Four Corners
Community Food Assessment

An assessment of the current state of food insecurity and related health consequences in Dolores County, Montezuma County, and border communities in Arizona, New Mexico, and Utah as seen through the lens of food assistance efforts, agricultural capacity, and community action.

Many thanks to the dozens of organizations and individuals whose contributions to this project are greatly appreciated.

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Introduction

This Four Corners Community Food Assessment details the current state of food insecurity and related health consequences through the lens of food assistance efforts, agricultural capacity, and recent progress in strengthening our local food system.

In the fall of 2019, a collaborative grant was awarded by the Colorado Health Foundation (CHF) to a group of nonprofit organizations in La Plata and Montezuma Counties to conduct a Community Food Assessment and Implementation Planning project to gain a deeper understanding of the needs, barriers, and opportunities facing the identified food insecure populations. These organizations all do food security work in the region, yet the differences in demographics and resources in La Plata County and Montezuma County are significant to the point that two separate assessments were warranted. A common set of data gathering criteria was established, based on USDA guidelines, to build a picture of the current state of food insecurity in the region.

Initially, this report was intended to address Montezuma County, but it quickly became apparent that Dolores County and the border communities in New Mexico, Arizona, and Utah need to be included, as people in these outlying areas frequent Cortez and surrounding towns for food shopping, healthcare, and other essential needs. The target populations in our assessment area include geographically isolated people, youth, Native, LatinX, and older adults.

The goals for the CHF Community Food Assessment and Implementation Planning project are as follows:

- Increase our target population's access to affordable, nutritious food.
- Increase access to community-sponsored food assistance programs.
- Shift power from a corporate, centralized, one-size-fits-all food system to one that is envisioned, designed, and implemented by our community and builds on efforts already underway.

With the above goals in alignment with the Colorado Blueprint to End Hunger, the Community Food Assessment and Implementation Planning project started strong with data gathering and community interviews - and then COVID hit in March 2020. The La Plata County coalition, facilitated by the Good Food Collective in Durango, carried on with assessment and planning work through the pandemic. In Montezuma County on the other hand, work on the CHF project, facilitated by the Montezuma Food Coalition in Cortez (MFC), stopped for an all-hands-on-deck response for emergency food relief in the region due to the impacts of COVID-19. In early 2021, the assessment work resumed.

Upon completion of this Assessment, MFC is being dissolved, therefor the Implementation Planning Phase will not be conducted by MFC. With substantial momentum in our community for achieving the goals of this project, this report serves as a resource for building equity in our food system. It is the hope of the authors that this report will energize people working for food security and increased local food production, and find ways to increase coordination, collaboration, and efficiency within and between regional players in food and health sectors to more effectively deliver services and programming to address food access inequities and resulting health issues afflicting our community.

Part One, "The Current State of Food Insecurity," details federal, state, and community resources currently available to combat food insecurity, the need for such resources, and their impact in communities throughout the assessment area. Barriers to food security and the consequent health effects are identified to inform where the bottlenecks, problems, and barriers exist - the things that prevent families and individuals from having food security.

Part Two, "Agriculture in the Four Corners Region," helps us gain a better understanding about the capacity of local/regional agriculture to supply a local food system. It examines local agriculture including historical and current trends; and assesses social, environmental, and economic feasibility considerations relating to local food production and food systems.

Part Three, "Progress in our Local Food System," picks up where the 2017 Montezuma County Food System Framework left off, and features community members whose work in non-profit, business, and government sectors is making strides to strengthen our local food system, build resiliency, and increase food sovereignty.

Part Four, "Community Voices," features interviews with people and organizations that are making a difference in our local food system. Contrasting some of these stories of progress are insights from local farmers who face considerable challenges in increasing local food production.

Appendix

"County Profiles," provides an overview of the demographics, agricultural production, economic drivers, and landscapes of the five counties included in this Assessment. While these snapshots encompass entire counties, the focus of this assessment is Montezuma County, Dolores County, and border communities in Arizona, New Mexico, and Utah.

Food Assistance Resources is a partial list of resources to address food insecurity in the project area.

Resources for Further Information on Agriculture is an extensive list of links to a variety of resources to gain an in depth understanding of our food system.

Credits

Introduction by Donna Graves, Information Services, Inc.

County Profiles compiled by Lynn Dyer

The Current State of Food Insecurity, compiled by Donna Graves, Information Services, Inc.

Agriculture in the Four Corners Region, by Cindy Dvergsten, Whole New Concepts, LLC

Progress in our Local Food System, compiled by Laurie Hall, Montezuma Food Coalition

Community Voices, interviews conducted by Lynn Dyer, Laurie Hall, Dawn Robertson, Lynn Soukup, Scott Spear and the '21-22 class of seniors at Southwest Open School

Edited by Laurie Hall, Montezuma Food Coalition

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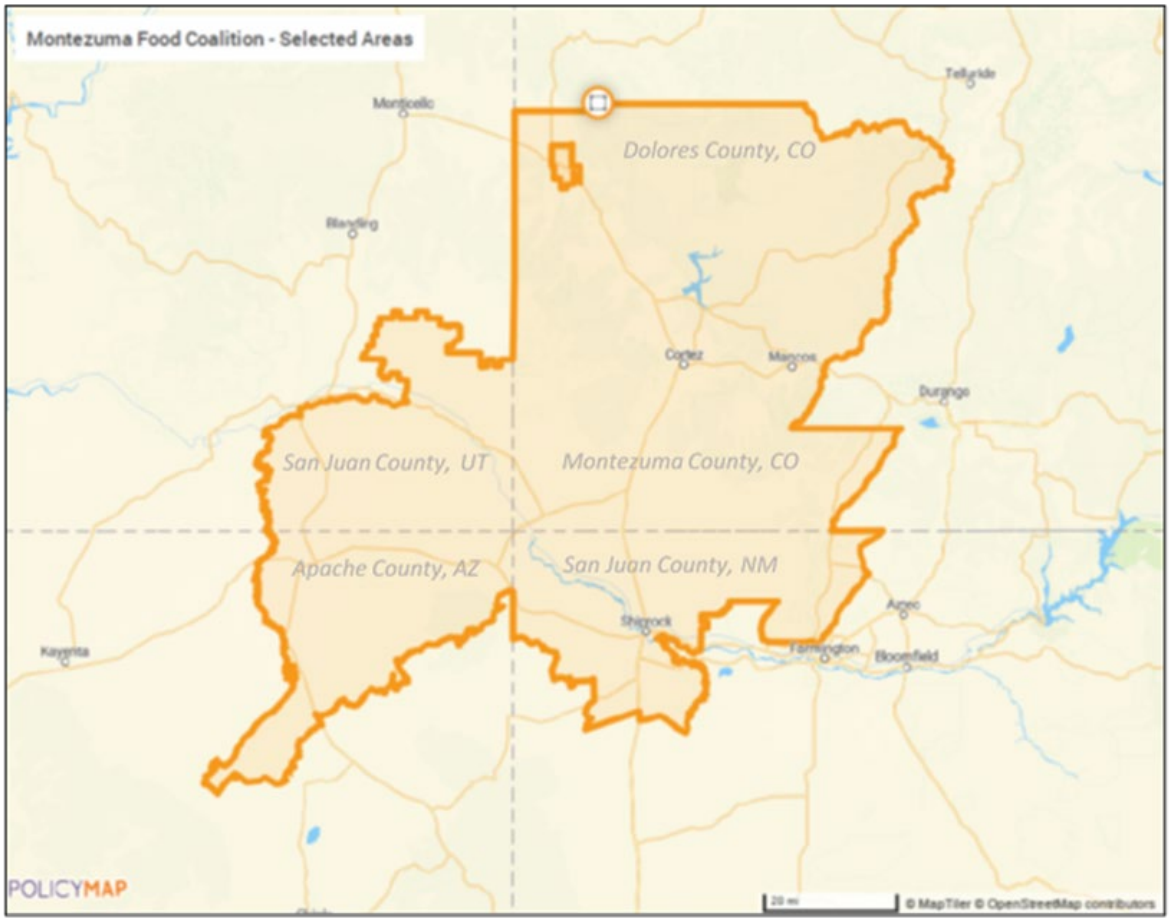
Land Acknowledgement

We acknowledge that in the Four Corners Region we are occupying the traditional and ancestral lands and territories of the Nuchu (Ute), Apache, the Pueblos, Hopi, Suni and the Diné nations. This region was also a site of trade, gathering and healing for numerous other Native tribes. We recognize the Indigenous peoples as original stewards of this land and all the relatives within it.

Geographic Scope

The assessment and planning area in this report includes Montezuma and Dolores Counties, Colorado and border communities in Arizona, New Mexico, and Utah. A small section of La Plata County was included here due to the overlapping boundaries of the Ute Mountain Ute Indian Reservation.

Figure 1.



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Part One

The Current State of Food Insecurity

Food insecurity is defined by the United States Department of Agriculture (USDA) as a situation of "*limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways*." Part of what makes food insecurity so difficult to solve is that the underlying causes — poverty, racism, unemployment/under-employment, and inconsistent access to enough healthy food — are often deeply interconnected.

Target groups selected for scrutiny in this report are low-income and geographically isolated people (low income/low access) in the assessment area, including Native Americans; LatinX (Hispanic); youth (0-18); and older adults (65+). Low income/low access areas are defined by the USDA and include low-income census tracts (areas) with at least 500 people or 33 percent of the population living more than .5 miles (in urban areas) or more than 10 miles (in rural areas) from the nearest supermarket, supercenter, or large grocery store. A low-income tract has a poverty rate of greater than 20 percent, has a median family income (MFI) of less than or equal to 80 percent of the state-wide MFI, or is in a metropolitan area and its MFI is less than or equal to 80 percent of the metropolitan area. *Source: USDA*

Summary of Findings

Food insecurity by population group

In the assessment area 21,757 people identify as Native American. Of these 20,965 (96 percent) were food insecure. Many American Indian communities have high rates of poor health and economic uncertainty commonly associated with food insecurity. According to a 2016 Ute Mountain Ute Tribe (UMUT) Community Health Assessment, one in four tribal members have Type II Diabetes, and over 70 percent of adults and 50 percent of youth are struggling with obesity. Low access to healthy food is a major factor in food insecurity - the US Department of Agriculture Food Desert Locator indicates that nearly the entire Navajo Nation is a food desert. Recent findings characterized the Navajo diet as high in energy, but poor in nutrients, with high consumption of processed meats and sweetened beverages and low fruit and vegetable intake. Tribal members living within the Ute Mountain Ute Reservation must travel close to 15 miles to Cortez for groceries and everyday household needs. Household income is also a factor. In Towaoc, the densest population center within the reservation, the median income in 2019 was around $28,800. By comparison, the medians in Colorado and the United States are approximately $69,100 and $60,000, respectively.

In the assessment area 2,377 people identified as Hispanic, or LatinX. Of these 1,432 (60 percent) were food insecure. Racial prejudice and language, education, and cultural barriers create

inequalities that make LatinX communities more vulnerable to food insecurity. Before the pandemic, LatinX people were almost twice as likely to face food insecurity than non-LatinX individuals, and are facing greater economic hardship during the pandemic and as a result are more vulnerable to hunger. LatinX workers, especially women, are more likely to be employed in the leisure and hospitality industries that have been devastated by the coronavirus pandemic. Workers in these industries continue to face the highest unemployment rates post pandemic.

In the assessment area 9,824 children (<18) were identified. Of these 7,728 (79 percent) were food insecure. Most of the research examining food insecurity in general and its effects on health outcomes has concentrated on children. This research has found that food insecurity is associated with increased risks of some birth defects, anemia, lower nutrient intakes, cognitive problems, and aggression and anxiety. It is also associated with higher risks of being hospitalized and poorer general health and with having asthma, behavioral problems, depression, suicide ideation, and worse oral health.

In the assessment area 6,656 seniors (65+) were identified. Of these 3,931 (59 percent) were food insecure. In general, there has been a great deal of research on the health status of seniors but surprisingly little work on food insecurity and health. The work that has been done has found, for example, that food-insecure seniors report lower nutrient intakes, are more likely to be in poor or fair health and to be depressed, and are more likely to have limitations in activities of daily living compared to their food-secure peers.

Rates of food insecurity by county reflecting total populations are included in this report (page 13). When compared to the above figures for specific populations, substantial disparities experienced by low-income, low-access demographic groups becomes very clear.

Utilization of Federal Food Assistance Programs

Local, state, and federal programs and their corresponding local agencies aim to increase food security. Food assistance programs discussed here include Women, Infants and Children (WIC), the National School Lunch Program, Supplemental Nutrition Assistance Program (SNAP), and USDA commodities distribution.

WIC

This is a special supplemental nutrition program for Women, Infants and Children. Pregnant, postpartum, and breastfeeding women, infants, and children up to age 5 are eligible. Participants must meet income guidelines, a state residency requirement, and be individually determined to be at "nutritional risk" by a health professional. According to a Colorado WIC website, in Dolores County 32 percent of individuals are eligible but not enrolled in WIC; in Montezuma County this is 43 percent. (These data are not readily available for the other communities in this study.)

Free and Reduced School Lunches

The National School Lunch Program (NSLP) is a federally assisted meal program operating in public and nonprofit private schools and residential child-care institutions. It provides nutritionally balanced, low-cost or free lunches to children each school day. In FY 2019, schools served over 4.8 billion lunches to

children nationwide. The percentage of children eligible for the program in the project area ranges from 100 percent in San Juan County, UT to 57 percent in Montezuma County, CO.

SNAP

The Supplemental Nutrition Assistance Program (food stamps, or SNAP) is a federal program that provides nutrition benefits to low-income individuals and families that are used at stores to purchase food. As of March 2021, there were 4,682 people enrolled in SNAP in Montezuma County, an additional 4,713 are eligible but not enrolled (excluding the UMUT). In Dolores County, population 1,857, the percentage of households that participated in SNAP between 2010 and 2014 was 50 percent in households with children, 27 percent in households with an older adult. In geographically isolated areas – which includes much of the assessment area – most stores that accept SNAP benefits do not offer whole or fresh foods. Additionally, food resources that accept SNAP are sparse in large areas of the Navajo Reservation in Apache County, AZ and San Juan County, UT and San Juan County, NM.

USDA Commodities

There are numerous commodity distribution sites in the assessment area. Eligibility requirements vary depending on the site. Critics of the program cite a lack of culturally appropriate foods, minimal fresh foods, and unfamiliarity with food types resulting in food waste. Stigma, pride, and lack of transportation prevent many from accessing this resource. Additionally, language barriers and onerous paperwork requirements can prevent participation, as does distrust of government entities, particularly among immigrant populations.

Community-driven Food Assistance

Intended as emergency food aid, many people have come to rely on food panties and soup kitchens as a regular source of food, indicating a chronic social condition.

COVID increased the need for community food assistance in our region, at minimum tripling the demand. Two years into COVID, the demand remains high as long-term economic effects of the pandemic persist. Stigma, pride, and lack of transportation continue to be barriers to accessing these essential food assistance resources, although many organizations are working hard to address these issues. In the assessment area there are dozens of food assistance programs, mostly small-scale community led efforts that serve their local constituents. A pandemic silver lining is increased cooperation and mutual support between food pantries, food hubs, and food resources that increases funding and the supply of locally grown food. Many of these groups are expanding their services to include cooking and gardening education to empower their client's ability to make healthy food choices.

Resource List

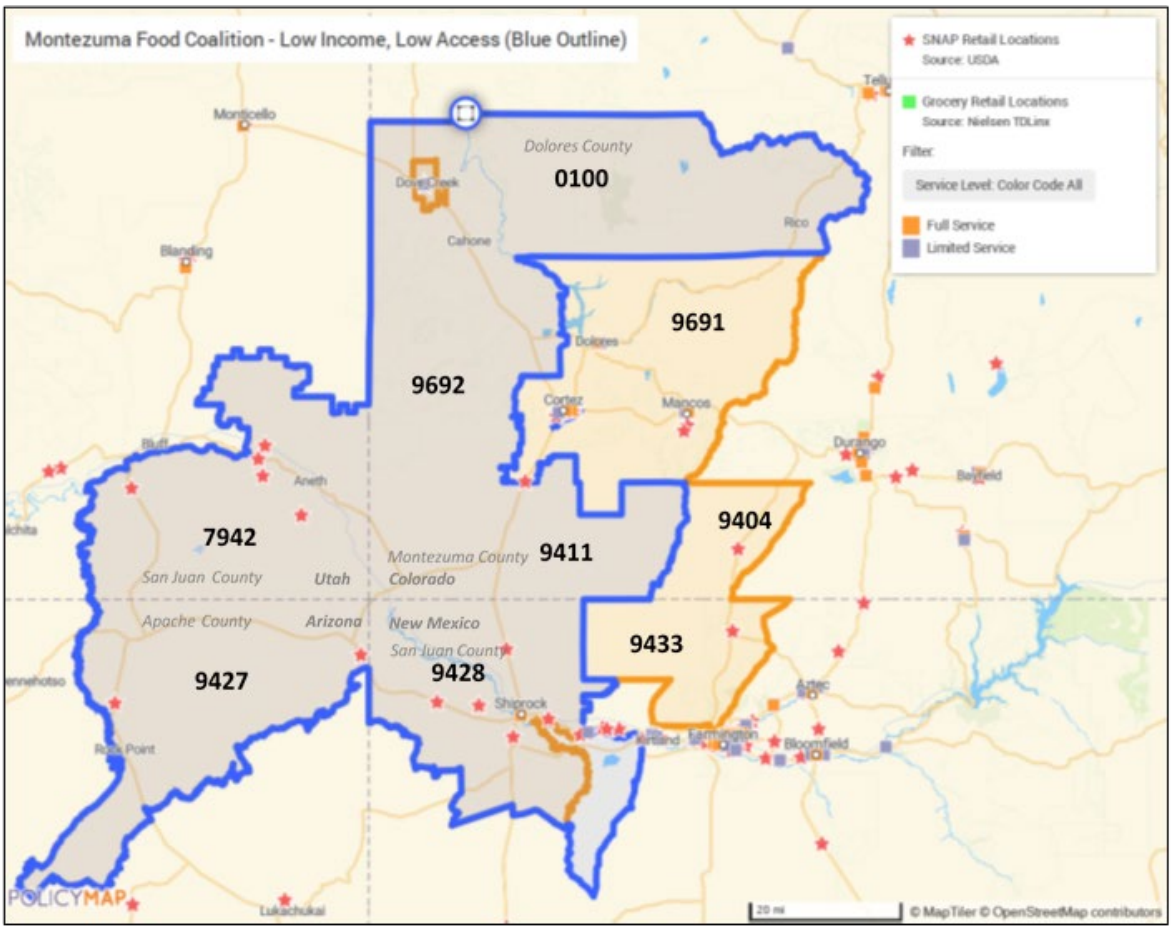
Locations and contact information for various types of food distribution centers such as food banks, food pantries, meal services, soup kitchens, and government programs are included in this report in the appendix.

Food Access

Food security is defined by the Food and Agriculture Organization (FAO) as "*when all people, at all times, have physical, social, and economic* ***access*** *to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life. Food security incorporates a measure of resilience to future disruption or unavailability of critical food supply due to various risk factors including droughts, shipping disruptions, fuel shortages, economic instability, and wars."*

Low food access areas for this project are shown in Figure 2, which includes low income, low access areas as well as SNAP and grocery locations. These are shown by census tract and county.

Figure 2.



Impacts of Low Income/Low Access on Food Insecurity

Low Income and Low Access status, as of 2015, includes low-income tracts with at least 500 people or 33 percent of the population living more than .5 miles (in urban areas) or more than 10 miles (in rural areas) from the nearest supermarket, supercenter, or large grocery store. A low-income tract has a poverty rate of greater than 20 percent, has a median family income (MFI) of less than or equal to 80 percent of the state-wide MFI, or is in a metropolitan area and its MFI is less than or equal to 80 percent of the metropolitan area. *Source: USDA*

The bold numbers in the first column correspond with the census tract numbers in Figure 2.

Low Income, Low Access			Target Populations by Census Tract				
Census Tract	Census Estimate		ACS 2015-2019				Tract Total
Boundary Year 2010	2015		Native	Hispanic	Age < 18	Age +65	Population
04001**942**700, AZ	Low Access		3,869	34	1,140	558	5,345
08033000**100**, CO	Low Access		31	20	139	315	1,857
08083**941**100, CO	Low Access		1,643	24	690	110	1,815
08083**969**000, CO	Not Low Access		176	378	708	792	3,407
08083**969**100, CO	Not Low Access		93	289	758	777	3,718
08083**969**200, CO	Low Access		33	178	498	700	2,632
08083**969**300, CO	Not Low Access		15	-	142	281	5,973
08083**969**400, CO	Low Access		296	436	530	310	3,628
08083**969**600, CO	Not Low Access		508	278	488	875	4,858
35045**942**801, NM	Low Access		2,584	33	570	332	2,610
35045**942**802, NM	Low Access		6,706	257	1,970	783	6,996
35045**942**803, NM	Low Access		1,757	5	526	125	2,568
35045**943**300, NM	Low Access		388	375	534	337	2,184
49037**942**000, UT	Low Access		3,658	70	1,131	361	3,798
Low Income/LowAccess by Target Group			20,965	1,432	7,728	3,931	51,389
Total Population by Target Group			21,757	2,377	9,824	6,656	
Percentage of Food Insecure Individuals			96%	60%	79%	59%	

Source www.policymap.com

A recent study conducted on the Ute Mountain Ute Reservation found that the community's median household income is significantly lower than average.[1] In Towaoc, the median household income in 2019 was around $28,800. By comparison, the medians in Colorado and the United States are approximately $69,100 and $60,000, respectively. According to the UMUT Economic Development Report, 40 percent of UMUT members live below poverty line and the unemployment rate is nearly double the state's unemployment rate. Per capita income is $13,073 compared with $36,345 for the state of Colorado.

[1] Grocery Feasibility Study for the Ute Mountain Ute Tribe Towaoc, CO. Thrive Partners (2020). https://thrivepartners.egnyte.com/dl/fVhggNIDe3/?

As observed by Axis Health System*, many older adults in Montezuma County struggle with cooking healthy meals and getting to a grocery store, and rely on family for assistance where available. Axis also reports 66 percent of their adult patients experience transportation barriers to accessing healthcare. Meals on Wheels is active in the county but serves a limited geographic area. For working adults in need of food assistance, many cannot access food pantries during hours of operation.

** Axis Health System is a private, nonprofit healthcare organization established in 1960, providing healthcare to residents of Montezuma, La Plata, Archuleta, Dolores and San Juan counties.*

What Are Income and Poverty Thresholds?

