyond the five-state area, Farm Rescue provided an additional 1,508 bales worth \$169,000 to feed 6,808 cattle in drought-stricken areas.

But Farm Rescue neither produces nor buys or brokers hay.

Farm Rescue semis logged 2,600 loaded miles delivering hay in the five-state area and an additional 7,097 loaded miles in deliveries beyond the area.

But Farm Rescue is not a trucking company.

Farm Rescue volunteers logged 1,100 days (nearly 4.5 FTEs), 855 overnight stays, and 83,000 automobile miles assisting farms in distress across the five-state area.

But Farm Rescue is not a labor broker and does not manage a contracted workforce.

Farm Rescue is a community clearinghouse facilitating assistance for farms in distress. In times past, with smaller farms and larger rural populations, this clearinghouse function was handled locally by neighborhood groups and word of mouth.

Farm Rescue is an evolution rather than an innovation. It has adapted the community-assistance clearinghouse to facilitate aid across a wider geographic area in the face of larger farms and declining rural population densities.

Where community groups once facilitated aid in local areas, aid was limited to situations of family distress, illness, and injury. Community-wide maladies could not be effectively addressed. Facilitating aid over a broader geographic area allows Farm Rescue to address assistance to individual farms and to broadly stricken areas.

This analysis looked specifically at five states in the upper Midwest, but Farm Rescue currently provides support to farms across a core area of nine states. Farm Rescue also provides support to farms in additional states as disasters and other emergencies require and as Farm Rescue's resources permit. Hundreds of volunteers from as far away as Florida, North Carolina, Tennessee, and Colorado trust Farm Rescue to facilitate their benevolence.

Farm Rescue has institutionalized the functions of the neighborhood community groups of a bygone era. It is part of the evolution of modern farming that maintains and facilitates the traditional commitment to mutual aid which has always characterized Midwest agriculture.