Household income, as defined by the U.S. Census Bureau, includes the gross cash income of all people ages 15 years or older occupying the same housing unit, regardless of how they are related, if at all. Family income considers only households occupied by two or more people related by birth, marriage, or adoption.

Poverty thresholds and *poverty guidelines* are dollar amounts set by the U.S. government to indicate the least amount of income a person or family needs to meet their basic needs.[2] People whose income falls below the specified amount are considered poor.

Both poverty thresholds and poverty guidelines are based on the official poverty measure established by the U.S. Census Bureau. Both the poverty thresholds and the poverty guidelines are the same for all mainland states, regardless of regional differences in the cost of living. Both are updated annually for price changes using the Consumer Price Index for All Urban Consumers (CPI-U).

Location	Income		Poverty Rate			
	MHI	MFI	All	Age < 18	Age 18-64	Age 65+
United States	$ 65,712		12%			
Arizona	$ 62,055	$ 74,468	14%	19%	13%	9%
Apache County AZ	$ 30,480	$ 41,259	35%	45%	34%	24%
Colorado	$ 77,127	$ 95,164	9%	11%	9%	7%
Dolores County CO	$ 45,972	$ 55,938	13%	20%	15%	4%
Montezuma County CO	$ 49,470	$ 57,800	15%	22%	15%	9%
New Mexico	$ 51,945	$ 61,826	18%	25%	17%	14%
San Juan County NM	$ 44,321	$ 57,070	21%	27%	20%	15%
Utah	$ 75,780	$ 86,152	9%	10%	9%	62%
San Juan County UT	$ 45,394	$ 52,742	25%	29%	23%	22%

MHI = Median Household Income; MFI=Median Family Income
Source: Poverty Rate ACS 2015-2019 Table S1901; Income 2019 estimate
Source: Median Income in the last 12 months (in 2019 inflation adjusted $) Table S1903
Target populations highlighted
Download date 9-27-2021

[2] https://www.irp.wisc.edu/resources/what-are-poverty-thresholds-and-poverty-guidelines/

Rates of Food Insecurity by County

For the tenth consecutive year, Feeding America conducted an annual *Map the Meal Gap* study to improve our understanding of food insecurity and food costs at the local (county) level. The most recent release is based on data from 2018.[3]

County	# of Food Insecure People	Rate of Food Insecurity	Average Meal Cost	Annual Food Budget Shortfall
Apache, AZ	1,680	22.6%	$ 3.22	$8,804,000
Dolores, CO	240	13.1%	$ 3.58	$ 145,000
Montezuma, CO	3,580	13.8%	$ 3.18	$1,925,000
San Juan, NM	20,460	16.1%	$ 2.85	$9,867,000
San Juan, UT	2,930	19.2%	$ 3.31	$1,641,000

In response to COVID-19, feeding America also released a companion study and interactive map that illustrate the projected impact of the pandemic on local food insecurity in 2020. To better assess the current and future state of local food insecurity, it is critical to understand historical variations prior to the pandemic.[4]

Food Insecurity Due To Covid		
County	2019 Actual	2020 Projected
Apache, AZ	23.6%	26.0%
Dolores, CO	12.5%	15.2%
Montezuma, CO	13.8%	16.2%
San Juan, NM	16.5%	19.5%
San Juan, UT	18.8%	22.1%

[3] https://map.feedingamerica.org/

[4] https://feedingamericaaction.org/resources/state-by-state-resource-the-impact-of-coronavirus-on-food-insecurity/

Barriers and Opportunities in Addressing Food Security

Results from four focus groups

1) Food Assistance Providers Focus Group

In February 2020 a focus group composed of food assistance organizations in Montezuma County provided input regarding barriers to food security. The focus group was held at the Sharehouse in Cortez. Participants are listed below:

- Bridge Emergency Shelter
- Cooking Matters
- Ute Mountain Ute Community Health Department
- Axis Health System/Cortez Integrated Healthcare
- Hope's Kitchen
- Good Samaritan Food Pantry
- Evangel Church Emergency Food Pantry
- Southwest Farm Fresh cooperative
- Grace's Kitchen
- Montezuma County Public Health WIC office
- Good Food Collective
- Ute Mountain Ute WIC office
- ReNew, Inc.

A great deal of information was collected, but in summary the findings included:

Affected populations: who are they and what issues prevent them from accessing services?

- Working poor
- Recently returned from incarceration
- Children
- Clients of social services – too much paperwork
- Language/literacy barriers
- Immigrants – fear
- Socially isolated due to cognitive abilities, physical location, health, or age
- Seniors
- People without transportation
- People who work during the day and can't get to food assistance offices
- Latinos – fear of being "put on a list"
- Kids who are too old for WIC – no longer receive care
- Unaccompanied minors – too young for the shelter
- Cultural barriers such as pride, stigma, rugged individualism
- Institutional barriers, such as income reporting

Barriers/challenges faced by affected communities:

- Racism
- Transportation
- Homebound
- Homeless
- Security/danger
- Education
- Access to a kitchen
- Ability to cook
- Time constraints
- Domestic violence
- Language/literacy
- Culture
- Economic factors
- Mental health
- Addiction
- Teeth issues
- Age
- Recent incarceration
- Nothing for kids after WIC
- Attitudes
- Stereotypes
- Legal status
- Human trafficking (minors)

What is working well for your organization?

- Sharing amongst other non-profits and having access to other resources as needed
- Meeting needs at the time of need (job loss, new to area, health issues)
- Community support, cooking demos, recipe cards, nutrition education classes
- Increasing and expanding networks, partnerships
- Mobile WIC clinic, cooking classes, outreach
- Great volunteers, church congregation and broader community support, donations
- People are fed; Good variety of foods, choice
- Ability to offer healthy food choices when promoting healthy lifestyles

What challenges are faced by your organization?

- Limited operating hours due to finances
- Limited space and equipment for food preparation and storage
- Kitchen access for classes
- Need more fresh fruits, vegetables, and spices
- Efficiencies in coordinated food distribution
- Sourcing appropriate foods
- Solving barriers to client participation
- Transportation
- Funding, time, staffing, communication, burnout
- Volunteer development and training
- Underlying causes of hunger
- Healthy food education
- Limited ability to expand programming beyond emergency food assistance
- Divided feelings in the community about homelessness
- Lack of awareness of community resources for referrals
- Issues with timely access to government programs and inadequate benefits
- Finding sustainable and productive partnerships
- Inability to provide support services needed by clients
- Sharing information between organizations
- Access to funding
- Ability to replace worn out equipment

2) TeamUp/United Way "Turn the Curve"

On March 9, 2018, following a year of data collection on food insecurity in Montezuma County by TeamUp, a round table discussion titled "Turn the Curve" was held at Empire Electric Association which included approximately 40 people from food assistance, schools, government, and social support entities. The intent was to identify barriers to food security, particularly among youth. Following are the major themes that came out of this event. As a result of this gathering, the Food Security Action Team (FSAT), facilitated by TeamUp, was formed to work on identified challenges and opportunities.

- Kids can't get food on their own
- Need someone at the table to do grants – write, manage, coordinate
- Some communities have a central place for implementing school backpack food programs - could distribute to schools so each school doesn't need to have their own volunteers
- Fundraising – asking businesses for money, grants, etc. – doing this together will help keep from competing with one another
- Utilizing busses to distribute food more effectively –
    - Someone sitting on bus that's not the driver – who can be responsible for the food
    - Hundreds of bus routes each day – a lot of busses already going around the county picking up and dropping off kids – parents meeting bus
    - Handing out more than just food but also other resources
    - Dolores and Cortez school districts would be on board for distribution – could also get Mancos on board
- Need to keep programs confidential in case of "shaming"
- If school lunch food is being thrown away – instead, take that food and put it out on a table so anyone can grab that food on the table at any time
- Kids need exposure to fruits and veggies when they are younger (i.e., being in the garden) – creates long term change
- How to bolster local farming so there's more fresh food that's local – produce more food locally that can go into local programs
- Might need some different programs in different communities – i.e., backpack program didn't work in Mancos.
- Instead of volunteering – provide stipend after logging hours – pay people – also helps to break the cycle of poverty. Having teens do this as a job – learn job skills along with serving the community
- Change limits of how often people can access food assistance
- Poverty is exhausting – it's about what people are able to do in the moment – dig deeper into what the basis is. Transportation could help with this.
- Food supply – could use some more nutritious options – and a lot of food is going to waste (casino, hospital, supermarkets)
    - 21 tons of food waste per week in the Montezuma County landfill from some businesses – doesn't even take into account what's coming from residential areas
- Instead of trying to get all the people to the food – have a mobile pantry travelling around the community with food shares
    - Use an old school bus for transportation
    - WIC van might be an option to distribute – people wouldn't need to be on WIC to use the van
- Old warehouse in Cortez – goal is to be a center for food (events, local food, education) – still planning who can benefit from this space – This might be the "center" for locally grown food and food donations – can be the place to pack backpacks – can load food and distribute in the community (lots of potential in this space)
    - It takes a group of people to come together to figure out how to use this empty warehouse

    - Aggregate food in one center and have it transported out to families in the community (van, hire driver, deliver food)
    - High school students are required to have community services hours and this could be a great opportunity to get them involved
- There's obviously a lot of money coming into Montezuma County around food insecurity – so figuring out how to align efforts
- Need some systems leaders at the table – not a suggestion anymore, but rather insisting leaders to come to the table (social services, schools, health dept)
- Hearing people at the Pinon Project saying "I make too much money for programs but my kids are hungry"
- Baby food – so easy to make – needs to be part of the discussion for 0-5 age kids
- Public awareness campaign and public buy-in for these efforts – that helps to reduce the stigma around asking/getting free food
- Double Up Bucks program (Hunger Free Colorado) – education programs; people are able to double their money at the farmers market, but people might not know what some things are at the market – cooking demos help
    - Could localize this; don't need to be on food stamps to do this
    - Need to go to the farmers market early to get good food and transportation is hard
    - Canning equipment is expensive
- Community survey asking folks who are hungry what they would like to see so it's not just providers – even if people aren't qualifying for programs, there are still people who have limited funds for food

In the four years since the Turn the Curve event, several suggestions have been acted upon, both within the Food Security Action Team and through other entities in the area:

- Several collaborative grants have been written, and continue to be written, and awarded for food assistance. Additionally, COVID food relief funds enabled coordinated programs of bulk food distribution facilitated by numerous organizations, benefitting food assistance work in the Four Corners area substantially above pre-COVID levels.
- Montezuma School to Farm program, started in 2007, has expanded to seven schools, teaching hands-on vegetable growing integrated with school curriculum. The Good Samaritan created a teaching gardening for kids and adults, offering Indigenous food classes and bilingual classes. The Dolores Family Project has recently received funding for a community garden in Dolores, and the Common Ground community garden project in Cortez has broken ground on a second garden.
- The Good Food Collective, in collaboration with farmers, funders, food hubs, and food assistance providers, has implemented several programs to increase the supply of locally grown food for food assistance.
- Some pantries have increased the frequency with which people can access food assistance.
- Southwest Memorial Hospital in Cortez donates surplus food to various nonprofits.
- A piece of the transportation puzzle has been solved with the acquisition of a delivery vehicle and funds for a driver, managed by the Good Samaritan Center and supported by FSAT/TeamUp. The program delivers food boxes to individuals who can't get to pantries, and bulk foods to food assistance groups. Additionally, the Montezuma County WIC office has added a food pantry for their clients, and now includes food distribution via their community resource van.

- With the lease of a large warehouse in 2019, substantial food storage and distribution now supports many food assistance efforts in the Four Corners. The full potential of the space is now being considered by stakeholders in the region.

3) Montezuma Food Coalition Food Hub Feasibility Study

On February 13, 2019, the Montezuma Food Coalition initiated a feasibility study for the development of a food hub in Montezuma County with a gathering of 23 representatives from organizations that serve our food-insecure residents, local ag producers, educators, and artists. Following is a collective statement from this scoping session.

We envision a robust, healthy, functional food system in Montezuma County to be highly integrated across all sectors of the society. Sustainably and locally grown food is produced, processed, marketed, distributed, and consumed within our region with little to no waste. Dignified food access and affordability are top priorities, as are mission-aligned collaborations. No one goes hungry. A commitment to comprehensive food education results in increased consumption of local food and less reliance on unhealthy foods. As a result, our farmers and ranchers receive a fair price for their products, more people grow some of their own food, money stays in our community, healthcare costs decline, and increased economic well-being is experienced throughout the county. Supply increases to meet demand and ultimately become in balance. An appreciation for cultural diversity is built around food and art, resulting in increased happiness.

Potential threats to the success of the hub are diverse – from equipment failure to lack of community buy-in. It will be important to study these threats and address them in the business plan.

There is no shortage of ideas for how the food hub's facilities and equipment might be utilized. Three features stand out as integral to success: a commercial kitchen, food storage and distribution (including retail sales), and open space for classes and events. There is potential with all three to generate revenue, which will be used to offset the cost of the hub's charitable activities.

4) Essentials for Childhood, Landscape Assessment

"*Essentials for Childhood promotes relationships and environments that help children grow up to be healthy and productive citizens who can then build stronger and safer communities for the next generation*." (*Essentials*, 2021)

Essentials for Childhood (EFC) work involves collective impact, meaning it is imperative to collaborate with a breadth of community partners--including those community members with lived experience--to develop a common agenda addressing barriers to economic stability and supports for families. Research and analysis is used to guide the economic policy change at the local, state, and national level.

Colorado was selected as one of five states to receive EFC funding to act as a case study informing national standards around safe, stable and nurturing relationships and environments. The Colorado Department of Public Health and Environment (CDPHE) serves as the backbone organization for the Colorado EFC project.

Per the Colorado EFC project overview, the focus for this work involves advancing policy and community approaches to:

- *Increase family-friendly business practices across Colorado*
- *Increase access to childcare and afterschool care*
- *Increase access to preschool and full-day kindergarten*
- *Improve social and emotional health of mothers, fathers, caregivers and children*

Montezuma County Public Health Department Essentials for Childhood staff analyzed the findings from community engagement efforts and determined what category each barrier fell under regarding low, moderate, or high changeability and importance. Following are the **prioritized system barriers**, as identified by the project participants.

Importance
Consider the importance of addressing the community barrier to accessing WIC, SNAP, and CCCAP. Ask the following questions:

1) How critical is addressing this issue to increase access?
2) Is there already work being done in the community to address this issue? (Is it important for us to also address or support work being done around this issue?)
3) Would there be a willingness in the community to address this issue?

Changeability
Consider the extent to which the community is capable of making changes to address the issue. Ask the following questions:

1) Is this something that could be changed at the local, state, or federal level? (Our greatest influence will be over local level policy)
2) Do we have the capacity to address this issue in a timely manner?
3) Do we currently have the resources or will we have the resources in the future to be able to address this issue?

The identified barriers were then placed in a table with their rating of importance and changeability and graphed.

Issue	Importance	Changeability
Lack of Knowledge Around Program and/or Eligibility	High	High
Lack of Availability of Child Care providers and CCCAP Slots	High	Moderate
Transportation	High	Low
Enrollment delays and lapses in benefits	Moderate	Low
Income qualifications and redeterminations	Moderate	Low
Stigma around programs	Moderate	Moderate
Lack of policy reducing barriers for those with lived experience	High	Moderate

Table 3. *Importance and Changeability Table.* The table displays the identified barriers based on low-high importance and changeability.

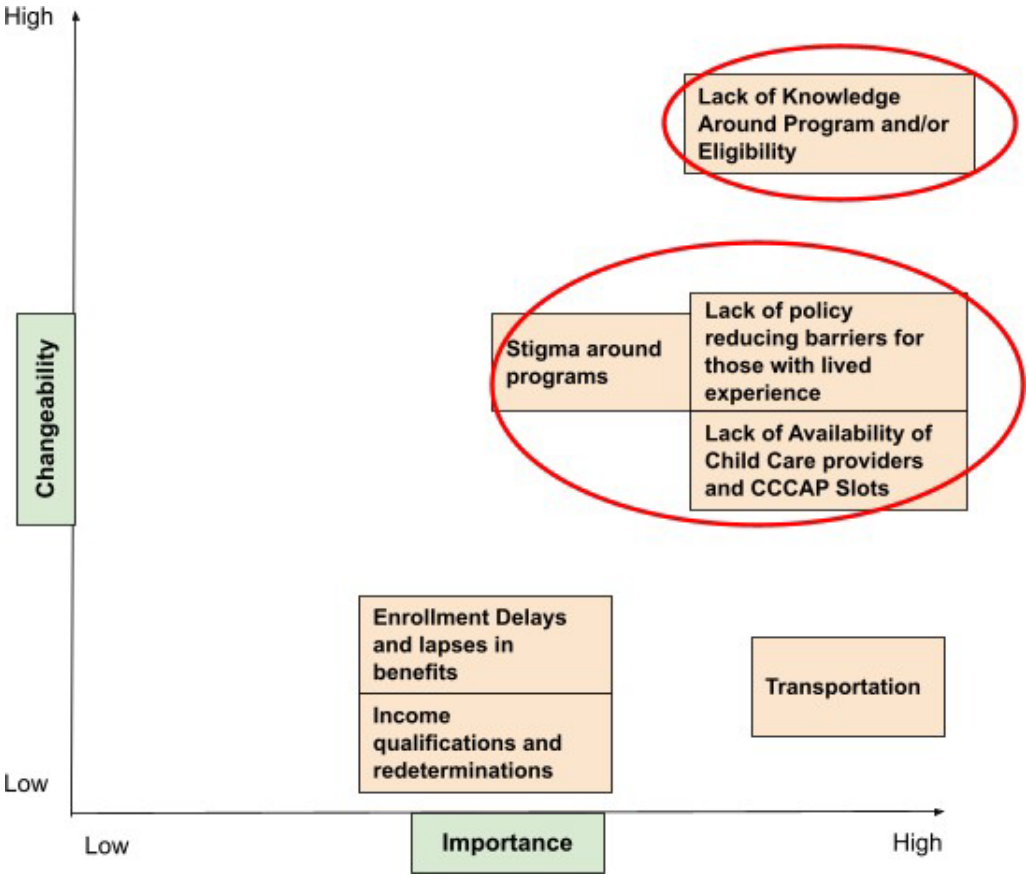


Figure 5. *Importance and Changeability Graph.* The graph displays the identified barriers based on low-high importance and changeability.

The issues that fell most within the scope of influence for EFC staff and the local communitywere

the following:

Barrier 1: Lack of Knowledge around Program and/or eligibility

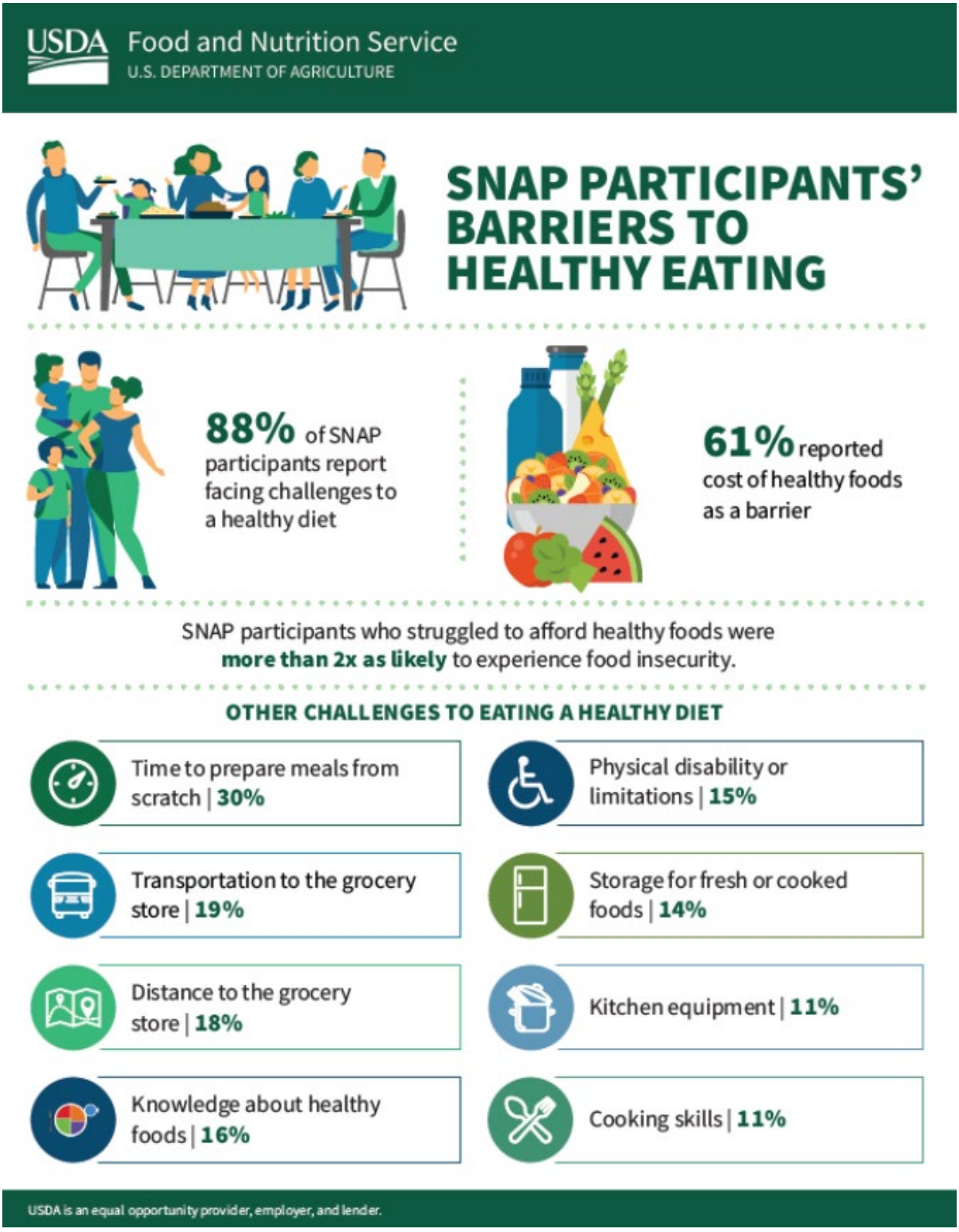
Barrier 2: Lack of Availability of Child Care Providers and CCCAP Slots

Barrier 3: Lack of Policy Reducing Barriers for those with Lived Experience

Barrier 4: Stigma around Programs

Now that the barriers for Montezuma County have been identified, an action plan will be developed to address these focus areas by utilizing collective impact. The prioritized barriers will be presented to community partners and local action teams for their input on potential activities to support the EFC work helping families be more resilient and economically supported.

Many of the observations recorded in the above focus groups have also been made at the national level, as illustrated by the USDA.



Health Effects of Living with Food Insecurity

In the US, household food insecurity is associated with multiple health problems including type 2 diabetes, obesity, depression, and poor general health.[5] While most of US households are categorized as 'food secure', a disproportionate percentage of minority groups are food insecure. Food insecurity is most prevalent among households experiencing poverty, affecting 40 percent of households below the poverty line.

In the assessment area 21,757 people identified as Native American [ACS 2015-2019]. Of these 20,965 (96 percent) were food insecure. Nationally, many American Indian communities have high rates of poor health and economic factors commonly associated with food insecurity. Between 1996 and 2006, the prevalence of type 2 diabetes increased by 26 percent and the prevalence of obesity increased by 25 percent.

According to Northern Arizona University, the Navajo Nation claims approximately 298,000 enrolled members, with over 173,000 living on the reservation which spans 25,000 square miles. Most of the reservation isclassified as rural, and many Navajos must travel great distances, often on poor roads to access food sources. The US Department of Agriculture Food Desert Locator indicates that nearly the entire Navajo Nation is a food desert.

Many Navajo tribal members rely on alternative food sources, such as gas station stores, convenience stores, flea markets and trading posts, which are limited in their selection of healthy options. Recent findings characterized the diet consumed by many Navajo people as high in energy, but poor in nutrients, with high consumption of processed meats and sweetened beverages and low fruit and vegetable intake.[6]

Mental and physical health is also a key issue for Ute Mountain Ute tribal members. Common mental health afflictions include drug addiction, depression, and social isolation. Physical health challenges are prevalent. The lack of fresh food access exacerbates the rates of diabetes, obesity, and other chronic food-related illnesses. According to a 2016 UMUT Community Health Assessment, one in four of tribal members have Type II Diabetes, and over 70 percent of adults and 50 percent of youth are struggling with obesity. Compared to Colorado as a whole, the town of Towaoc has larger numbers of persons per household and a higher proportion of households with children.[7]

In the assessment area 2,377 people identified as Hispanic [ACS 2015-2019]. Of these 1,432 (60 percent) were food insecure. This population has been facing greater economic hardship during the pandemic and are more vulnerable to hunger than other target populations. Prejudice and language, education, and cultural barriers create inequalities that make the LatinX population more vulnerable to food insecurity than other target populations. Before the pandemic, members of the LatinX population were almost twice as likely to face food insecurity than non-LatinX people. LatinX workers, especially

[5] Health Affairs, Vol.34, No.11. Food Insecurity and Health Outcomes. Gundersen and Ziliiak (November 2015).
[6] Public Health Nutrition. Pardilla et al (February 2013).
[7] Grocery Feasibility Study for the Ute Mountain Ute Tribe Towaoc, CO. Thrive Partners (2020). https://thrivepartners.egnyte.com/dl/fVhggNIDe3/?

women, are more likely to be employed in the leisure and hospitality industries that have been devastated by the coronavirus pandemic. Workers in these industries continue to face the highest unemployment rates post pandemic.

In the assessment area 9,824 children (<18) were identified [ACS 2015-2019]. Of these 7,728 (79 percent) were food insecure. Most of the research examining food insecurity in general and its effects on health outcomes has concentrated on children. This research has found that food insecurity is associated with increased risks of some birth defects, anemia, lower nutrient intakes, cognitive problems, and aggression and anxiety. It is also associated with higher risks of being hospitalized and poorer general health and with having asthma, behavioral problems, depression, suicide ideation, and worse oral health. For example, compared to children in food-secure households, children in food-insecure households had 2.0–3.0 times higher odds of having anemia, 2.0 times higher odds of being in fair or poor health, and 1.4–2.6 times higher odds of having asthma, depending on the age of the child.

In the assessment area 6,656 seniors (65+) were identified [ACS 2015-2019]. Of these 3,931 (59 percent) were food insecure. In general, there has been a great deal of research on the health status of seniors but surprisingly little work on food insecurity and health. The work that has been done has found, for example, that compared food-insecure seniors report lower nutrient intakes, are more likely to be in poor or fair health and to be depressed and are more likely to have limitations in activities of daily living, compared to their food-secure peers.

In terms of effect sizes, food-insecure seniors were 2.3 times more likely to report being in fair or poor health, compared to food-secure seniors. Moreover, a senior who is marginally food insecure compared to one who is fully food secure has reduced nutrient intakes roughly equivalent to having $15,000 less income. Similarly, the effect of being marginally food insecure on having a limitation in an activity of daily living (ADL) is roughly equivalent to being fourteen years older.

Though not included in the targeted populations of this report, there has been less research on the impacts of food insecurity on health outcomes among non-senior adults. However, some of the studies in this limited set have shown that food insecurity is associated with decreased nutrient intakes; increased rates of mental health problems and depression, diabetes, hypertension, and hyperlipidemia; worse outcomes on health exams; being in poor or fair health; and poor sleep outcomes. In terms of effect sizes, mothers who are food insecure are over twice as likely to report mental health problems and over three times as likely to report oral health problems, compared to their food-secure peers.

It is notable that all of the counties included in this assessment rank among the least healthy counties in their respective states.

Public Health Assessments in Dolores and Montezuma Counties

Dolores County Public Health
2017 Public Health Improvement Plan

In 2008, Colorado passed Senate Bill 194, known as the Public Health Act, which called for reforms to Colorado's public health system. The purpose of the bill is to assure that individuals throughout the state are able to access a similar quality of core public health services. In order to achieve this, the bill requires that the state of Colorado, as well as all local public health departments, complete a community health and capacity assessment, and develop a five-year public health improvement plan. This document provides an overview of the health assessment and prioritization process for Dolores [County]. Public health planning in this county is led by Dolores County Public Health Department.

As a part of the plan, this document provides information on the populations of Dolores County, describes the prioritization process that occurred with key stakeholders within the county, and presents the top public health concerns identified within the county. This report also explores the impact that these public health priorities have on the morbidity and mortality of Coloradoans residing within this county, and how addressing these goal areas will improve health outcomes.

Dolores County Public Health 5-year Plan

Stakeholders in Dolores County voted on the public health priorities following Power Point discussions. Mental Health & Substance Abuse was identified as the top priority for Dolores County which included bullying, suicide, depression - it was felt that there needs to be more education, resources and access. The second priority was Substance Abuse (tobacco, marijuana, alcohol, prescription drugs. Then Sexual Health (there was concern about teen sexual intercourse and the lack of prescriptive contraception by teens). Fourth on the list was Obesity and the consequences thereof, followed by Access to Services (resources for aging, medical access, and transportation). Finally, on the list was Families and a need to strengthen families, child development and seat belt use.

For its relevance to this report, the following data is focused on obesity.

OBJECTIVE:

Reverse the obesity trend in our county by helping to create conditions to achieve healthy weight and healthy eating across our citizens lifespan.

PARTNER AGENCIES: The County government, Community Health Clinic, Dove Creek Schools and Daycares, the summer recreation programs, and most importantly the citizens of our county.

Why is this a priority, and who is at risk?
Although Colorado continues to rank as one of the leanest states in terms of weight indicators, it has not escaped the national obesity epidemic. Obesity increases risk for heart disease, type 2 diabetes, high blood pressure, high cholesterol, stroke and some types of cancer. The growing trend of overweight and obese children and adults puts people at increased risk for these poor health outcomes. In addition, health care for obesity related conditions cost Colorado more than $1.6 billion each year. Strategies such as increasing access to healthy foods, physical activity, and preventative health care among others are likely to impact obesity rates.

Highlights:

- 20% of adults aged 18+ years are physically inactive (CO BRFSS 2012 – 2014)
- 46% of high school students reported being physically active for a total of at least 60 minutes per day on all seven of the past seven days (HKCS 2013). This was higher than Region 9 and almost twice as high as the state of Colorado.
- 56% of adults are overweight or obese. Almost one in four adults in Dolores County are obese. (CO BRFSS 2012 – 2014)
- 23.4% of high school students in Dolores County are obese and 30.3% are overweight. This is much higher than for the region's high schoolers in which 8.88% are obese and 11.14% are overweight and for the state in which 8.00% are obese and 11.33% are overweight.

Making the connection: obesity-related morbidity and mortality:

- 5.74% of adults in Dolores County have diabetes compared to Region 9 (5.33%) and Colorado (7.05%). (CO BRFSS 2012 – 2014)
- 11.42% of adults in Dolores County have had a heart attack – over twice the amount of Region 9 and three times the amount for Colorado (CO BRFSS 2012 – 2014)
- The leading cause of death in Dolores was heart disease which had an age-adjusted mortality rate of 183.89 deaths per 100,000 population. The rate for malignant neoplasms was 152.45 deaths per 100,000 population. Unintentional injury deaths (50.92), cerebrovascular disease deaths (41.72), and pneumoconiosis and chemical effects (29.14) are the 3rd-5th leading causes of death in Dolores County. *(CO Health Statistics & Vital Records)*

What can we do?
Year four, January 2020 – December 2020, focuses on obesity and the consequences of obesity. Based on the stakeholder rankings and existing capacity across the county, the Dolores County Health Department chose to focus efforts on obesity and healthy eating and active living as one of the top four priorities for public health. We have identified that reducing obesity in our communities should be a priority because obesity is highly related to other kinds of disease including, but not limited to, hypertension, high cholesterol, and non-gestational diabetes. There has been expressed an interest in and a need for more access to community resources for exercise and physical recreation such as recreation centers, parks, infrastructure for walking paths and community swimming pools. We will continue to work with community partners to increase awareness, educate and be champions to encourage healthy eating and increased physical activity.

1. Work with the local school and day care to provide support and education to staff.
2. Encourage a workplace healthy eating, healthy living atmosphere with the County Government.

Improving healthy eating and active living. The health benefits associated with a healthy diet and regular exercise include:

- Decreased risk of chronic diseases such as type 2 diabetes, hypertension, and certain cancers
- Decreased risk of overweight and obesity
- Decreased risk of vitamin and mineral deficiencies

  A healthful diet includes a variety of nutrient-dense foods within and across the food groups, especially whole grains, fruits, vegetables, low-fat or fat-free dairy products, and lean protein sources. A healthful diet also limits the intake of saturated and trans fats, cholesterol, added sugars, sodium, and alcohol. As a part of health improvement plans, communities should include ways to ensure access to affordable healthy foods.

  Physical activity reduces risks of cardiovascular disease and diabetes beyond that produced by weight reduction alone. In addition, physical activity helps to:
  - Reduce high blood pressure
  - Reduce risk for type 2 diabetes, heart attack, stroke, and several forms of cancer
  - Reduce arthritis pain and associated disability
  - Reduce risk for osteoporosis and falls
  - Reduce symptoms of depression and anxiety

In 2008, the U.S. Department of Health and Human Services released guidelines for physical activity. Adults ages 18 to 64 years should engage in two hours and 30 minutes of moderate-intensity, or one hour and 15 minutes of vigorous intensity, aerobic physical activity each week. Children and adolescents (ages 6 – 17 years) should engage in one hour of physical activity every day. Both age groups are advised to participate in muscle-strengthening activities at least twice weekly.

Southwest Health Systems
Community Health Needs Assessment

In 2019 Southwest Health Systems (SHS) published a Community Health Needs Assessment and Implementation Plan, conducted by Community Hospital Consulting. The assessment team compiled stakeholder input to identify and address the four most significant needs in various capacities through a hospital specific implementation plan.

Notable statistics included in the SHS report are, 88 percent of 2019 inpatients were from Montezuma County, 12 percent from surrounding areas; 15.6 percent of Montezuma County residents have no health insurance, compared to 10.2 percent in Colorado.

While not all the identified priorities are specific to health consequences of living with food insecurity, many aspects concerning health outcomes are intertwined with poor nutrition. Following are the four priorities identified in the SHS report.

Priority #1: Continued Emphasis on Physician Recruitment and Retention

Montezuma County has a lower percentage of adults with a personal doctor than the state. Additionally, Montezuma County has a lower rate of dentists per 100,000 population than the state and in a recently completed medical staff development plan conducted for SHS, data indicates a need for additional primary care providers within the community.

During the May 2019 Hospital Transformation Project community meeting, stakeholders discussed a need for after hours clinics in the community. Additionally, stakeholders discussed a lack of certain specialty services in the community. Orthopedic services were mentioned as an increasing need due to the aging community and retiring baby boomers. Stakeholders discussed the limited depth in respiratory care, as well as the outmigration of cancer patients to Durango for oncology services. Stakeholders also mentioned a need for a pain clinic to cut down on the number of Emergency Department visits by chronic pain patients and discussed the outmigration of chronic pain patients to Grand Junction for care.

Stakeholders discussed potential opportunities to reduce barriers to accessing care, such as improving front-end triage in the Emergency Department, reducing wait times and expanding hours of operation in the local walk-in clinic, improving access to primary care providers, connecting high Emergency Department utilizers with primary care providers and implementing a pain clinic.

Priority #2: Access to Affordable Care and Reducing Health Disparities Among Specific Populations

The median household income in Montezuma County is significantly lower than the median household income in the state. Montezuma County has a higher unemployment rate than the state, and a higher rate of families living below poverty. The percentage of children living below poverty in Montezuma County is higher than the state, and the county also has a higher rate of students eligible for free or reduced-price lunch. Montezuma County also has a higher rate of both overall and child food insecurity than Colorado. Additionally, Montezuma County has several Health Professional Shortage Area designations and census tract based Medically Underserved Area/Population designations, as defined by the U.S. Department of

Health and Human Services Health Resources and Services Administration (HRSA) and a higher rate of uninsured adults than the state.

During the May 2019 Hospital Transformation Project community meeting, stakeholders discussed transportation barriers to and from provider appointments in Montezuma County that may cause patients to delay or forego care. It was also mentioned that socioeconomic status may determine the frequency of visits to the Emergency Department, with the low income population as the most frequent utilizers of the Emergency Room.

Stakeholders discussed a need to address cultural challenges in the community and specifically noted a lack of Navajo speaking providers in Montezuma County. It was also mentioned that there is a lack of focus on social determinants in the community and an associated need to better address poverty and the working poor.

Priority #3: Access to Mental and Behavioral Health Care Services and Providers

Montezuma County has a lower rate of mental and behavioral health care providers per 100,000 population than the state. Additionally, the percent of adults who experienced 14 or more days of poor mental health in Montezuma County is higher than the state.

During the May 2019 Hospital Transformation Project community meeting, stakeholders discussed a lack of mental and behavioral health care resources and providers in the community. It was noted that the providers at AXIS Integrated Health may be overwhelmed, and stakeholders discussed the potential benefit of having additional psychiatrists and counselors available in addition to what is currently provided.

A lack of detox centers and the inability to support substance abuse patients were specifically mentioned, and concern was raised surrounding the significant rate of behavioral health-related alcohol and substance abuse issues. Stakeholders discussed the prevalence of depression, depression related to chronic illness, anxiety and panic attacks in the Emergency Room and mental illness with Dementia as a secondary diagnosis. A need for suicidal ideation plans for patients was also emphasized, and stakeholders also discussed the necessity of a social worker in the Emergency Department.

Stakeholders discussed potential opportunities to reduce barriers to accessing mental and behavioral health care, such as more psychosocial support in the Emergency Department (i.e., providing a social worker in the hospital), staffing a hospital mental health provider, pursuing grant funding for sober living housing, marijuana tax revenue for detox and rehabilitation programs and providing funding for a physician in the detention center.

Priority #4: Prevention, Education and Services to Address High Mortality Rates, Chronic Diseases, Preventable Conditions and Unhealthy Lifestyles

Data suggests that higher rates of specific mortality causes and unhealthy behaviors warrants a need for increased preventive education and services to improve the health of the community. Cancer and heart disease are the two leading causes of death in Montezuma County and the state. Montezuma County has higher mortality rates than Colorado for malignant neoplasms; chronic liver disease and cirrhosis;

accidents; suicide; diabetes mellitus; nephritis, nephrosis, nephrotic syndrome; prostate cancer; lung and bronchus cancer and colon and rectum cancer.

Montezuma County has higher rates of communicable diseases, such as chlamydia and gonorrhea, than the state. Montezuma County has higher rates of chronic conditions and unhealthy lifestyle behaviors such as diabetes (adult), obesity, asthma, arthritis, physical inactivity, smoking and marijuana use than the state. Data also suggests that residents may not be seeking necessary preventive care services, such as mammograms.

With regards to maternal and child health specifically, Montezuma County has higher percentages of inadequate prenatal care, mothers who smoked during pregnancy and low birth weight births than the state. Data also suggests that Montezuma County adults may not be seeking preventive care services in an appropriate manner, such as mammograms, prostate cancer screenings, pap test screenings, colorectal cancer screenings and the influenza vaccine.

During the May 2019 Hospital Transformation Project community meeting, stakeholders discussed the lack of public knowledge regarding where to go for different types of care and the need for more advertising of hospital services. It was also mentioned that there is a need for more support groups of all types to benefit subpopulations across the community.

Areas of concern that were discussed include high rates of diabetes, heart disease, urinary tract infections and chronic diseases within the elderly population. Stakeholders discussed the opportunity for the clinic to ensure consistent care and prevent further diabetic complications through the teaching currently in place, and also discussed the issues associated with heart disease in the community – such as lack of physical care, obesity, diabetes and other related conditions. Urinary tract infections and chronic diseases of the elderly with a high number of co-morbidities were also mentioned during the meeting.

Stakeholders discussed potential opportunities to educate the community, such as hospital education classes for the public, further education on where to go for care for individuals and local agencies/community partners and outreach to the local Senior Center and Veterans in the community.

The full Community Health Needs Assessment and Implementation Plan is available here.

Food Assistance Programs

Local and national programs aim to expand food security

Food assistance programs discussed here include WIC, National School Lunch Program, SNAP, USDA Commodities, and community-run food assistance.

Women Infants and Children

WIC is a special supplemental nutrition program of the USDA for Women, Infants and Children. Pregnant, postpartum, and breastfeeding women, infants, and children up to age 5 are eligible. They must meet income guidelines, a state residency requirement, and be individually determined to be at "nutritional risk" by a health professional. The WIC program aims to safeguard the health of these women and children by providing nutritious foods to supplement diets, information on healthy eating, and referrals to health care.

WIC Income Eligibility Guidelines			
	Annually	Monthly	Weekly
Family of 1	$ 23,606	$ 1,968	$ 454
Family of 2	$ 31,894	$ 2,658	$ 614
Family of 3	$ 40,182	$ 3,349	$ 773
Family of 4	$ 48,470	$ 4,040	$ 933
Family of 5	$ 56,758	$ 4,730	$ 1,092
Family of 6	$ 65,046	$ 5,421	$ 1,251
Family of 7	$ 73,334	$ 6,112	$ 1,411
Family of 8	$ 81,622	$ 6,802	$ 1,570
For each add'l family member, add	$ 8,288	$ 691	$ 160

Effective 7/1/20 - 6/30/21

https://www.fns.usda.gov/WIC/frequently-asked-questions

To be eligible on the basis of income, applicants' gross income (i.e., before taxes are withheld) must fall at or below 185 percent of the U.S. Poverty Income Guidelines.

According to a Colorado WIC website, in Dolores County, 32 percent of individuals are eligible but not enrolled in WIC; in Montezuma County this is 43 percent.[8]

County	% of infants and children under 5 eligible for WIC benfits		Participation rate (among eligible)
Apache, AZ	76%		10%
Dolores, CO	NA		NA
Montezuma, CO	72%		48%
San Juan, NM	NA		NA
San Juan, UT	NA		NA

https://www.census.gov/library/visualizations/interactive/wic-eligibility-participation.html

[8] https://www.coloradowic.gov/percent-eligible-enrolled

An interactive site to find stores in the area that participate in the WIC program is located at https://wicstorelocator.com/.

Questions regarding the WIC program may be addressed to:

- Cortez, Montezuma County CO (970) 565-3056
- Towaoc, Ute Mountain Ute CO (970) 564-5363
- Dove Creek, Dolores County CO (970) 677-2387
- Blanding, San Juan County UT (435) 359-0038
- Springerville, Apache County AZ (928) 333-2415
- Farmington, San Juan County NM (505) 327-6263
- Shiprock, Navajo Nation NM (505) 368-1135

Free and Reduced Lunches

The National School Lunch Program (NSLP) is a federally assisted meal program operating in public and nonprofit private schools and residential child-care institutions. It provides nutritionally balanced, low-cost, or free lunches to children each school day. In FY 2019, schools served over 4.8 billion lunches to children nationwide.

County	% of Children eligible for free or reduced price lunch
Apache, AZ	72%
Dolores, CO	58%
Montezuma, CO	57%
San Juan, NM	75%
San Juan, UT	100%

The percentage of children eligible for the program in the project area ranges from 100 percent in San Juan County, UT to 57 percent in Montezuma County, CO.[9] *The 2021 County Health Rankings used data from 2018-2019 for this measure.*

Supplemental Nutrition Assistance Program

SNAP is a federal program that provides nutrition benefits to low-income individuals and families that are used at stores to purchase certain foods. The program is administered by the USDA Food and Nutrition Service (FNS) through its nationwide network of FNS field offices. Local FNS field offices are responsible for the licensing and monitoring of retail food stores participating in SNAP. All grocery locations in the project area (Figure 2) accept SNAP benefits. The following foods are WIC and SNAP eligible:

- Fruits and vegetables
- Meat, poultry, and fish
- Dairy products
- Breads and cereals
- Other foods such as snack foods and non-alcoholic beverages; and
- Seeds and plants, which produce food for the household to eat.

[9] https://www.countyhealthrankings.org/app/colorado/2021/measure/factors/65/data

In Cortez, the Double Up Food Bucks program doubles the value of benefits spent at participating farmers markets, helping people bring home more healthy fruits and vegetables while supporting local farmers. The wins are three-fold: more families have access to fruits and vegetables, local farmers gain new customers, and more food dollars stay in the local economy.[10] The acceptance of farmer's markets into the program is done on a year-by-year basis as funding is available.

In good times and tough times, SNAP is the most far-reaching, powerful tool available to ensure that all Americans, regardless of background, can afford healthy food. Nearly 42 million Americans – a large portion of whom are children, people with disabilities, and the elderly – currently rely on SNAP benefits each month. Participating in SNAP has been shown to increase food security and have a positive impact on participants' health.[11]

As of March 2021, there were 4,682 people enrolled in SNAP in Montezuma County, an additional 4,713 are eligible but not enrolled (excluding the UMUT). In geographically isolated areas – which includes much of the assessment area – most stores that accept SNAP benefits do not offer whole or fresh foods. Additionally, food resources that accept SNAP are sparse in large areas of the Navajo Reservation in Apache County, AZ and San Juan County, UT and San Juan County, NM.

Households with cash public assistance or Food Stamps/SNAP				
Census Tract	County	Total # Households	# Households with Public Assistance	% of Households with Assistance
04001**942**700, AZ	Apache	1,473	417	28%
08033**00**100, CO	Dolores	759	77	10%
08083**941**00, CO	Montezuma	666	110	17%
08083**969**00, CO	Montezuma	1,525	151	10%
08083**969**100, CO	Montezuma	1,478	179	12%
08083**969**200, CO	Montezuma	1,119	41	4%
08083**969**300, CO	Montezuma	2,535	334	13%
08083**969**400, CO	Montezuma	1,522	421	28%
08083**969**600, CO	Montezuma	1,810	228	13%
35045**942**801, NM	San Juan	771	223	29%
35045**942**802, NM	San Juan	1,773	446	25%
35045**942**803, NM	San Juan	747	272	36%
35045**943**300, NM	San Juan	787	124	16%
49037**942**000, UT	San Juan	920	245	27%

Source: ACS estimate 2019; Table B19058

USDA's Supplemental Nutrition Assistance Program (SNAP) provides eligible low-income households with monthly benefits to purchase food in authorized stores. This assistance is only effective if SNAP-authorized grocery stores are easily accessible.

The census tracts listed in this table correspond to Figure 2 (page 11)

[10] www.doubleupcolorado.org/faq

[11] https://www.fns.usda.gov/snap/measuring-effect-snap-food-security

Food Distribution Program on Indian Reservations, a SNAP alternative

In many American Indian and Alaska Native tribal areas, low population densities and high poverty rates deter large stores—with the requisite food variety to be authorized to accept SNAP benefits—from locating in these areas.

To lessen this lack of food access, USDA funds an alternative program—the Food Distribution Program on Indian Reservations (FDPIR). USDA purchases and ships selected healthful foods to Indian Tribal Organizations or State governments. Tribal areas served by FDPIR use warehouses, tribal stores, and local sites to distribute the USDA foods. In fiscal 2014, an average of 85,400 people across the US participated in FDPIR each month.

Households living on tribal lands who qualify for food and nutrition assistance can switch between SNAP and FDPIR on a month-to-month basis if they choose to do so. Thus, to determine food access for low-income people living in tribal areas, distances to both SNAP-authorized supermarkets and FDPIR outlets must be considered. A 2014 USDA Economic Research Service (ERS) study using Geographic Information System (GIS) methods calculated distances to SNAP-authorized supermarkets and FDPIR outlets in 2010 for individuals in three types of tribal areas: American Indian Tribal Areas, Oklahoma Tribal Statistical Areas, and Alaska Native Village Statistical Areas.

Nationally, 58 percent of children and 57 to 60 percent of adults lived within walking distance (1 mile or less) to a supermarket or large grocery store in 2010. In Native American tribal areas, the percent of individuals living within walking distance of a SNAP-authorized supermarket or FDPIR outlet is half the national average. (Supermarkets were defined as food stores with annual sales of $2 million or more.) Economic Research Service (ERS) researchers found that 30 percent of children, 29 percent of working-age adults, and 28 percent of older adults in Native American tribal areas lived 1 mile or less from a SNAP-authorized supermarket or an FDPIR outlet in 2010. [12]

On the Ute Mountain Ute Reservation, other than some pre-packaged meals and mostly non-perishable goods available at the Travel Center (which is two miles outside of Towaoc), tribal members must travel close to 15 miles to Cortez for groceries and everyday household needs. People also travel to Mancos, Colorado (33 miles away), Shiprock, New Mexico (33 miles away), and Farmington, New Mexico (60 miles away) for groceries and other necessities.[13]

Current proposals by the USDA to limit waivers for some areas of Colorado, including the Ute Mountain Ute Reservation, would further limit access to SNAP benefits for recipients deemed able-bodied adults without dependents (ABAWD).[14]

[12] https://www.ers.usda.gov/amber-waves/2015/december/measuring-the-food-access-gap-in-native-american-tribal-areasmeasuring-the-food-access-gap-in-native-american-tribal-areas/.
[13] Grocery Feasibility Study for the Ute Mountain Ute Tribe Towaoc, CO. Thrive Partners (2020). https://thrivepartners.egnyte.com/dl/fVhggNIDe3/?
[14] https://cclponline.org/proposed-federal-rule-would-take-food-benefits-from-many-coloradans/.

The USDA's Economic Research Service provides an online Food Access Research Atlas.[15] It presents an overview of food access indicators for low-income and other census tracts using different measures of supermarket accessibility.

Questions regarding SNAP may be addressed to:

- Cortez, Montezuma County, CO (970) 565-3769, (970) 565-8526
- Dove Creek, Dolores County, CO (970) 677-2250
- Chinle, Apache County, AZ (928) 674-5085
- Blanding, San Juan County, UT (435) 678-1423
- Farmington, San Juan County, NM (505) 566-9600

Farmers Markets

Farmers Market Nutrition Programs (FMNP) are part of the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and the Senior Nutrition Program. These programs provide participating women, children, and seniors with coupons for fresh, locally grown fruits and vegetables that can be redeemed at farmers markets and produce stands or can support shares in community supported agriculture. The federal WIC FMNP benefit ranges from $10 to $30 per year, and the federal Senior FMNP benefit ranges from $20 to $50 per year; some states supplement these amounts.

Locally Grown Farmers Markets									
Name	Street	City	Zip	State	Accepts WIC	Accepts WIC Cash	[1]SFNMP	Accepts SNAP	Accepts Credit Cards
Cortez Farmers Market	Main and Elm Streets	Cortez	81321	Colorado	No	No	No	Yes	Yes
Shiprock Farmers' Market	Chapter House Parking Lot	Shiprock	87420	New Mexico	Yes	No	Yes	Yes	Yes
Town Of Mancos Farmers' Market	117 N. Main	Mancos	81328	Colorado	No	No	No	No	No
Dove Creek Farmers Market	390 Main	Dove Creek	81324	Colorado	NA	NA	NA	NA	NA
Four Seasons Winter Farmers Mkt	26650 Road P	Dolores	81323	Colorado	NA	NA	NA	NA	NA
Town of Dolores	4th & Railroad	Dolores	81323	Colorado	No	No	No	No	No

[1]SFMNP = Seniors Farmers Market Nutrition Program
https://cofarmersmarkets.org/find-a-market/
Location: Montezuma Food Coalition (Custom Region)
Source: policymap.com; Point source: USDA

USDA Commodities

There are numerous commodity distribution sites in the assessment area. Eligibility requirements vary depending on the site. Critics of the program cite a lack of culturally appropriate foods, minimal fresh foods, and unfamiliarity with food types resulting in food waste. Stigma, pride, and lack of transportation prevent many from accessing this resource. Additionally, language barriers and onerous paperwork requirements can prevent participation, as does distrust of government entities, particularly among immigrant populations. Creative solutions to these barriers are possible, as can be seen at Mancos FoodShare, where minimal paperwork, free choice, and supplemental fresh food builds trust and reduces stigma.

[15] https://www.ers.usda.gov/data-products/food-access-research-atlas/

In Montezuma County, Senior Services operates a once-monthly commodity food box distribution at the County Fairgrounds. In May of 2022, 95 people received food at that site. To receive commodity boxes through the program offered by Senior Services, people must meet income requirements, show ID, and sign up at Senior Services in Cortez. Additionally, Senior Services offers a senior food box program which has 38-45 participants and has the same qualifying requirements. Senior boxes are picked up at the Senior Center. Different distribution sites have different styles of operation, but all follow minimum USDA requirements.

Part Two

Agriculture in the Four Corners Region

An assessment of our capacity to supply the local food system.

This report was developed as a part of the Southwestern Colorado Food Systems and Health Equity Project and serves as a companion to this Community Food Assessment.

NOTE: The USDA Census of Agriculture, conducted by the National Agricultural Statistical Service, is a major source of information in this report. It is important to note that this information is only as good as what farms and ranches operators report. Nevertheless, it is perhaps the most reliable snapshot of what has and currently is happening in agriculture locally and nationally. For those looking for more in-depth information the USDA website has much more to offer.

Summary: The Capacity of Local Agriculture to Supply our Food System

A focus of this assessment has been to gain a better understanding about the capacity of local/regional agriculture to supply a local food system. The intention of this report, "Agriculture in the Four Corners Region," is to encourage further investigation, thought and discussion involving all who are concerned about the sustainability of family-based agriculture in the Four Corners region and creating a local food system that provides reliable access to healthy, nutritious foods for all people while honoring cultural values, ways of life and the need for food justice and sovereignty.

This section begins with an overview of agriculture including the history and demographics of agriculture in the five-county region that includes Montezuma and Dolores Counties in Colorado, San Juan County in Utah, Apache County in Arizona, and San Juan County in New Mexico. Then the report looks more closely at how our food system has evolved into a global system largely controlled by corporations and supported by US farm and food policies, examines the local food movement, and discusses the dynamics of a local food system. Finally, the report considers the capacity of producers to supply local food in the five-county region and examines the benefits and challenges of increasing local food production as well as the need for community engagement. You will find detailed information on these subjects in the report:

Overview of Agriculture and Farm Typology in the United States

Agriculture in the Four Corners Region – Historical and Current Demographic and Economic Details

Off Farm Work Necessary for Majority of Farm Families

Valuable Ecosystem Services are Provided by Farms and Ranches

Soil Carbon is Becoming a Commodity

US Farm and Food Policy Has Led to a Poorer Diet for Americans

The Multiple Players are Involved the Food System Locally, Nationally and Globally

Corporate Consolidation of the Food System Has Contributed to Rural Poverty

Access to Agricultural Land is Becoming Difficult for Family Farmers

Understanding The Economics of Convenience and Affordability versus Healthy Food Choices

Cheap Food Is Not the Answer

Localizing Our Food System

Subtleties of Consumer Choices About Food

Local Food Systems are Dynamic and Responsive and the Role of Food Hubs

Achieving Efficiency in Local Food System Requires a Community Effort

A Detailed Analysis of the Capacity of Local Agriculture to Satisfy Food Needs of Montezuma County

Making Locally Sourced Food Available for All Requires Cooperation at Many Levels

As this section indicates, diversity in agriculture exists in the five-county region and opportunities exist for growth and further diversification.

A wide variety of fruit and vegetable crops along with small grains such as millet, sorghum, specialty wheats, oil seed crops and many types of dry beans are feasible. In the Four Corners region there is ample forage, grain, and grazing lands available for livestock including dairy cows, goats, sheep, pigs, and cattle as well as poultry. A more in depth look at agricultural production and per capita consumption in Montezuma County revealed that about 12 percent of vegetable production is being satisfied by local producers. There is an abundance of fruit, especially apples, which needs a larger market than what is afforded to producers locally. The county also produces about five times the beef and twice the amount of lamb it consumes, but less than one percent of poultry and pork is produced locally. Likewise, the county produces much more wheat, milled flour, corn and dry beans than what can be consumed locally. Accessing and developing export markets for agricultural crops is important to our economy and the success of farmers and ranchers, as well as accessing and developing local markets.

Given the current state of agriculture, the report indicates there is a need to focus on what it will take to keep the 10,755 farms and their producers viable, provide products to a local food system that are accessible by all people, and able to pass land on to the next generation of family-based farmers and ranchers. Most farms and ranches in the region are small and very small according to USDA typology, and most are not full-time farm operations. For this reason, the availability of quality off-farm jobs in the community is important to families who want to stay on the land and farm. Creating living wage jobs that promote a robust middle class able to afford to make healthy food choices and buy locally sourced foods is also important to sustaining a local food system.

Enhancing a local/regional food system that provides an even greater diversity of products and access to food for all people will require a community effort to remove production, logistical and financial barriers that challenge farmers and ranchers who would like to produce for local consumption, add value to their products, and/or diversify into new enterprises and markets. Access to both local and distant markets for producers is necessary for economic viability. Farmers and ranchers must be able to ask for and receive a fair price for what they produce to be sustainable as a business.

Promoting a strong competitive edge for locally produced food will encourage consumers to make healthy food choices. This includes consumer education about the nutritional, economic, environmental, and social benefits of eating local and how making local foods accessible to all helps create a strong healthy community.

Affordability must be considered not only from the consumer's perspective but also from the producer's perspective. The cost of local food is tied both to the ability of farmers to be efficient in production and their ability to access markets large enough to justify new crops, diversification, and vertical integration. The cost of both labor and technology are often major barriers to farmers and ranchers who wish to scale their operations for larger markets.

Often the infrastructure that connects family farmers to the consumer does not exist to serve local or regional markets. For many family farms and ranches it is financially and logistically impossible to vertically integrate into all segments of the food system. Thus, for a robust local food system to develop, the economic development community may need to encourage entrepreneurs who will create businesses that aggregate, process, distribute, manufacture, and market food products.

There are many stakeholders, industries, and issues to be considered in creating a more dependable, efficient, and productive local/regional food system. Enabling all players in the local food system to come to the decision-making table will be essential to building this sector of our economy and satisfying the very real need for safe, healthy, dependable, and affordable local food for all.

The 2017 Agricultural Census reported 10,770 farms and ranches in the five-county region and 17,858 persons identifying as farm operators of which about 50 percent identify as female and 50 percent as male.

Over 90 percent of producers are over the age of 35, while 71 percent identify as Native American. Three percent report being of Hispanic ethnicity, eight percent had had military service and 23 percent are new and/or beginning farmers.

The five counties in this assessment have been counted in the Census of Agriculture since the 1880's with 2017 being the most recent census. According to the census there are 10,770 farms and ranches in the five-county region. The 2017 Agricultural Census allowed farms to report up to four producers per farm as operators. In the region there are 17,858 persons identifying as farm operators of which about 50 percent identify as female and 50 percent as male. Over 90 percent of producers are over the age of 35, while 71 percent identify as Native American. Three percent report being of Hispanic ethnicity, eight percent had had military service and 23 percent are new and/or beginning farmers.

According to the US Census of Agriculture, the total market value of products sold in 2017 for the region was over 120 million dollars. Market value is what the farmer receives at the "farm gate", not necessarily the retail value, and does not include payments received for participation in Federal farm programs. Most agricultural operations do not generate enough steady revenue for a farm family to survive without non-

farm income. The 2017 census also reported that 75 percent of the farms in the five-county area (8,177) generate $2,500 or less in farm product sales while only two percent generate over $100,000 in sales.

When making decisions about how to address food security, it is important to know how we came to be where we are with the current food system. At the beginning of the 20th century about 50 percent or more of all farms were engaged in the production of vegetables, Irish (white) potatoes, fruit-producing trees, and feed for livestock and draft animals. Much of this produce was consumed on the farm, traded, or sold locally. Likewise, chickens, horses, milk cows, and hogs were present on most farms a century ago.

Prior to the 1970s, federal farm programs existed to keep enough family farmers on the land by stabilizing farm incomes at levels that would keep farming profitable and food prices affordable. Beginning in the 1970's, becoming larger and more efficient has been encouraged by US farm and food policy. Agricultural efficiency through industrialization, specialization, standardization, and consolidation of food system control became the goal. The development of refrigeration, efficient transportation, supermarkets, commercial fertilizers, and a shift in labor from the farm to the factory in mid-1900's facilitated widespread change in agriculture towards larger scale production and wholesale markets. Farms began to specialize in just one or a limited number of products - mostly wheat, soybeans, and corn.

While global trade routes have existed for millennia, until about a century ago most people relied on their local food system for sustenance. Today much of our food system is dominated by larger corporations that operate nationally and globally. We have become reliant on distant producers, massive processing plants and food storage facilities, subsidized transportation, distributors, supermarkets, and restaurants. All Americans, both urban and rural, are now connected through a complex international food system.

Overview of Agriculture in the United States

Broadly speaking, agriculture is the science, art, and business of farming. Farming is the practice or process of working the ground, planting seeds, and growing edible plants, as well as the breeding and husbandry of domestic livestock for food and other purposes. The planting and cultivation of grains, legumes, oil seed, forage and fiber crops began 11,500 years ago in the Fertile Crescent (southern Jordan, Israel, Palestine, Turkey, and the Zagros foothills in Iran). Goats and sheep were the first animals to be domesticated over 10,000 years ago in the same region and in Southeast Asia, chickens also were domesticated. Domestication of animals provided a more reliable source of food. Later, larger animals, such as oxen or horses, were domesticated for plowing and transportation.

What is Agriculture?

Agriculture is a multi-faceted combination of

Art + Science + Craft + Culture + Industry + Business + Ways of Life

- Family farmers & ranchers manage human, natural & financial resources
- Family farmers & ranchers must have the capacity to practice stewardship
- Farmers & ranchers have unique skills, knowledge, and abilities
- Farming & ranching is a business, profession and a practice
- Wisdom in farming & ranching comes from experience with the land, animals & plants—not a textbook!

To the non-farmer agriculture is: Open space, romantic, simple, laid back, mysterious, old-fashioned, hard work, a source of food, wildlife habitat and many other things.

Subsistence farming was widely practiced throughout the world in preindustrial societies. In this form of farming the crops, fiber, livestock, or raw material raised are used or consumed by the farmer and the farmer's family, leaving little, if any, for sale or trade. When there was surplus, trading and bartering of agricultural products formed the basis for an economy both formal and informal. (Note: An informal economy is the part of any economy that is neither taxed nor monitored by any form of government.) Agriculture was a key development in the rise of sedentary human civilization, whereby farming of domesticated species created food surpluses that enabled people to live in cities.

In the present day, agriculture is a base industry in many local economies. Base industries are composed of related groups of economic activities and are known as economic "drivers". These industries produce exports or derive their sales or income directly from outside sources, and indirectly by providing products to export industries.

The practice of farming or ranching embodies a way of life for families and communities that share their common experience of living in a place and environment. People in agriculturally based communities develop a keen sense of place. This is a state of mind or essence derived from the infusion of a place with meanings based on experiences and occurrences in that place. A wealth of knowledge and wisdom are passed down through the generations that in many cases is difficult to put into words or teach in a classroom.

Family Based Agriculture is Diversified and productive:
The US Census of Agriculture notes that farm and ranch families make up less than 2 percent of the U.S. population. There are 3.4 million farm operators with an average age of 57.5 years. Beginning farmers with less than 10 years of being in business as farm operators make up 25 percent of all farmers. The average age of beginning farmers is 46.
According to the USDA Economic Research Service - In 2007, 686,600 farm households engaged in 791,000 income-generating activities distinct from commodity production, creating $26.7 billion in household income.
The United States sells more food and fiber to world markets than we import, creating a positive agricultural trade balance. In 2018 American agricultural products totaling $139.6 billion in value were exported around the world.

People who share a sense of place develop a unique character and culture with shared values, customs, traditions, and lifestyles. It is difficult for persons outside these communities to understand the tacit nature of agricultural ways of life. This is one reason farmers and ranchers are often labeled as backwards, old-fashioned, stubborn, laid back, etc. Nevertheless, urban people often long for a sense of place and what they perceive as a simple lifestyle in the country. This mythical view of agriculture contributes to the idea that somehow farmers and ranchers are so fortunate to be doing what they do that perhaps they should not be considered business owners in the same light as other businesses. This leads to a perception that farmers and ranchers do not need to be paid a fair price for their products, especially one that also includes labor.

Agricultural land, nearly 1.2 billion acres, accounts for one-fifth of the land in the United States. According to the United States Department of Agriculture (USDA) the land area used to grow the food Americans consume is only 77 million acres. About 21 million acres of wheat is exported along with 62 million acres of corn, soybeans, and other crops. While the U.S. benefits from an overall agricultural trade surplus, Americans imported 15 percent of their food and beverage products in 2016. More than 30

percent of the fresh fruits and vegetables Americans consume come from other countries, predominantly Mexico and Canada. More than a third of the entire corn crop, or 38 million acres, is devoted to ethanol production. Most cropland, 127 million acres is used to produce livestock feed, and 5 million acres is idle.

Over a third of the land in the US consists of pasture and rangeland, the largest land-use type in the contiguous 48 states. Of this, about 25 percent of that land is administered by the federal government. Approximately 41 percent of agricultural land, including, pasture, range, forage, and cropland is used to produce feed for livestock, primarily cattle. Forestland is another major category of land, and timber is considered an agricultural product produced both on private and government own land. The USDA Forest Service reports that timber harvests typically occur on about 11 million acres each year. Finally, about 12 percent of the US land area is taken up by urban and special uses. Of this, five million acres is devoted to golf courses and airports.

The United States Census of Agriculture was started in 1840 and is a useful source of historical and current information about agriculture. The five counties in the region have been counted in the census since the 1880's. The census is conducted every five years by the United States Department of Agriculture (USDA) National Agricultural Statistical Service with the most current occurring in 2017. In addition to the five-year census, the USDA conducts additional research, special reports, surveys, and updates that offer further in-depth information on the state of agriculture in the US.

USDA defines a farm as any place that produced and sold—or normally would have produced and sold—at least $1,000 of agricultural products during a given year. Income received from farming is the sum of farm business income from products produced on the farm and income from other farming activities such as custom harvesting. This includes any income received by household members for farming activities. The USDA also measures operator household income as the total income available to the household of the principal operator from all sources of income, both farm and non-farm income. As measured in the Agricultural Resource Management Survey (ARMS), farm household income has these three components:

1. Farm business income. In the case of unincorporated businesses and S-corporations, the household's farm business income is calculated as its share of net cash income generated by the farm. Net cash income is gross cash income—the sum of the sales of commodities, other miscellaneous farm-related income, and Government payments—less cash expenses and depreciation. The household of the principal operator does not necessarily receive all the business income generated by its farm. For example, business income may be shared with partners or relatives who hold an interest in the farm. In the case of C-corporations, farm business income is the dividends paid to household members. Wages paid to the operator by farms organized as S- or C-corporations are also included in farm business income.

2. Income from other farming activities. This component consists of net income from a farm other than the one being surveyed, wages paid to household members other than the operator, and net income from farmland rental.

3. Off-farm income. Off-farm income can come from earned sources—such as wages, salaries, and self-employment income—or from unearned sources, such as interest, dividends, and transfer payments, such as social security.

USDA Farm Typology (Farm Structure based on gross income)

The USDA classifies family farms as "any farm organized as a sole proprietorship, partnership, or family corporation." Based on this definition the 2017 Census of Agriculture reported that family farms accounted for almost 96 percent of the 2,042,000 farms in the United States. By 2019 number of farms in the US decreased by 16,000 to 2,030,400, and the percentage of small family farms declined to 90 percent of farms. *Source: Updating the ERS Farm Typology, EIB-110 Economic Research Service.*

Farm size is measured by annual gross cash farm income (GCFI)—a measure of the farm's revenue (before deducting expenses) that includes sales of crops and livestock, payments received under agricultural federal programs, and other farm-related cash income including fees from production contracts.

The farm typology focuses primarily on the "family farm," or any farm where the majority of the business is owned by an operator and individuals related to the operator, including relatives who do not live in the operator's household. Small family farms accounted 22 percent of US farm production in 2019. In the five-county region about 98 percent of farms are small-scale family farms.

Family Farm Structure

a. **Small family farms** GCFI of less than $350,000**.** They are further divided into the following categories:
   - Retirement farms. Small farms whose principal operators report they are retired, although they continue to farm on a small scale.
   - Off-farm occupation. Small farms whose principal operators report a primary occupation other than farming. The category also includes farms (about 18 percent of off-farm occupation farms) whose operators do not consider themselves to be in the labor force.
   - Farming-occupation farms. Small farms whose principal operators report farming as their primary occupation.
     - Low-sales farms. GCFI less than $150,000.
     - Moderate-sales farms. GCFI from $150,000 up to $349,999.

b. **Midsize-scale family farms**
GCFI between $350,000 and $999,999

c. **Large-scale family farms**
GCFI between $1,000,000 and $4,999,999

d. **Very large-scale family farms**
GCFI of $5,000,000 or more.

e. **Non-Family Farms** are defined as farms where an operator and persons related to the operator do not own

Off-Farm Work in US

- Professional and management occupations were commonly held by both operators and spouses with a college education.
- Operators with a high school education were more likely to have an occupation in production, transportation, and materials moving. Spouses of operators who did not have college degree were most likely to work in services.
- Operators of farms with less than $50,000 in annual sales had higher shares of jobs in the manufacturing and construction industries.
- Operators of farms with higher annual sales were employed agriculture, forestry, fishing, hunting, or mining industry.

Source: "Off-Farm Income a Major Component of Total Income for Most Farm Households in 2019", Amber Waves, USDA Economic Research Service.

a majority share of the business. These made-up 2.4 percent of the farms in the US and 13.6 percent of production in 2019.

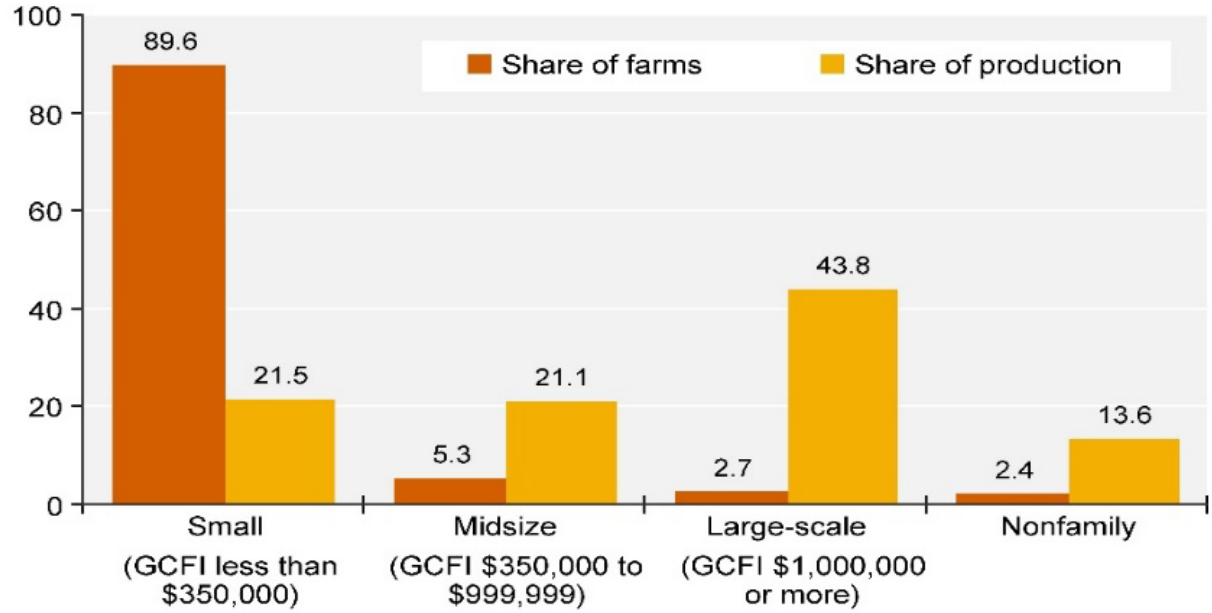
In addition to wholesale commodity markets, about seven percent of U.S. farms market foods locally through direct-to-consumer or intermediated sales. Farmers sell fresh agricultural products directly to consumers in a variety of ways – through farmers markets, roadside stands, pick-your-own operations, community supported agriculture (CSA) arrangements, food hubs and other efforts. Throughout the United States, 144,530 farms sold $1.3 billion in fresh edible agricultural products directly to consumers in 2012. This represented a six percent increase in farms selling direct to customers, and an 8 percent increase in sales, over 2007. Since then, the market share for locally raised foods continues to increase.

Top Ten States in Direct Consumer Sales ($ millions)
California 169.9
New York 100.6
Pennsylvania 86.0
Michigan 58.8
Massachusetts 47.9
Wisconsin 46.9
Ohio 46.6
Washington 45.1
Oregon 44.2
Virginia 41.7

Source: USDA 2017 Census of Agriculture

Farms and their value of production by farm type, 2019

Percent of U.S. farms or production



Note: GCFI = annual gross cash farm income before expenses. Nonfamily farms are those where the principal operator and their relatives do not own a majority of the business.
Source: USDA, Economic Research Service and National Agricultural Statistics Service, Agricultural Resource Management Survey. Data as of December 2, 2020.

Off Farm Work Necessary for Majority of Farm Families

Most agricultural operations do not generate enough steady revenue for a farm family to survive without non-farm income. According to the USDA's 2017 Census of Agriculture more than 60 percent of farm operators work at least part of the year for another employer. Median total household income among all farm households ($83,111) exceeded the median for all U.S. households ($68,703) in 2019. Median household income and income from farming increase with farm size and most households earn a portion of their income from off-farm employment. About half of U.S. farms are very small, with annual farm sales under $10,000; the households operating these farms typically rely on off-farm sources for most of their household income. In contrast, the median household operating large-scale farms earned $350,373 in 2019 with most of that from farming. Source: *Ag and Food Statistics: Charting the Essentials, Farming and Farm Income*.

Ecosystem Services are Provided by Farms and Ranches

In addition to raising food, agricultural producers play an important role in sustaining a healthy ecosystem. These activities are considered "ecosystem services" which include managing for healthy soils, clean water, wildlife habitat, carbon sequestration, recreation, open space, and biological diversity. For example, careful stewardship by America's food producers, supported by federal investment into conservation practices, has spurred a 34 percent decline in erosion of cropland by wind and water since 1982. Until recently, the value of these services is rarely considered by society or the marketplace. With growing public concern about climate change, efforts are now being made to find ways to properly account for carbon stored in soil and how to compensate farmers for using practices that enhance the soil's ability to store carbon.

"Ecosystem services, include all the jobs performed by the components of an ecosystem, coming from biotic components like plants and insects, to abiotic components, such as the soil and wind. Ecosystem services include things like pollination (approximately one third of the human diet comes from insect pollinated plants), water filtration (wetlands protect water quality by trapping sediments and retaining pollutants such as heavy metals), energy (7 percent of US power comes from hydroelectric plants), and tourism (nature-based tourism or ecotourism is predicted to grow to 25 percent of the world travel market by 2012). And these services, without most of us even knowing it, add substantially to our economy. For example, the value of insect pollination has been estimated at up to $15 billion in the United States annually, and ecotourism has a worldwide value of approximately $473 billion per year."

Source: "Agriculture's Role in Ecosystem Services", USDA 2012 Blog

Soil Carbon Becomes a Commodity

Mechanisms to monetize soil carbon in terms of "carbon credits" which may be bought and sold as are other commodities. A carbon credit represents one ton of carbon dioxide removed from the atmosphere. They can be purchased by an individual or, more commonly, a company to make up for carbon dioxide emissions that come from industrial production, delivery vehicles or travel.

Carbon credits are most often created through agricultural or forestry practices, although a credit can be made by nearly any project that reduces, avoids, destroys, or captures emissions. Individuals or companies looking to offset their own greenhouse gas emissions can buy those credits through a middleman or those directly capturing the carbon. In the case of a farmer that plants trees, the

landowner gets money; the corporation pays to offset their emissions; and the middleman, if there is one, can earn a profit along the way.

Article 6 of the 2015 Paris Agreement tasks national leaders with figuring this out on a global scale. So far, about 64 carbon compliance markets are now in operation around the world, the World Bank reported in May 2021. The largest carbon compliance markets are in the European Union, China, Australia, and Canada. While politicians and business executives have discussed putting a price on carbon, the U.S. does not have a federal, wide-ranging cap-and-trade market for greenhouse gases. *Source: "What are carbon credits? How fighting climate change became a billion-dollar industry" NBC News https://www.nbcnews.com/business/business-news/are-carbon-credits-fighting-climate-change-became-billion-dollar-indus-rcna3228*

Agriculture in the Four Corners Region

The region embodies a rich agricultural history and land stewardship dating to 350 BC and earlier. Indigenous farmers raised corn, beans, squash, and turkeys. Prior to invasion by Europeans, there was active trading between indigenous people of South and North America as well as between tribes east and west from the Four Corners. Ute people were primarily hunters and gatherers and were skilled in basket weaving, a product they used in trade. Puebloan tribes relied on agriculture while Diné (Navajo) traditionally practiced agriculture along with hunting and gathering practices. Corn was developed from native grasses of Central America and brought to North America through trade. Corn is considered sacred to Diné who use corn pollen in ceremonies. Diné farmers developed numerous varieties of corn including one known as Navajo White Corn. Extended families have passed their own rare varieties of corn down through generations which are still grown and used in traditional Navajo cuisine.

Beginning in the late 1600's Diné families began raising domesticated sheep brought to America by early Spanish conquers. America's first domestic breed of sheep, the Navajo-Churro was developed. Sheep became central to Navajo lifeways. Extended families developed an agropastoral way of life (transhumance) where some family members would raise crops while others would herd sheep and goats between winter and summer grazing areas. Diné have always woven with fibers, perhaps starting with cotton which was traded for from South

The Navajo Nation Department of Agriculture states on its website that, "The Diné people are a cultural presence, we are defined by our historical identity, social kinship, language, and traditional values all maintained within the boundaries of the Four Sacred Mountains. A well-defined geographical and spiritual boundary we call Diné Beke'yah (Navajo Nation). Agriculture and livestock have always been key to the evolution of Navajo society, economy, and in our development as a sovereign Nation.

Livestock ownership and agriculture are timeless symbols of resourcefulness, prosperity and social status. These are gifts bestowed by Holy Ones and are central to Diné philosophy of Nizhonigo 'liná (beauty way of life). The adherence to this philosophy, identity and cultural uniqueness is maintained among the Diné people and is recognized as the core foundation of our sovereignty."

Source:

https://agriculture.navajo-nsn.gov/

America. They developed unique methods of processing and styles of weaving with wool which have been passed on through the generations. Utilitarian products created with wool included horse cinches, clothing, ropes, and blankets. A robust economy evolved over the centuries based on trade of crops, sheep, goats, and wool products including the highly prized Chiefs' Blanket. Later, American traders developed an industry based on the weaving of Navajo rugs for commercial trade.

The first documented Europeans in the Four Corners Region were friars Dominguez and Escalante who traveled from Abiquiu, New Mexico in search of a route to Spanish missions at Monterey California in 1776. The Spanish Trail was established and used through the mid-1850s for trade of agricultural products, supplies and Native American slaves. The Spanish controlled the region, except for a brief period after the Pueblo uprising of 1680, until 1872 when Mexico gained independence. In 1848 the region was ceded to the United States following the Mexican American War.

Later the states of Colorado, Utah, Arizona, and Colorado were established. The counties in this assessment were established beginning with Apache County in 1879 and ending with Montezuma County in 1889.

Navajo and Ute Mountain Ute reservation lands are held in trust by the Federal Government. The 1868 Treaty at Fort Summer established the Navajo reservation, allowing Diné to return to a small portion of their ancestral homeland after the forced Long Walk and four years of internment at the Fort. Current Ute Mountain Ute and Southern Ute Reservations are the result of many actions that chiseled away at lands originally set aside for Ute tribes in the 1880's. Both the Navajo and Ute also privately own land.

Tribal Sovereignty

Refers to the right of American Indians and Alaska Natives to govern themselves. ... Sovereignty for tribes includes the right to establish their own form of government, determine membership requirements, enact legislation, and establish law enforcement and court systems.

Source:

https://www.ncsl.org/legislators-staff/legislators/quad-caucus/an-issue-of-sovereignty.aspx

The Navajo Nation is a sovereign nation recognized by the Federal Government. In 2010, the total population of Navajo tribal members was 332,129 with 173,667 living within the boundaries of the reservation located in Utah, Arizona, and New Mexico; and 158,462 tribal members outside of the Navajo reservation. Navajo is a European name derived from a Tewa-Puebloan, word "nava hu" meaning "place of large, planted fields". Diné, from their own language, means "the people".

The Ute Mountain Ute Reservation is also a sovereign nation recognized by the Federal Government that consists of the Weeminuche Band of Ute Nation of indigenous people located in Colorado and Utah. The population of the Ute Mountain Ute tribe is a little over 2000. The two other bands, the Mouache and the Capote became the Southern Ute Tribe. The Northern Ute Bands (the Uncompahgre band, the Grand River band, the Yampa band, and the Uinta band) are located on the Uinta-Ouray Reservation near Vernal Utah.

The Navajo Nation and Ute Mountain Ute Tribe each have developed robust agricultural enterprises including Navajo Agricultural Products Inc. based in Farmington NM and the Ute Mountain Ute Farm & Ranch Enterprise based in Towac CO.

Family-based agriculture continues today as a cornerstone of the Four Corners lifestyle and economy. Although many geo-political and economic events have occurred affecting the different peoples involved in agriculture, key aspects of agriculture in the region have remained consistent such as family-based small-scale operations and the production of grains and beans, vegetables, and livestock. Large scale irrigation began in the late 1900's with the completion of McPhee Dam on the Dolores River in 1986, fostering diversification in agriculture. Livestock, small grains, dry beans, fruit, forage and hay are the primary agricultural products in the region. Production for family and community consumption continues to be an important cultural and economic component of the region and identity of the people.

Current Agricultural Production and Demographics in the Five County Region

Agriculture is an important base industry in the region, exporting products and bringing necessary income in from the outside. Many businesses exist to support agriculture and contribute to a diverse economy. The region's temperate climate is productive. There are good quality soils for crops, excellent sources of irrigation water, and productive range and forest lands. Variations in elevation and topography create microclimates allowing for a diversity of crops and fruit, as well as livestock production.

There are 10,770 farms and ranches in the five-county region. Of the 10.6 million agricultural acres in the region 476,988 are in cropland production and much of the rest is in pasture, range, and forest lands. The majority of the 179,279 acres of prime irrigated lands in the five-county region are in Montezuma County CO and San Juan County NM.

According to the US Census of Agriculture, the total market value of products sold in 2017 for the region was over $163 million. Market value is what the farmer receives at the "farm gate", not necessarily the retail value, and does not include payments received for participation in federal farm programs. The largest economic sector of agricultural production in the region is grains, oil seeds and dry beans with a total value of over $82 million in production; followed by hay and forage valued at $51.6 million; cattle and calves valued at $31.6 million; and then vegetables and melons valued at of $19.8 million. According to the 2017 Census of Agriculture, 75 percent of the region's farms, 8,177, generate $2500 or less in farm product sales while only two percent generate over $100,000 in sales.

The 2017 Agricultural Census allowed farms to report up to four producers per farm as operators. In the five-county region there are 17,858 persons identifying as farm operators. Of these, 50 percent identify as male, and 50 percent identify as female. Seven percent of our farmers and ranchers are under the age of 35 years and 38 percent are over the age of 64 years.

Native Americans make up 71 percent of the region's farmers and ranchers, 26 percent identify as white, while six percent identify as being either Black, Asian, Hawaiian or of mixed races. Three percent report being of Hispanic ethnicity, six percent had had military service and 23 percent are new and beginning farmers. The USDA defines beginning farmers and ranchers as those who have operated a farm or ranch for 10 years or less either as a sole operator or with others who have operated a farm or ranch for 10 years or less.

Regional Agriculture by the Numbers

The following charts summarize data from the 2017 Census of Agriculture re: agricultural productivity, farm typology, economics, demographics, and other information about the region's agricultural sector.

Land Use and Market Value of Agriculture Production in Region

Source: USDA 2017 Census of Agriculture *Note: Market Value represents the value at the farm gate.*

County	Number of Farms	Acres in Farms	Cropland Acres *	Pasture/ Woodland & Range Acres *	Other Use Acres *	Irrigated Acres	Market Value of Products Sold	Rank in State by County	Rank In U.S.
Montezuma CO	1123	690,788	117,434	566,446	6909	79,029	46,424,000	27 of 63	1815 of 3077
Dolores CO	313	157,644	69,372	80,389	7,883	7,241	8,516,000	49 of 63	2721 0f 3077
San Juan UT	823	1,657,212	132,577	1,508,063	16,572	7,571	16,776,000	21 of 29	2468 of 3077
San Juan NM	2965	2,551,470	102,058	2,423,897	25,514	73,560	74,118,000	9 of 33	1422 of 3077
Apache AZ	5551	5,554,963	55,547	4,888,367	555,496	11,878	18,003,000	13 of 15	2435 of 3077
Total Region	10,775	10,612,077	476,988	9,467,162	612,374	179,279	163,837,000	N	N

Market Value in Dollars of Major Crops in Five County Region

County	Grains, Oilseed, Dry Beans	Vegetables, Melons, Potatoes	Fruits, Tree Nuts,	Nursery, & Greenhouse	Hay & Other Forage Crops
Montezuma CO	6,492,000	614,000	556,000	1,129,000	21,056,000
Dolores CO	2,449,000	65,000	—	—	3,050,000
San Juan UT	5,150,000	790,000	—	—	2,069,000
San Juan NM	*	16,309,000	337,000	*	24,170,000
Apache AZ	142,000	2,058,000	57,000	43,000	1,314,000
Total Region	**14,233,000**	**19,836,000**	**950,000**	**1,172,000**	**51,659,000**

* A figure for 2017 was not reported in theCensus.

Gross Farm Income* from Sale of Farm Products in Five County Region

County	< $2,500	$2,500 to $4,999	$5000 to $9999	$10,000 to $24,000	$25,000 to $49,999	$50,000 to $99,999	> $100,000
Montezuma CO	545 (49%)	96 (9%)	134 (12%)	142 (13%)	72 (6%)	36 (3%)	98 (9%)
Dolores CO	188 (60%)	21 (7%)	13 (4%)	35 (11%)	19 (6%)	12 (4%)	25 (8%)
San Juan UT	593 (72%)	44 (5%)	77 (9%)	46 (6%)	13 (2%)	13 (2%)	37 (4%)
San Juan NM	2,149 (72%)	346 (12%)	271 (9%)	124 (4%)	35 (1%)	23 (1%)	17 (1%)
Apache AZ	4,702 (85%)	304 (5%)	299 (5%)	158 (3%)	49 (1%)	17 (<1%)	22 (<1%)
Total Farms	8177 (76%)	811 (8%)	794 (7%)	505 (5%)	188 (2%)	101 (1%)	199 (2%)

Note: *this does not include government payments or related farm income

Market Value in Dollars of Major Livestock and Livestock Products in Five County Region

Source: USDA 2017 Census of Agriculture

County	Poultry & Eggs	Cattle & Calves	Milk from Cows	Hogs & Pigs	Sheep, Goats, Wool, Milk	Other Animals & Products	Horse, Ponies, Donkeys, & Mules	Totals per County
Montezuma CO	90,000	15,337,000	41,000	56,000	369,000	296,000	387,000	16,576,000
Dolores CO	2,600	2,441,300	—	—	—	—	—	2,443,900
San Juan UT	—	6,200,000	—	—	294,000	38,000	228,000	6,760,000
San Juan NM	82,000	4,406,000	—	54,000	1,196,000	—	545,000	6,283,000
Apache AZ	26,000	11,826,000	—	44,000	1,636,000	32,000	827,000	14,391,000
Total Region	**200,600**	**40,210,300**	**41,000**	**154,000**	**3,495,000**	**366,000**	**1,987,000**	**46,453,900**

Additional Farm Typology in Region

Source: USDA 2017 Census of Agriculture

County	Have Internet Access	Farm Organic	Sell Direct to Customers	Hire Farm Labor	Family Based Farms	Farm 1-9 Ac.	Farm 10-49 Ac.	Farm 50-179 Ac.	Farm 180-499 Ac.	Farm Over 500 Ac.
Montezuma CO	79%	1%	7%	24%	96%	17%	32%	27%	12%	12%
Dolores CO	68%	1%	2%	13%	95%	4%	18%	35%	22%	22%
San Juan UT	33%	2%	2%	12%	96%	39%	13%	18%	12%	17%
San Juan NM	45%	<1%	5%	13%	96%	30%	26%	8%	4%	31%
Apache AZ	44%	<1%	1%	12%	98%	51%	21%	8%	5%	15%

Race, Ethnicity and other Demographic Information About Farm Producers in Region

Source: USDA 2017 Census of Agriculture Note: Up to 4 persons per farm may identify as producers.

		Race						Other Criteria		
County	**Number Producers**	**Amer. Indian / Alaskan**	**Asian**	**Black or African Amer.**	**White**	**Hawaiian / Pacific Islander**	**More than One Race**	**Hispanic Ethnicity**	**Military Service**	**New & Beginning Farmers**
Montezuma CO	1,991	37	9	6	1,992	-	17	126	223	640
Dolores CO	549	-	-	-	544	-	5	7	71	175
San Juan UT	1,637	1,163	-	-	471	-	3	5	105	391
San Juan NM	4,702	3,106	4	3	1,576	-	13	329	480	1,125
Apache AZ	8,979	8,408	2	5	510	13	41	126	563	1,698
Total Region	17,858	12,714	15	14	5,093	13	79	593	1,442	4,029
% Of all Producers		71%	< 1%	< 1%	29%	<1%	< 1%	3%	8%	23%

Gender Identification and Age Groups of Farm Producers in Region

Source: USDA 2017 Census of Agriculture

County	* Number Producers	Gender ID Male	Gender ID Female	Age < 35 Years	Age 35 to 64 years	Age 65 years & older
Montezuma CO	1991	1,118	873	145	1,119	727
Dolores CO	549	309	240	51	260	238
San Juan UT	1637	816	821	145	961	531
San Juan NM	4702	2,462	2,240	263	2,538	1,901
Apache AZ	8979	4,234	4,745	629	4,909	3,441
Total Region	17858	8939	8908	1233	9787	6838
% Of all Producers		50%	50%	7%	55%	38%

Understanding the Global/National Food System

When making decisions about how to address food security, it is important to know how we came to be where we are with the current food system. At the beginning of the 20th century about 50 percent or more of all farms engaged in the production of vegetables, Irish (white) potatoes, fruit-producing trees, and feed for livestock and draft animals. Much of this produce was consumed on the farm, traded, or sold locally. Likewise, chickens, horses, milk cows, and hogs were present on most farms a century ago. Today, due to industrialization and globalization of agriculture, comparatively few farms raise a diversity in crops, fruits, poultry, and livestock.

The development of refrigeration, efficient transportation, supermarkets, commercial fertilizers, and a shift in labor from the farm to the factory in mid-1900's facilitated widespread change in agriculture towards larger scale production and wholesale markets. Farms began to specialize in just one or a limited number of products.

After peaking at 6.8 million farms in 1935, the number of U.S. farms fell sharply until the early 1970s due to increased productivity in agriculture and the availability of nonfarm employment opportunities. Since the 1970's, the number of U.S. farms has continued to decline more slowly. In the most recent survey, there were 2.02 million U.S. farms in 2020, down from 2.20 million in 2007. With 897 million acres of land in farms in 2020, the average farm size was 444 acres, only slightly greater than the 440 acres recorded in the early 1970s.

US Farm and Food Policy Leads to a Poorer Diet for Americans

Becoming larger and more efficient has been encouraged by US farm and food policy. Prior to the 1970s, federal farm programs existed to keep enough family farmers on the land by stabilizing farm incomes at levels that would keep farming profitable and food prices affordable. Beginning in the 1970's, agricultural efficiency through industrialization, specialization, standardization, and consolidation of food system control became the goal. President Nixon promised to cut food prices and did so by shifting federal dollars from all farmers in general to producers of only a few commodity crops like corn, wheat, and soy. The message farmers received from Earl Butz, the secretary of Agriculture under Presidents Nixon and Ford was "get big or get out". He urged farmers to plant commodity crops such as corn from fencerow to fencerow. USDA farm and food policy and programs shifted from stabilizing the farm-food economy to subsidizing an agri-food industry based on mass - often highly industrialized - production.

Prices for food dropped significantly under Nixon and Ford while farmers suffered economic losses, with many filing for bankruptcy. Smaller farms were bought out and consolidated into large enterprises that produced massive amounts of corn and soy. As food production, processing and manufacturing became concentrated into a few larger corporations, rural populations declined, and thus small towns have suffered both economically and socially.

Percent of Farms Raising Crops/Livestock in the Region 1900 compared to 1997

	1900	1997
Corn	82 %	23 %
Hay and Forage	62 %	46 %
Vegetables	61 %	3 %
Potatoes	49 %	0 %
Orchards	37 %	5 %
Oats	37 %	5 %
Wheat	36 %	13 %
Cotton	25 %	2 %
Sweet Potatoes	17 %	0 %
Soybeans	0 %	19 %
Barley	5 %	2 %
Chickens	97 %	5 %
Cattle	82 %	55 %

Source: USDA, National Agricultural Statistical Service

Consumer's food choices also changed dramatically over the past century. Early in the 1900's, home-grown fruits, vegetables, and oats were considered staples. As agricultural production shifted to commodities like wheat, soybeans and corn, the foods manufactured from these crops became cheaper and more available.

Because corn and soy are incredibly versatile, new foods were invented using these products. American diets changed as grocery stores became saturated with processed foods, sweetened beverages, and meat from corn and soy fed livestock. At the same time "food miles" - the distance food travels from farm to the consumer's plate - increased. Freshness declines and nutrients are lost the longer it takes enroute to the consumer. Today many fruit and vegetable varieties have been developed to withstand shipping and a long shelf life, often sacrificing taste and nutrition.

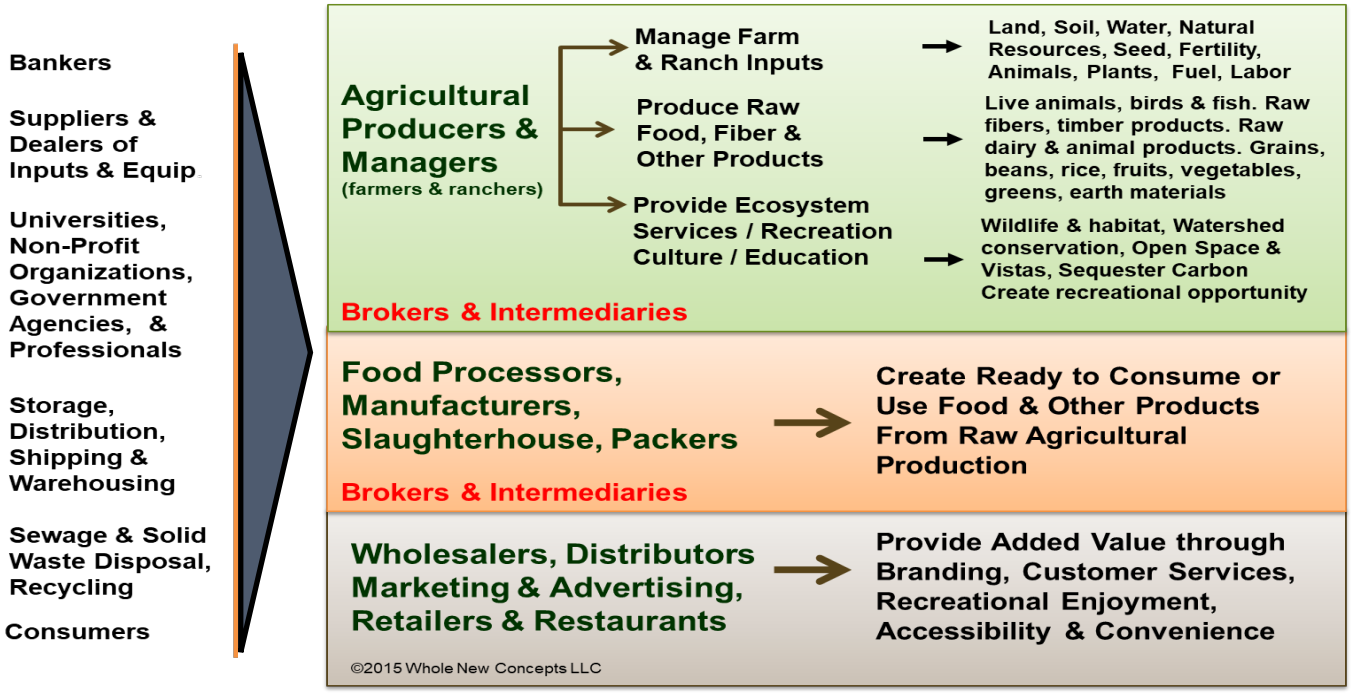
The US Food System Has Multiple Players

While global trade routes have existed for millennia, until about a century ago most people relied on their local food system for sustenance. Today much of our food system is dominated by larger corporations that operate nationally and globally. We have become reliant on distant producers, massive processing plants and food storage facilities, subsidized transportation, distributors, supermarkets, and restaurants. All Americans, both urban and rural, are now connected through a complex food system.

As the chart below depicts, many players and multiple industries make up our food system. Shortfalls in the food system affect food access and affordability for many. Agricultural producers are at the beginning of a long supply chain that eventually puts food on people's tables. An interruption in any one segment of the food system can cause disturbances in the supply chain leading to shortages of food, fiber, and other products for the end consumer. The COVID-19 pandemic and resulting economic disruptions have highlighted weakness in the production, processing, manufacturing, transportation, and delivery links in the food supply chain.

A report released in 1998 by the USDA found that 80% of the meat industry is controlled by only four firms. In his essay entitled "Food Democracy," Brian Halweil states that half of the food items in a typical supermarket are produced by no more than ten multinational food and beverage companies.

"Food Miles: Background and Marketing, published by ATTRA - National Sustainable Agriculture Information Service 2008.



Each step in the supply chain adds costs to the food we consume. As agricultural production became more industrialized, the farmer's share of the food dollar dwindled. The farmer's share was 7.6 cents per dollar spent on food in 2019 according to the USDA Economic Research Service. The following charts show how the food dollar is divided according to industry and primary factors driving costs. Please note that this data may not accurately represent the economics of smaller niche markets, local direct to consumer business models, and specialty crop farmers.

Industry Sector-	
Share of Food Dollar	
Agribusiness	**2¢**
Farm production	**7.6¢**
Food processing	**14.7¢**
Packaging	**2.3¢**
Transportation	**3.4¢**
Wholesale trade	**8.4¢**
Retail trade	**12.1¢**
Food services	**38.5¢**
Energy	**4.1¢**
Finance & Insurance	**3¢**
Advertising	**2.6¢**
Legal & accounting	**1.3¢**
Total	**100¢**

Corporate Consolidation of the Food System Contributes to Rural Poverty

While economic benefits of efficiency result in lower farm labor costs, and thus lower cost of food, these benefits are offset by increased rural poverty. As noted, small farms are an economic driver, spending money in their communities and creating jobs for others. As these small farms become replaced by larger more automated farms there is less economic activity in rural regions. Currently rates of poverty are higher in rural areas compared to urban areas. According to a 2019 USDA Economic Research Service report, 15.4 percent of people living in rural areas had an income below the federal poverty line, while those living in urban areas had a poverty rate of 13 percent.

"Numerous studies in the last 50 years show that consolidation and industrialization of agricultural operations in rural communities has resulted in lower incomes, greater income inequality and poverty, declining Main Streets and fewer stores. Today, 16 percent of people below the poverty line live in rural areas, compared to 13 percent in urban areas. Most of the counties with the highest participation in the Supplemental Nutrition Assistance Program (formerly called food stamps) are rural."

Source: The Economics of Food and Corporate Consolidation" https://foodprint.org/

Access to Agricultural Land is Becoming Difficult

Corporations, foreign countries, and wealthy investors are buying land from family farmers, causing price increases beyond the capacity of the land to generate enough income from agricultural production. This is making it difficult for the average American, especially young farmers, to afford land. According to The Land Report Magazine, farmland has become steadily more expensive, and the pool of farmers and their heirs who can afford to buy it is shrinking. Since 2008 the amount of land owned by the 100 largest private landowners has grown from 28 million acres to 40 million, an area larger than the state of Florida. "The end result: control over this land has passed to people with little personal connection to it, who live a thousand miles away. The new owners will decide what happens to that land, whether to plow or drain it, or even to stop farming it entirely. Their decisions will have profound effects on rural communities, wildlife and even the global climate." A consequence of absentee ownership is that rented farmland often becomes abused or neglected because tenant farmers will not make long term investments into conservation and regenerative management.

"Nearly 100 million acres of U.S. farmland will change hands in the next few years, but most of it will go to investors and developers… Land access is the top challenge young farmers face", says Holly Rippon-Butler, the Land Access Program Director for the National Young Farmers Coalition (NYFC). "The issue isn't just land prices, which have increased by a stunning 1600 percent since they bottomed out during the farm crisis of the 1980s. American farmland is also increasingly consolidated, owned by non-operators who see their holdings as an investment, and would rather rent than sell."

Source: The Counter, "Everyone agrees the country needs new farmers. Trouble is, they can't afford land", by Naomi Tomky, 09.17.2018.

Convenience and Affordability versus Healthy Food Choices

It is important to recognize how "internationalization" and "globalization" has made it possible for consumers to get any kind of product from anywhere in the world. This includes the ability to buy traditionally seasonal foods all year round, like strawberries for instance.

The convenience and affordability of "cheap" food enables today's busy lifestyles by reducing the time spent on buying, preparing, and eating food. Affordability is important to families who struggle with managing multiple jobs and raising children. Unfortunately, economic distress forces families to focus on the "cheaper" less healthy food choices that dominate our grocery stores, while the local food movement has catered primarily to the upper-middle class who have the economic capacity to make healthier food choices.

The hidden costs of "cheap" food run deep. Without sufficient nutrition, children are less resistant to illness, have difficulty performing well in school and behavioral issues may result. Unabated these issues contribute to lifelong difficulties in the workplace and food related diseases such as diabetes and obesity which have long term repercussions in society.

Localizing Our Food System

The local food movement began as a reaction to a shift in the federal farm policy in the 1970s, as discussed earlier, which encouraged industrialization, globalization, and domination of the food system by larger corporations. At first there was little momentum because local food advocates were seen as counter to current culture. Beginning in the late 1990's the health and economic benefits of local food began to gain acceptance. According to the USDA, between 2002 and 2007, the number of direct-to-consumer operations increased by 17 percent while sales increased by 32 percent and continues to grow.

The USDA defines local food as "any agricultural food product that is raised, produced, and distributed in the locality or region in which the final product is marketed, so that the total distance that the product is transported is less than 400 miles from the origin of the product; or the State in which the product is produced."

Today the local food movement, combined with the practices of organic and regenerative agriculture is now more widely accepted. A growing number of people are beginning to understand the negative consequences of "cheap" food supplied through a global food system and are more conscious about where their food came from, who raised it, and how it was raised. The concept of "locally sourced food" embodies a vision of fresh nutritional foods, family-based farming, low tech methods, regenerative practices, food security, fair markets and prices for farmers, and economic well-being for the community. Local food is also about culture and social connection.

Local food sales in the U.S. grew from $5 billion to $12 billion between 2008 and 2014, according to food industry research firm *Packaged Facts.* The same study predicted local food sales would jump to $20 billion in 2019, outpacing the growth of the country's total food and beverage sales.

In practice, local foods generally refer to agricultural production and marketing that occurs directly between farmer and consumer or through local intermediaries. A wide range of farm business models have emerged to satisfy demand for local food. These include direct-to-consumer marketing, farmers' markets, farm-to-school programs, community supported agriculture (CSA), community gardens, school gardens, and food hubs. Other types of operations include on-farm sales/stores, internet marketing, food cooperatives, buying clubs, roadside stands, "pick your own" operations, urban farms, community kitchens, small-scale food processing, and agritourism or on-farm recreational activities. According to the National Restaurant Association locally grown produce ranked second in overall restaurant sales in 2006. In 2015, the Census of Agriculture: Local Food Marketing Practice survey reported that more than 167,000 farms sold food to local markets in 2015, resulting in $8.7 billion in revenue.

In 2017 the value of farm to consumer and intermediary sales in Montezuma County totaled $1,597,000. This was the first year that the USDA tracked marking practices so there is no solid data for previous years to compare this to.

Montezuma County Food Marketing Practices 2017 Census of Agriculture	**Number Farms Reporting**	**Dollar Value Reported**
Value of agricultural products sold directly to retail markets, institutions, and food hubs for local or regionally branded products	37	$965,000
Value of food sold directly to consumers	80	$632,000
Total		$1,597,000

Home Gardening Contributes to Availability of Local Foods

The average American household forks out $6,759 a year on food, or 12.6 percent of total spending, according to the Consumer Expenditure Survey from the Bureau of Labor Statistics. Of that, $756 is spent on fruits and vegetables, and $2,787 on the cost of eating out. In their Garden to Table report the National Gardening Association (NGA) claims that the total spent on food gardening increased 40 percent between 2008 and 2013, from $2.5 billion to $3.5 billion, with a 63 percent increase in gardening among millennials, ages 18-34, and 29 percent in urban households. In 2014 NGA reported that 35 percent of households are growing food at home or in community gardens. The NGA also reported that the average gardening household experiences a positive return on investment. A well-maintained food garden yields 1/2 pound of produce per square foot per growing season, according to the NGA. A 600-square-foot garden, the American average on which households spend $70 per year, could churn out 300 pounds of fresh produce worth about $600 annually, the association estimates.

Consumer Choices About Food

Understanding how people choose the foods they eat is important in making decisions about the local food system. The European Food Information Council (EUFIC) identified the following list of key drivers influencing choice of foods:

- Biological determinants such as hunger, appetite, and taste
- Economic determinants such as cost, income, availability
- Physical determinants such as access, education, skills (e.g., cooking) and time
- Social determinants such as culture, family, peers, and meal patterns
- Psychological determinants such as mood, stress, and guilt
- Attitudes, beliefs, and knowledge about food

The EUFIC found that the drivers behind food choice are complex: "The key driver for eating is of course hunger but what we choose to eat is not determined solely by physiological or nutritional needs. Food choice factors also vary according to life stage and the power of one factor will vary from one individual or group of people to the next. Thus, one type of intervention to modify food choice behavior will not suit all population groups. Rather, interventions need to be geared towards diverse groups of the population with consideration to the many factors influencing their decisions on food choice."

Food Hub Defined

Our working definition of a food hub is "a centrally located facility with a business management structure facilitating the aggregation, storage, processing, distribution, and/or marketing of locally/regionally produced food products." By actively coordinating these activities along the value chain, food hubs are providing wider access to institutional and retail markets for small to mid-sized producers, and increasing access of fresh healthy food for consumers, including underserved areas and food deserts.

Source: USDA Blog Archives, Feb 21, 2017

Achieving Efficiency in the Local Food System

Bringing efficiency and convenience to a local food system is a primary challenge for all who engage in the supply chain. As the local food movement gained momentum, producers were inclined to integrate various segments of the food system into their businesses to meet demand. In many cases this has proven to be very inefficient and costly. When a local farm integrates processing, storage, marketing, packaging, distribution, manufacturing, and licensing to sell their products direct to consumers, they add costs to their business. Each segment in the food system is a different industry with its unique set or management needs, liability issues and regulatory considerations. Farmers and ranchers who vertically integrate into these industries must also develop business, production, management, labor, retail sales and marketing skills that go far beyond the traditional role of agricultural producer. They must consider food safety, labor, and animal welfare regulations as well as taxes, certifications, and licensing. All of which add costs to the products they produce and takes time away from production. To be viable, farmers must be able to receive a fair price for the products they sell, including compensation for those efforts that go far beyond basic food production.

Local Food Systems are Dynamic and Responsive

As farms scale up to supply a local food system, they find selling to or through intermediaries helps producers focus more on production as their competitive edge rather than spending time on marketing and sales. Since 2008 direct to consumer sales have been stagnant while at the same time there has been growth in sales to intermediaries that perform any variety of functions including aggregation, storage, processing, manufacturing, distribution, marketing, and managing wholesale and retail channels. "Food Hubs" are collective efforts at a community level to scale up availability and access to local foods.

The disruptions to our national/global food system caused by the COVID-19 pandemic highlighted weakness of depending on only a few large processing facilities, distant providers, and centralized distribution. For this reason, new discussions have emerged about how we might restructure our food system in the Four Corners region in a way that not only meets more of our needs for health and wellbeing but also enhances food security for all.

Food Hubs Have Influence

Southwest Farm Fresh (SWFF) in Cortez CO is a farmer owned cooperative formed in 2014 to provide marketing and distribution services for local producers. The cooperative provides opportunities for producers throughout the Four Corners region to concentrate more on production and less on marketing, sales, and deliveries. For the first five years the cooperative focused on wholesale customers and a labor-intensive Community Supported Agriculture (CSA) retail business model. In early 2020 SWFF pivoted to an on-line sales platform. This placed the cooperative in an ideal position to efficiently meet the increased demand for local foods during the COVID 19 pandemic. In addition to local sales in Cortez, SWFF picks up farm produce and delivers it throughout the Four Corners Region. They also network with Valley Roots Food Hub in Mosca (San Luis Valley CO) and Farm Runners in Hotchkiss (Delta County CO) to increase diversity in their offerings and facilitate cost effective transportation of food between the regions.

For a more in-depth examination of the evolution of the local food movement consider these sources:

"Tension within the Local Food Movement: How Local Food Systems Ensure the Health of Both the Community and the Individual" Bari A. Scott, Whitman College 2018 accessed at https://arminda.whitman.edu/theses/410

"*Local Food Systems Concepts, Impacts, and Issues"*, USDA Economic Research Service" accessed at https://www.ers.usda.gov/webdocs/publications/46393/7054_err97_1_.pdf?v=0

"*Local Food Supply Chain Dynamics and Resilience during COVID-19"*, Dawn Thilmany, Elizabeth Canales, Sarah A. Low, Kathryn Boys accessed at https://onlinelibrary.wiley.com/doi/10.1002/aepp.13121

"Getting to Scale with Regional Food Hubs", blog posted by Jim Barham, Food Hub Team Leader, Agricultural Marketing Service in Food and Nutrition Farming. Accessed at https://www.usda.gov/media/blog/2010/12/14/getting-scale-regional-food-hubs

Capacity of Local Agriculture to Satisfy Food Needs of Montezuma County

This section will focus more specifically on Montezuma County's ability to sustain itself with local food production. As noted earlier, the county's climate is highly productive with quality soils and excellent sources of water for livestock and irrigation. Variations in elevation and microclimates provide growing conditions for a diversity of crops and fruit, as well as livestock production opportunities. Farmers can produce a wide range of fruits and vegetables with and without irrigation.

Unlike other areas, most farms continue to be small scale family operations. The 2007 Census of Agriculture indicated that 96 percent of the farms in the county are small family-owned operations that are part-time farms, and/or are lifestyle/retirement farms. This farm typology lends itself to small scale vegetable and livestock production, provided labor and access to markets are available.

Type of Farm (2007 Census of Agriculture)	Number	Percent of Total	Acres
Small Family Farms— Montezuma CO Less than $250,000 Gross Income in 2007	**1072**	**96%**	
• Limited Resource	166	15%	22,688 acres
• Residential/Lifestyle *(Part Time Farms)*	501	47%	81,504 acres
• Retirement	251	22%	45,456 acres
• Farming Primary Occupation – Lower Sales < $100,000 Gross	126	11%	Not reported
• Farming Primary Occupation – Higher Sales 100,000 - 250,000 Gross	28	3%	26,757 acres
Large Family Farms—Montezuma CO $250 - $499,000 Gross Income in 2007	**9**	**1%**	**7,549 acres**
Very Large Family Farms -Montezuma CO More than $500,000 Gross Income	6	0.5%	3,612 acres
Non-Family Farms	*36*	3%	Not reported

Montezuma County's agriculture flourished when it supported the local food system and was able to compete in regional, national, and global markets. The following chart displays data gathered from the US Agricultural Census for Montezuma County comparing 1930 to recent years. It is easy to see that our local agriculture was once more diverse and served the local community as well as exporting products. In 1930 there were 98 acres in the county dedicated to market vegetable production with a population of 7,798 and growth rate of 24.57 percent between 1920-1930. In 2007 only four acres were reported in vegetable production with a population of 25,103. Since then, the customer demand for local foods in the county has resulted in an increase in acreage of vegetable production to 63 acres in 2012 with a population of 25,476, and then 86 acres in 2017 with a population of 26,112. The number of farmers markets also grew from only one in Cortez to several located throughout the county in the summer and one winter farmer's market. Locally sourced foods are available directly from farms as well as through intermediary outlets including schools, grocery

stores, food pantries and kitchens, multiple farmers markets and farmer owned Southwest Farm Fresh Cooperative.

Montezuma County Fruits, Vegetables and Crops
NASS Census of Agriculture

Census Item	1930	2007	2012	2017
Acres in Orchards	1,265	411	439	239
Apples—bushels	122,816			172 ac
Grapes - Pounds	70,638			35 ac
Peach –bushels	5,259			11 ac
Plums-Bushels	2,253			4 ac
Cherries--Bushels	1,496			9 ac
Pears--Bushels	1,620			7 ac
Apricots--Bushels	555			5 ac
Nectarines				2 ac
Raspberries - Qts	8026			7 farms
Strawberries-Qts	7232			
Potatoes—acres	4,282	10	8	11
Potatoes—bushels	877,069			
Market Vegetables	98 ac	4a	63 ac	86 ac
Census Item	1930	2007	2012	2017
Acres Cropland	59,071	52,126		
Corn –Acres	4766	332		3,578
Corn for Grain bu.				397,452
Wheat—Acres	8447	4215	8,881	18,115
Wheat—Bushels	138,646	71,957	398,482	917,138
Barley—Acres	18,624	0		225
Barley—Bushels	33,840	0		13,500
Oats—Acres	1126	0		0
Oats—Bushels	24,479	0		0
Sugar Beets – Ac.	1.750	0		0
Sugar Beets- bu.	19,204	0		0
Dry Beans—Acres	3913	6,618		3,578
Dry Beans CWT				397,452
Safflower Acre			750	
Safflower Bushels			240,159	
Sunflower Seed		463		

Montezuma County Forage, Livestock & Other
NASS Census of Agriculture

Census Item	1930	2007	2012	2017
All Hay—acres	21,895	39,328	29,385	35,486
Tons of Hay	88,953	121,865	98,931	145,015
Range/Dry Pasture	167,924			
Beef Cattle / Calves	19,924	20,195	22,288	26,889
Milk Cows	3,390	11	26	33
Milk – Gallons	2,104,339			74,000
Butter Fat - LBS	469,538			
Cream—Gallons	2912			
Butter—Pounds	88,996			
Horses & Ponies	3863	4274	2,504	2568
Sheep & Lambs	86,723	5546	3620	2417
Wool— pounds	511,164	0		
Goats	2083	464	777	735
Geese & Ducks	587			
Turkey	14,918	46	154	237
Bee Swarms	3611	3		51
Honey—pounds	75,757			825
Chicken Layers	34,179	1484	4222	5092
Dozens of Eggs	258,965			
Butcher Chickens	15,141	187	502	410
Pigs and Hogs	3661	65	242	981
Donkeys & Mules	414	81		147
Fence Posts	17.434			
Poles	1825			
Acres of Woodland	11,901			
Board Ft Saw Logs	151			

Note: a blank space in these charts indicates that either the data was not collected by USDA, was not reported to USDA, or was not tabulated for this report.

The following information provides a rough calculation of agricultural productivity in relation to per capita consumption in Montezuma County of vegetables, fruits, and meat as well as the number of acres needed to potentially supply local needs. The data presented in the next few charts is compiled from variety of sources and may not fully represent food consumption taking place in institutions and the tourism industries. Farm productivity figures are also an estimate and may not fully represent what is possible locally. The intention is to establish a starting point for a more in-depth examination of our capacity to feed ourselves in the county and region.

The chart examines vegetables beginning with:

1) The annual pounds per capita of vegetable crops consumed in the United States
2) Calculates the total pounds needed to satisfy the county's population

3) Depicts the average yield realized per acre in the United States of each crop
4) Calculates the number of acres needed to feed our county based on national averages.

The total acres needed to satisfy Montezuma County's population based on average yields in the US is approximately 258 acres. In column 5) for the sake of comparison, we also looked at productivity data from New England which may be closer to what is feasible locally, and 6) calculated the acres needed to feed our county based on those yields. According to these calculations it would take an estimated 578 acres of vegetable production to satisfy our needs which is most likely a more realistic estimate given the climate of the county. Finally in column 7) we list the acres of vegetables harvested according to the USDA 2017 Agricultural Census.

Currently there are a total of 86 acres in vegetable production in Montezuma County, of which 68 were harvested for the local market in 2017. Based on these calculations, it appears that we are supplying approximately 12 percent of our need for vegetables from local production. It is important to note that not all producers report to the USDA Census. This data does not account for informal trade or sales, gleaning, and home garden production.

Vegetable Crop	1) Pounds Consumed Per Capita In US	2) Pounds Consumed in Montezuma County X 26,031 pop.	3) Average Yield in United States LBS /Acre *	4) Acres Needed for Montezuma CO (per US Ave. Yield)	5) Average Yield for New England LBS/Acre *	6) Acres Needed for Montezuma CO (Per New England Ave. Yield)	7) Acres Harvested Montezuma County In 2017
Asparagus	1.75	45,554.3	2,000	23	1420	32	3
Bell Pepper	11.31	294,410.6	30,000	10	x	?	1
Broccoli	6.14	159,830.3	8,000	20	3615	44	1
Cabbage	6.46	168,160.3	30,000	6	15240	11	2
Cantaloupe	8.7	226,469.7	16,000	14	7340	31	?
Carrot	13.61	354,281.9	26,000	14	11500	31	7
Cauliflower	3.02	78,613.6	14,000	6	4640	17	1
Celery	5.34	139,005.5	46,000	3	46,000	3	**
Cucumber	8.01	208,508.3	20,000	10	9120	23	6
Eggplant	0.88	22,907.3	20,000	1	9730	2	1
Garlic	1.92	49,979.5	4,000	12	2240	22	2
Head Lettuce	12.72	331,114.3	40000.00	8	7879	42	1
Leaf Lettuce	12.33	320,962.2	29,000	11	6970	46	7
Onion	20.29	528,169.0	40,000	13	9580	55	2
Pumpkin	5.83	151,760.7	36,000	4	10360	15	2
Potatoes	70.5	1,835,185.5	42,500	43	25,000	73	8
Radish	0.17	4,425.3	6000	1	6000	1	**
Snap/Green Beans	1.78	46,335.2	8,000	6	3,320	14	3
Spinach	2.48	64,556.9	12,000	5	3940	16	1
Squash	5.87	152,802.0	30,000	5	10030	15	7
Sweet Corn	6.77	176,229.9	15,000	12	11250	16	2
Tomato field grown	20.3	528,429.3	30,000	18	11,080	48	11
Watermelon	16.1	419,099.1	31,800	13	20,000	21	**
Total - Vegetable		**6,306,790.2**		**258 AC**		**578 AC**	**68**

Note: *these figures are approximate and may not represent local productivity.

The following chart considers fruit crops, most of which is grown in Montezuma County. Considering the average US yield per acre may be higher than what typically produced locally, this data provides an approximation of our capacity to satisfy local needs. Based on US averages of consumption, the county produces more than what is needed to satisfy per capita consumption of these fruits.

Fruit Crop	Pounds Consumed Per Capita US	Pounds Consumed Montezuma CO X 26,031 pop	*Approx. / Average Yield in US LBS /Acre *	* Acres Needed to Feed Montezuma	Acres In Production In Montezuma 2017 Census	Surplus or Shortage
Apple - fresh/juice/cider	31.76	826,745	33,967	24	172	+ 148 ac
Cherries	1.25	32,539	10,800	3	9	+ 6 ac
Grapes	8.39	218,400	10,000	22	35	+ 13 ac
Peaches	2.13	55,446	30,000	2	11	+ 9 ac
Raspberries	10.25	266,818	4000	67	7 farms	?
Strawberries	7.14	185,861	3200	58		- 58 ac
Pears	2.79	72,626	30,000	2	7	+ 5 ac
Total - Fruit		**1,658,435**		**178**		

*Note that these figures are approximate and may not fully stand for local productivity. Also note that most locally grown grapes are for wine production.

Montezuma County and the surrounding region was well known for both apples and peaches until the mid-1900's at which time production shifted to commercial varieties grown more efficiently in other regions. The apple industry hung on for a while due to the market created by a local juice plant, Mountain Sun Organic Apple Juice. The plant decided to close operations in 2001 due to difficulties in following wastewater management regulations. The plant closure meant that producers lost the market for their apples.

The number of acres in orchard production has continued to decline in recent years. Yet with even fewer acres in production, the county continues to produce far more apples than what can be consumed or processed locally. Efforts are currently being made to revitalize the fruit industry in the county. Local growers are working on re-establishing viable markets and creating value added products. Several new cideries have begun operation in recent years and growers collaborate on mobile juice processing. In addition, The Montezuma Orchard Restoration Project is focused on saving heritage varieties of apples that remain from the early years of the region's apple industry. Find out more about the history of Montezuma's apple industry and the Montezuma Orchard Restoration Project at https://montezumaorchard.org/orchard-culture-economy.

Montezuma County also produces more wheat, corn, and dry beans than what is needed to satisfy the population. Much of this production is exported, bringing income into the community. Local processing of wheat is possible at Cortez Milling. The company mills Blue Bird and other brands of flour, primarily from locally grown winter wheat, which are sold locally and across the region. The local food system also supplies storage, cleaning, and processing for dry beans. Local agricultural entrepreneurs have developed specialty beans such as Anasazi Beans and have incorporated organic production to diversify their income

streams. Packaging, branding, and marketing by companies like Adobe Milling add value and provide important outlets for producers.

The People's Flour
Navajo Times

"We wouldn't be in business without the Navajo people," said Trent Tanner, co-owner of Blue Bird flour. "It's our philosophy that it's their flour and we make it for them." Each year the Cortez Milling Co. produces about 600,000 25-pound bags of Blue Bird flour, most of which is sold throughout the Navajo Nation and in towns surrounding it. To meet demand for the Blue Bird brand, the mill opens at 6 a.m. Work begins on grinding almost 60,000 pounds of wheat each 12- to 14-hour workday. First, red winter wheat - purchased from local dryland farmers - is weighed and dumped into pits beneath the mill. Tanner explained that the wheat is then run through a series of separators to remove any foreign materials….

Source: *See rest of this article at https://navajotimes.com/ Issue date September 30, 2010*

Southwestern Colorado is one of the few areas in Colorado that produces dry beans in a low rainfall area without the benefit of irrigation water. The long-term annual average precipitation in the San Juan Basin is 16 inches. The variety 'San Juan Select' pinto bean was released in 1946. San Juan Select was the primary pinto variety grown in southwestern Colorado until 1981, when 'Cahone' was released by Colorado State University. Cahone is still the predominant pinto grown on dryland in southwestern Colorado.

Wheat production has been a continued mainstay as well for the county. Most of the wheat produced is hard red winter wheat. It was reported in the Aspen Daily Times in 1955 that the Wark Mill, now Cortez Milling, was the second largest independent mill in the State processing 1000 bushels per day of "Golden Montezuma Valley Grain". The mill ran 24 hours a day with 9 employees and shipped most of its products out of state. Owner Tom Wark was quoted "If Montezuma Valley has a future, then our mill has a future, and we are sure the Valley has a brilliant future." *Source: "Flour Mill Prospers with Montezuma Valley, Cortez"; The Aspen Daily Times February 17, 1955, at https://www.coloradohistoricnewspapers.org*

About Wheat Bushels

- A bushel of wheat makes forty-five 24-ounce boxes of wheat flake cereal.
- One acre of wheat yields an average 37.1 bushels of wheat in the U.S.
- One bushel of wheat has about one million individual kernels.
- One bushel of wheat weighs approximately 60 pounds.
- One bushel of wheat yields approximately 42 pounds of white flour.
- A bushel of wheat makes 90 one-pound loaves of whole wheat bread.

Source: National Association of Wheat Growers; https://wheatworld.org/wheat-101/wheat-facts/

Grains & Beans	Pounds Consumed Per Capita in US	Pounds Consumed Montezuma CO X 26,031	Acres in Production Montezuma CO as per USDA	Total Yield in Pounds/Acre USDA	Estimated Surplus or Shortage for County
Wheat grain	188.3	4,899,034	18,115	3037	+50,116,221
Soybeans	1.6	41,650	0	0	-41,650 lb.
Dry Beans	7.5	195,233	4,329	5,287,700	+ 5,092,467 lb.
Corn all use	145	3,774,495	3,578	22,257,312	+ 18,482,871 lb.
Corn for food	35	916,291	?	?	?
Corn for fuel	58	1,518,388	?	?	?
Corn for feed	53	1,366,628	?	?	?

Local Grains Movement

"Grains may be latecomers to the local foods movement, but they've arrived and they're changing the way many communities think about flavor and flour. The local grain renaissance that's making its mark, particularly throughout the Northeast and along the West Coast, is helping to connect consumers more closely with producers, millers, and artisan bakers.

Many of the farmers involved in local and specialty grain production are interested in growing something people can't find on their grocery shelves, which has led to an expanding interest in heritage grain varieties. Perhaps one of the most significant benefits to these heirloom grains is flavor—Instead of growing to maximize yield, farmers growing outside a commodity system can focus on growing varieties that produce much nuttier, sweeter, earthier flours than the all-purpose wheat flour we're used to."

Source: The Whole Grains Council https://wholegrainscouncil.org

Livestock also has been a mainstay of Montezuma County agriculture. Forty percent of the farm operations currently produce five times the amount of the beef necessary to satisfy the county. Although the number of sheep and lambs is down dramatically from 80,000 in 1930 to only 2468 in 2017, the county still produces 40 percent more lamb and mutton than what is consumed locally.

Unlike most areas of the US where producers often travel 150 miles to have their animals USDA inspected at large facilities, producers in Montezuma County have access to two USDA inspected abattoirs, Sunnyside Meats of Durango, and Blue Mountain Meats of Monticello UT within 70 miles, as well as several custom processors. Sunnyside Meats specializes in supporting small scale direct to consumer meat producers and is also certified organic, and Blue Mountain Meats distributes within the region. Additionally, one private abattoir opened in Mancos in 2019, and a commercial USDA facility is due to come online in 2023 south of Cortez. These abattoirs provide an invaluable service to producers who wish to sell direct to consumers and retail outlets.

On the other hand, the county produces less than one percent of the chicken and pork than what is consumed locally. The lack of processing facilities for poultry in the region is a major barrier to

significantly increasing production. This situation has been eased partially with the recent relaxation of Colorado laws around on-farm processing, helping small producers market meat birds. Now producers can process up to 1,000 birds on farm to be sold directly to consumers. However, on-farm processing is not very efficient, high in labor and is limited only to direct sales to consumers.

Meat Type	Approx. Per Capita Consumption US	Pounds Consumed Montezuma CO x 26,031	Number Livestock & Poultry Inventory	Approx. Number Harvested for Market	Estimated Pounds Meat Produced	Approx. Surplus or Shortage
Chicken	97.8	2,545,832	410	410	1,640	- 2,544,192 lbs.
Beef	58.8	1,530,623	26,889	13,445	9,411,500	+ 7,880,877 lbs.
Pork	51.3	1,335,390	981	260	8346	- 1,327,044 lbs.
Turkey	15.3	398,274	20	?	?	- 398,274 lbs.
Lamb/Mutton	1.1	28,634	2468	1,535	76,750	+ 48,116 lbs.

Data on production yields and per capita consumption was developed from these sources:

https://ers.usda.gov

https://www.agmrc.org/commodities-product

https://nevegetable.org/cultural-practices/table-15-approximate-yields

https://www.statista.com/

http://askthemeatman.com/yield_on_beef_carcass.htm#breakdown

https://www.agmrc.org/commodities-products

https://www.producemarketguide.com/

https://www.nass.usda.gov/Statistics_by_State/Colorado/Publications/Special_Interest_Reports/CO-Fruit-Tree-Vineyard-Survey-08012002.pdf

Making Locally Sourced Food Available for All

As the data shows, diversity in agriculture already exists in the five-county region and further diversification is possible. A wide variety of fruit and vegetable crops along with small grains such as millet, sorghum, specialty wheats, oil seed crops and many types of dry beans could be feasible. There is ample forage, grain, and grazing lands available for livestock including dairy cows, goats, sheep, pigs, and cattle as well as poultry.

Given the current state of agriculture, the report indicates there is a need to focus on what it will take to keep the 10,755 farms and their producers viable, provide products to a local food system accessible by all people, and able to pass their land on to the next generation of farmers and ranchers.

Most farms and ranches in the region are small and are not full-time farm operations. For this reason, the availability of quality off-farm jobs in the community helps farm families stay on the land. Creating living wage jobs that promote a robust middle class able to afford to make healthy food choices and buy locally sourced foods is also important.

Enhancing a local/regional food system that provides an even greater diversity of products and access to food for all people will require a community effort to remove production, logistical and financial barriers that challenge farmers and ranchers who would like to produce for local consumption, add value to their products, and/or diversify into new enterprises and markets. Access to both local and distant markets for producers is necessary for economic viability. Farmers and ranchers must be able to ask for and receive a fair price for what they produce to be sustainable as a business.

Promoting a strong competitive edge for locally produced food will encourage consumers to make healthy food choices. This includes consumer education about the nutritional, economic, environmental, and social benefits of eating local and how making local foods accessible to all helps create a strong healthy community.

Affordability must be considered not only from the consumer's perspective but also from the producer's perspective. The cost of local food is tied both to the ability of farmers to be efficient in production and their ability to access markets large enough to justify new crops, diversification, and vertical integration. The cost of both labor and technology are often major barriers to farmers and ranchers who wish to scale their operations for larger markets.

Cheap Food Is Not the Answer

Now we know that "cheap food" will not eliminate hunger. Even our public food assistance programs leave food security up to the recipients' food choices at the grocery store. And we have focused on providing cheap calories and have done essentially nothing to ensure that the agri-food system will meet the nutritional needs of anyone — let alone meet the basic food needs of everyone. Instead, we have allowed food processing, distribution, and retailing to become dominated, if not outright controlled, by a few giant agribusiness corporations that must compete with other publicly traded corporations for investor capital.

This means they have been under constant pressure to increase sales by more than the increases in food consumption associated with normal population growth — which has been growing about 1 percent per year. To meet this goal, these corporations make foods with addictive properties to maximize consumption — which is how we ended up with Twinkies on the shelves. But human stomach capacity is limited. And a more promising strategy for maintaining corporate growth has been to sell more foods whose value comes from something other than the food itself. Rather than provide food security, federal subsidies have provided these food companies with cheap, reliable sources of raw materials to be manufactured into what (Michael) Pollan calls "food-like substances."

Source: "This Is Why Carrots Cost More Than Twinkies", John Ikerd, In These Times, Jan 2018.

Often the infrastructure that connects family farmers to the consumer does not exist to serve local or regional markets. For many family farms and ranches, it is financially and logistically impossible to vertically integrate into all segments of the food system. Thus, for a robust local food system to develop, the economic development community may need to encourage entrepreneurs who will create businesses that aggregate, process, distribute, manufacture, and market food products.

There are many stakeholders, industries, and issues to be considered in creating a more dependable, efficient, and productive local/regional food system. Enabling all players in the local food system to come to the decision-making table will be essential to building this sector of our economy and satisfying the very real need for safe, healthy, dependable, and affordable local food for all.

Finally, the next two charts summarize the benefits and challenges that producers, consumers and society must consider in making decisions about the local food system. Also see the appendix for a list of useful resources and information.

Considerations for producers of local food:

Potential Benefits Realized by Producers	Potential Challenges Faced by Producers
• Prices increase at farm gate • Able to add value through sustainable or regenerative production practices and family values • Markets are created especially for small producers • Better communication and information to consumers • Diversification of marketing channels lends stability • Enhanced ability to be resilient and flexible • More control over commercial relationships • New opportunities to cooperate with other farmers as well as with consumers and community • When transitioning from conventional approaches there is an opportunity to revisit business model and strategy for whole farm and include more family members • Build a sense of community around farm values and the people who run the farm • Ability to target small customer segments • A stronger business model based on both local and distant markets and multiple distribution channels • Enhanced ability to adapt production to varying weather, economic and environmental factors • Increase opportunities for small landowners, part time and lifestyle farmers to generate income • More possibilities for creative entrepreneurs to develop new products and partnerships with others • Opportunities to create niche products and that take advantage of export opportunities • Young and beginning farmers may start up with very small operations requiring less out lay of money	• Lack of processing, storage, and distribution to make it possible to offer local products to community/region • Farmers unable to ask and or receive fair price for products • New functions to be performed by farmers increase both direct and indirect costs. • Increase in workforce needs, especially skilled labor • Need for new competencies and skills, especially in business planning, marketing, and management • Opportunities restricted in rural areas by lack of market potential and/or access to markets capable of supporting an economy of scale that allows farmers to be profitable • Increasing competition from corporations • Difficulty complying with regulations, licensing, certifications, tax collection required at Federal, State and Local levels. • Added liabilities require mitigation measures and insurance (i.e., Food Safety Plan and product liability) that are difficult to achieve or find. • Specialized equipment difficult or impossible to find • Lack of access to internet is common in rural areas • Limited access to land, financing, and other resources • Individual farm operators often lack the capacity to meet buyer requirements for product volume, quality, consistency, variety, or extended availability. • Commercial and institutional customers are demanding third-party certifications of production and handling processes (e.g., GAP, GHP), and traceback capability which add costs and additional skills needed for producers.

Considerations for consumers and society concerning local food:

Potential Benefits Realized by Consumers and Society	Potential Challenges Faced by Consumers and Society
• More affordable pricing when food is bought in quantity and when seasonally available • Easier access to fresh food and quality products • Improved nutrition for consumers • Buy products traceable from a known producer • Reconnect food to the farming and processing process • Easier access to healthier food options for people who other wise would not have access • Ability to pursue and realize ethical ideals • Opportunity to celebrate traditions and enjoy the cultural aspects of agriculture and connect with others • Support local economy by keeping food dollars local and circulating in the community • Support for regenerative agriculture, young farmers, new products • More family involvement in putting food on table • Increased food security, especially when national/global system is stressed or non-functional • Reduce cost and impact of harmful chemicals, transportation, and use of fossil fuel. • Possible reduction of packaging material • Less food waste is possible • Community stability through economic development and keeping families on the land • Opportunities for entrepreneurs who develop food processing, aggregation, distribution services, export markets, food and beverage establishments as well as social events • Improved diets: easier access to fresh food, more variety in diet, less preservatives, … • Opportunity for urban agriculture • Community support for family-based farming and ranching • Continuation of traditional ways of life • Conservation of local agro-biodiversity (diversity in domestic plants, animals, insects and landscapes.) • Strengthening social ties • Awareness and support for agriculture's role in sustaining healthy ecosystem function, wildlife habitat, open space, recreation activities and mitigating climate change • Opportunities for historically disadvantage people to become involved in community	• More time may be needed for food purchase, limiting access to local food for working class persons • More time needed to prepare and or store food • Lack of cooking and food preservation skills • Increase in the "total cost" of food especially when adding costs of storage (i.e., freezer space) and processing (i.e., canning) • Scarce information on where to buy or how to buy • Labeling confusing or not available • False advertising and marketing practices • Local foods simply cost more to produce and market therefore lower income people are not able to afford • Farmers markets become places to entertain the affluent and well-educated people, not support the farmer or feed the community • Lack of local processing, storage and manufacturing reduces availability of local food out of season • Increased issues with food safety and traceability in production, processing, and food preparation • Agricultural producers cannot meet consumer needs for convenience, yearlong availability, and reliability • Lower income population cannot take part in local food economy for variety of reasons • Community does not support economic development needed to make local food possible such as community investments in equipment and facilities for processing, storage, and transportation. • Community unable or unwilling to supply necessary infrastructure such as broad band internet, business development, technical and financial support • Farmers continue to be challenged by market access to larger volume customers or geographic area to be efficient • Regulatory burden for local food system is increased

Part Three

Progress in Our Local Food System

Following extensive community interviews, listening sessions, and roundtable discussions, an ad hoc group called the Montezuma Food Task Force created a "Food System Framework" in 2017 as a suggested pathway to creating and promoting a more sustainable, healthy, equitable and economically viable local food system.

Below is a summary of the Framework objectives, defined in four categories by participating stakeholders: Local Food, Healthy Eating, Food Security, and Economic Vitality. The bullet points highlight accomplishments and challenges in each target area in Montezuma County between 2017-2022. Items highlighted in yellow indicate accomplishments, while blue represents challenges.

Several of the entities mentioned herein are highlighted in the Community Voices section, following this Framework follow-up.

Local Food

Increase viable local options in our food system

1. Maintain agricultural land base and increase capacity to produce

OBJECTIVE: Create land use policies that maintain agricultural acreage county wide, as well as encourage urban farming, edible landscaping, gardening, and orchards. Build capacity of current producers and attract new producers to the area. Incentivize forage producers to grow food.

Accomplishments and challenges, 2017-2022:

- Montezuma Orchard Restoration Project – reviving interest and marketability of apple production - offers education, tree propagation, a heritage apple orchard, and a commercial-grade mobile juicer.
- Two new community gardens broke ground in 2021-22 in Cortez and Dolores.
- According to the USDA Census, the number of farms producing vegetables for the marketplace grew from 41 farms on 63 acres in 2012, to 47 farms on 86 acres in 2017. 2022 USDA census data is not yet available, but according the local NRCS office, numbers of small farms are continuing to increase. (Info on the production capacity of new farms is not currently available.)
- Building capacity
    - While there is significant interest in increasing fruit and vegetable production, there are barriers to growth, including:
        - Food production capacity falling due (in part) to drought.
        - Difficulty in achieving economic viability forces increased off-farm income, reducing on-farm production.
        - Converting acreage from forage to produce has not been pursued on a system level. It is an expensive undertaking requiring totally different infrastructure, processing, and sales channels.

- New producers are limited by land access, lack of experience, access to capital, and limited market opportunities.
- Access to both local and distant markets for producers is necessary for economic viability. Farmers and ranchers must be able to ask for and receive a fair price for what they produce to be sustainable as a business. Lack of external markets for exporting vegetables and fruit, especially apples, hinders ability of producers to scale up to an economically feasible level of production.

2. Support small and midscale farming

OBJECTIVE: Strengthen local food system by decreasing regulatory barriers, providing training and technical support. Increase farmer access to land, capital, and markets. Identify number of farmers and amount of land needed to provide food for 20% of residents. Support creation of a local distribution and processing capacity.

Accomplishments and challenges, 2017-2022:

- Regulatory barriers
  - In 2015-16 the Cottage Foods Act added several categories to the list of allowable products that can be produced in non-commercial kitchens and sold direct to consumers.
  - Selling to institutions: regulations have not changed, but some local institutions have requirements that are cumbersome for local producers.
- Training and technical support
  - Old Fort at Hesperus offers an Education Garden and Internships, Farmer in Training, and Incubator programs
  - New ag program at Pueblo Community College began with an Intro to Ag general program, and plans to add diversity in class offerings over time
  - Montezuma Land Conservancy's Fozzie's Farm education and research programs
  - New USDA grants focus on increasing small farm viability
  - The Colorado Small Business Development Center provides technical assistance in developing business management strategies and provide linkages to financing, grants, and other resources
  - The CSU Southwest Colorado Research Station offers educational programs and conducts valuable research on new crops, irrigation and tillage practices, and development of varieties suited to our area.
- Increase farmer access to land, capital, and markets
  - Guidestone/LandLink revives engagement in SW Colorado
  - Southwest Farm Fresh enters its eighth year as a farmer-owned marketing and distribution cooperative
  - The Southwest Producers Directory (southwestproducers.org), started in 2019, is a consumer-facing directory of 47 local producers, CSAs, farm stores, farm stands and farmers markets
  - Regional efforts are underway to solve the transportation barriers around connecting food hubs and increasing production
  - Dolores County Development Corporation offers low cost loans to small businesses and offers low cost access to and in its business park located in Dove Creek
  - Region 9 Economic Development District offers a variety of financing products.

- Based on data gathered in Part Two of this document, it appears that local producers are supplying approximately 12 percent of Montezuma County's vegetable consumption needs. According to USDA, currently there are a total of 86 acres in vegetable production in Montezuma County, of which 68 were harvested for the local market in 2017. Given our climate, the fact that nearly all farms in the county are small-scale, it is estimated that between 258 and 578 acres of production would be required to satisfy vegetable consumption needs.
- Montezuma County produces more peaches, pears, grapes, and apples than what is required strictly for local consumption. Due to lack of local processing, manufacturing and storage facilities and lack of access to distant markets, the number of acres in orchard production has declined in recent years. Efforts are currently being made to revitalize the fruit industry in the county.
    - The Natural Resources Conservation Service provides technical services and cost sharing support for land management practices.
- Local growers are working on re-establishing viable markets and creating value added products. Several new cideries have begun operation in recent years and growers collaborate on mobile juice processing. In addition, the Montezuma Orchard Restoration Project is focused on saving heritage varieties of apples that remain from the early years of the region's apple industry.
- Montezuma County also produces more wheat, corn, and dry beans that what is needed to satisfy the population. Local processing of wheat and beans makes it possible to add value to and export these products.
- Montezuma County produces five times the amount of beef than what is necessary to satisfy local consumption needs. Most of the beef is exported to be finished in feedlots.
- Distribution and processing
    - Over 30 local producers utilize South West Food Fresh's online ordering platform, started in 2020, to distribute their products to retail and wholesale customers in the Four Corners area.
    - Unlike most areas of the US where producers often travel 150 miles to have their animals USDA inspected at large facilities, producers in Montezuma County have access to two USDA inspected abattoirs, Sunnyside Meats of Durango, and Blue Mountain Meats of Monticello UT, within 70 miles, as well as several custom processors. Sunnyside Meats specializes in supporting small scale direct to consumer meat producers and is also certified organic; Blue Mountain Meats distributes within the region. These abattoirs provide an invaluable service to producers who wish to sell direct to consumers and retail outlets, yet to fully meet local demand for beef, poultry and pork, additional finishing and processing facilities would be needed.
    - A small USDA inspected slaughterhouse, Road 39 Ranch, opened in Mancos in 2019 to process their own beef and limited quantities of beef from other producers. In early 2022, the Board of County Commissioners approved a land use permit for a new meat processing facility south of Cortez. Completion of the facility is anticipated by early 2023.
    - Despite high demand for local poultry, there are still no poultry processors in the area, but is considered a high priority by economic development stakeholders.
    - Unfortunately, concentration in the beef, pork, and poultry industries has made it nearly impossible for small processors to compete with the four large corporations that control the industry. Currently changes to USDA policies and executive actions by President

Biden are being taken to make small scale meat processing more competitive. Congress is also considering actions to the marketplace fairer for family ranchers and farmers.

- The Montezuma Land Use Plan favors agricultural land use by allowing farmers and ranchers a wide range of zoning options that aim to protect agricultural values. The land use code also includes a "right to farm" clause.
- Overall, access to land has become more challenging as developers take land out of agricultural production and land becomes increasingly expensive; current land values are based on quality of life, value of water rights, and the amenities of the rural lifestyle, not on agricultural production. Access to capital for small and beginning farmers is limited, and most USDA grants do not pay for equipment. Additionally, experienced farm labor is in short supply, contributing to limits in production capacity.

3. Increase urban food production

OBJECTIVE: Build capacity and equity around residents' access to land and resources needed for community and personal food production. (i.e. backyard, community, and porch gardens)

Accomplishments and challenges, 2017-2022:

- Expansion of several garden projects
  - Montezuma School to Farm Project, started in 2009, now includes seven school gardens in all three districts at elementary and middle schools.
  - Common Ground Cortez broke ground on their second community garden
  - Dolores Family Project received funding in early 2022 for a community garden
  - The Good Samaritan Center created a multi-cultural teaching garden and provides pantry clients with vegetable and herb seedlings.
- Despite a broad-based community effort led by the Cortez Heart and Soul project in 2014, recommendations for edible landscapes have not been acted upon by the city.

4. Encourage environmental, resource & conservation practices

OBJECTIVE: Sustain a resilient environment through policies that promote conservation and offer protection and improvement of soil and water which are critical for long-term community needs.

Accomplishments and challenges, 2017-2022:

- Conservation efforts in the county have conserved 750 acre feet of water since 2018.
- The county landfill produces compost which is available for sale. The landfill is building a seven-acre compost pad to start a food waste diversion program – they are currently seeking partners in this project.
- Montezuma Land Conservancy and the Ute Mountain Ute tribe are working in partnership to build relationships based in land and community.
- Since 2017, NRCS EQIP (Environmental Quality Incentives Program) has funded 176 contracts for new EQIP projects in Montezuma County, totaling $8.3 million on over 10,000 acres.
- Fozzie's Farm collaborates with Colorado State University's Southwest Research Center to collect and share data on pasture management methods to increase efficiencies in water usage.

Healthy Eating

Make healthy food choices an easy choice

1. Apply county wide solutions to create healthy food environments

OBJECTIVE: Utilize a range of targeted strategies to include public investment, land-use planning and policy that promote active lifestyles and healthy food environments where residents live, work, play and learn.

Accomplishments and challenges, 2017-2022:

- The Ute Mountain Ute tribe is making progress in creating healthy food environments through fresh food distribution programs, engagement in preserving traditional foodways, and is raising funds to build a grocery store in Towaoc.
- Continued growth in community gardens and school gardens are possible because of community and grant support.
- In 2013 the RE-1 school district increased the amount of scratch-cooked food and reduced the use of processed foods. COVID caused a big reduction in the school's ability to scratch cook, but is gradually returning to pre-pandemic levels.
- Farm to school programs enabled locally grown food to be served in the schools, and now makes up 5-10 percent of food purchases. However, the cost of local food and the logistics of getting the food to the schools prohibits the school district from buying more.
- There have been no recent city or county initiatives to create healthy food environments.

2. Increase equitable access to healthy, affordable, and culturally appropriate foods

OBJECTIVE: Enhance community health by increasing availability, affordability and accessibility of healthy foods while decreasing unhealthy food outlets and choices at work and school.

Accomplishments and challenges, 2017-2022:

- COVID-19 emergency food relief funds greatly increased the amount of food distributed by food pantries, and many opted to include a greater variety of fresh fruits and vegetables, local meat, and eggs. Some food assistance groups started home delivery to combat transportation barriers and are continuing even as COVID wanes. With the awareness that more healthy food options have been needed for a long time, many groups are dedicated to continue providing fresh foods.
- On the state level, foundations and government have increased funding and programs that support the purchase of locally produced food, and many nonprofits and agencies are coordinating the purchasing, aggregation, and distribution of these products.
- In many food assistance spaces, awareness is increasing about the need for culturally appropriate food choices.
- Southwest Farm Fresh cooperative introduced an online farmers market in 2020, increasing the availability of locally grown food in the retail marketplace.
- The Cortez Farmers Market began accepting SNAP benefits in 2007 and participates in the Double Up Bucks program offered by Hunger Free Colorado.
- Schools have slightly decreased unhealthy food options in vending machines, but feel more could be done by manufacturers.

- There have been no recent city or county initiatives to address equitable access to healthy, affordable, or culturally appropriate foods.

3. Promote health by encouraging healthy food choices

OBJECTIVE: Slow and reverse rates of diabetes and obesity by encouraging residents to consume 5 servings of fruits and vegetables daily and decrease consumption of processed and unhealthy food.

Accomplishments and challenges, 2017-2022:

- While the health outcomes are not tracked, since 2020 the food assistance community has substantially increased the availability of fresh and local produce to their low-income clients. These efforts are largely due to the availability of grant funds and are designed to increase consumption of fresh foods for better health and to support local food production.
- Since the "Eat Healthy Eat Local" program offered by Live Well Montezuma from 2012-2014, there has been no widespread effort to encourage resident's consumption of healthy foods and decreasing consumption of processed and unhealthy food.
- Montezuma County is losing ground in the fight against obesity and diabetes. In 2019, 24 percent of adults were obese, an increase from 17 percent in 2005. In 2017, 12.9 percent of adults had diabetes, up from 8.4 percent in 2013. Across Colorado, rates of both obesity and diabetes have remained flat from 2013-2017, at 21.3 percent and 6.9 percent, respectively. (*Southwest Health System Community Health Needs Assessment and Implementation Plan*)

4. Provide nutrition education to students and residents

OBJECTIVE: Improve the ability of all Montezuma County students and residents to lead healthier lives and become self-sufficient through nutrition education, gardening, cooking, and shopping classes.

Accomplishments and challenges, 2017-2022:

- From 2017-2019 nutrition education, cooking, and shopping programs offered by Cooking Matters, WIC, the Pinon Project, and more were popular among the largely low-income participants. COVID greatly reduced these opportunities, although outdoor gardening education increased at the Good Samaritan Center, Common Ground, and at Montezuma School to Farm.

Food Security

Make local and healthy food accessible for all residents

1. Increase resident's self sufficiency

OBJECTIVE: Provide all residents with the tools and resources they need to make healthy eating and active living (HEAL) choices through public health initiatives.

Accomplishments and challenges, 2017-2022:

- The WIC office offers nutrition education for all their clients, and added a food pantry in 2019.
- Essentials for Childhood is a program offered by the county health department and addresses, in part, childhood food insecurity through community coalition work.
- No widespread public health initiatives related to HEAL are currently in place.

2. Commit County and city resources

OBJECTIVE: Commit resources to teach residents and children how to grow, prepare and shop for healthy food. Continue the support and outreach of programs that currently provide the services. Become more actively involved with the local food campaigns, thereby strengthening their efficacy.

Accomplishments and challenges, 2017-2022:

- The City of Cortez made a small neighborhood park available to Common Ground Cortez in 2021 to create a new community garden.

3. Strengthen community food resilience

OBJECTIVE: Strive towards increased community resilience to threats such as food insecurity, fuel and energy shortages and cost.

Accomplishments and challenges, 2017-2022:

- The most notable improvements in community food resilience between 2017-2022 were driven by COVID's impact on individuals and organizations as they networked, shared resources, and built relationships like never before.
- Entities such as Rocky Mountain Farmers Union, the Good Food Collective, The Old Fort, Fozzie's Farm, and Pueblo Community College in Mancos continue to increase their work around farm and ranch education, policy, and connectivity.
- A non-profit organization, Four Corners Slow Money provides zero interest micro-loans to farmers and food entrepreneurs that contribute to a healthy local food system.
- New solar power installations - three small and two large arrays - are adding 304 megawatts to the electrical grid.

4. Facilitate equitable participation and decision making by all residents

OBJECTIVE: Involve a wide range of community members to develop and support food related issues, while building community control of food resources by participation in food councils and coalitions.

Accomplishments and challenges, 2017-2022:

- There are no active food councils in the county.
- In response to COVID, the Four Corners Food Coalition was formed to meet the needs of primarily indigenous communities across the region and in support of food sovereignty work.

Economic Vitality

Promote a thriving self-reliant economy

1. Promote local food producers and products

OBJECTIVE: Promote and support local producers and products, including local businesses that contribute to a healthy food system. Build a viable labor force to support agricultural producers. Encourage capacity building of a diverse and resilient regional food system. Encourage collaboration with other regions.

Accomplishments and challenges, 2017-2022:

- Promote and support local producers and products:
  - Southwest Farm Fresh started in 2014 as a farmer-owned marketing and distribution cooperative and has grown steadily. As of 2021 their online farmers market reaches hundreds of retail customers and supports several food assistance programs.
  - Montezuma Orchard Restoration Project (MORP) started in 2008 identifying and propagating heritage apple trees in Montezuma County. Orchard and apple tree education, mobile juice pressing, and sales of local heritage apple trees are their primary activities. Their strategic plan can be found at http://montezumaorchard.org/wp-content/uploads/2018/02/MORP-Strategic-Plan-Feb-2018.pdf
  - The resurgence in apple production has sparked new cideries, juice production, and other value-added products.
  - Many nonprofit entities have utilized grant funds to source locally grown products in recent years, providing a new market channel for producers. The trickle-down effect is expected to increase awareness of local farms and increase people's desire for nutritionally dense and flavorful foods.
  - A southwest producers online directory was created in 2019 to more easily connect consumers with producers in the southwest region, southwestproducers.org.
  - Multiple restaurants and small grocery stores carry locally produced goods. The demand for local generally outweighs the supply. Beef is a rare exception, however bottlenecks in processing can limit availability.
- Build a viable labor force to support agricultural producers:
  - The following organizations are engaged in varying aspects of workforce training and beginning farmer education:
    - Rocky Mountain Farmers Union, the Old Fort at Hesperus, Pueblo Community College, Fozzie's Farm, and the Montezuma School to Farm Project.
    - In 2021 the State of Colorado signed new worker rights into law (**Senate Bill 21-087 ("SB87"), on agricultural labor rights and responsibilities**) adversely affecting the cost of hiring farm labor.
  - At the state level, On June 23, 2021, Governor Polis signed HB21-1007: State Apprenticeship Agency into law, codifying the state's commitment to increase access to earn-and-learn programs that lead to high quality jobs and to build the talent pipeline that industry needs.
  - The housing shortage and high real estate prices prohibit people from moving to the area, negatively impacting the availability of skilled labor.

- Encourage capacity building of a diverse and resilient regional food system and encourage collaboration with other regions:
    - COVID sparked increased concern over the resiliency and diversity of our food system. The nonprofit food assistance community, educators, and not-for-profit farming and land use entities are addressing these issues with forward-thinking programming to build resiliency and diversity in our region's food system.
    - In recent years, efforts have begun to connect regional food hubs to create new markets for growers and to help stabilize supply and demand. The diverse growing conditions across southern Colorado enable a wide array of products that, when distributed regionally, can increase choice for consumers in the local food marketplace. Currently, a USDA planning grant managed by Mountain Roots Food Hub in Gunnison, CO is addressing hub-to-hub transportation and inventory coordination in southwest Colorado.
    - In early 2022 the Montezuma County Board of County Commissioners approved a location south of Cortez for a meat processing plant. Still very much needed throughout the region, however, is infrastructure for USDA approved poultry processing.
    - The Ute Mountain Ute tribe published a grocery store feasibility study in January 2020 to build a store in Towaoc. If the project moves forward, it promises to greatly increase food choices and access to a community that currently must travel at least 15 miles for groceries. A high priority is culturally appropriate food selection, food business incubation, healthy prepared food options, and job opportunities.

2. Promote the continuation of Farm to School and institutional purchasing of regional food products

OBJECTIVE: Ensure that area schools and institutions served fresh, sustainably produced food. Promote the development of institutional guidelines and policies that allow preference for local producers and businesses.

Accomplishments and challenges, 2017-2022:

- No progress has been made regarding coordinated farm to school or institutional purchasing of locally grown products, partly because of product availability, local food costs, coordination challenges, and the pandemic.

3. Increase local supply chain capacity

OBJECTIVE: Create jobs and build long-term economic vitality by promoting development of locally owned processing, distribution, and storage facilities.

Accomplishments and challenges, 2017-2022:

- Locally owned facilities to process and distribute food are limited by local and regional food production. As of 2022, Southwest Farm Fresh cooperative remains the sole for-profit aggregation and distribution facility in the county, and has grown serve about 30 farmers, ranchers, and value-added producers.
- The Good Samaritan Center is expanding their capacity to store and distribute food to food assistance organizations, from 750 sq.ft. to 2,000 sq.ft.

- The Montezuma Orchard Restoration Project's mobile juicer is available to local orchards to press and package juice for the retail market.
- Fenceline Cidery, EsoTerra, and others processing local fruit into hard ciders.
- Value-added food processing is a water-intensive proposition, posing a challenge for start-up VAP businesses in a region where water is in short supply during the drought.

4. Develop the food economy infrastructure

OBJECTIVE: Provide economic support of next generation food entrepreneurs. Facilitate business and producer incubator programs for all community members and youth to develop skills and cultivate leadership.

Accomplishments and challenges, 2017-2022:

- The Old Fort Farmer in Training (FIT) program has mentored dozens of beginning farmers since 2017.
- Pueblo Community College in Mancos includes business education in their Introduction to Agriculture curriculum.
- SBDC offers a series of agribusiness programs for business planning.
- Region 9 is actively engaged with the 2021 Montezuma County Community Development Action Plan (CDAP), which has identified agriculture and workforce as top priorities.
- Fozzie's Farm hosts agriculture immersion programs for area high school students.
- The CSU Extension office hosts the 4H program for skills and leadership education.

Part Four

Community Voices

Interviews with people and organizations
who are making a difference in our local food system

Food Assistance

Dove Creek Care and Share
Dove Creek, Dolores County, Colorado
Kathleen Keesling, Director

The Dove Creek Care and Share (DCC&S) food pantry provides emergency food relief in a warm and friendly environment, and is on the Emergency Operations Plan as food infrastructure for the county. A high priority at DCC&S is to make healthy food more accessible and affordable, and to increase consumption of healthy foods. With minimal staffing and numerous community volunteers, they are open Monday through Thursday from noon-2:00 and offer a positive client shopping experience that includes seasonal local produce.

Their hours increased from one to four days per week with the onset of COVID, and they continue to see 15 percent of the demand as COVID-related, while simultaneously drought and monsoonal flooding cause additional economic stress. Their programming is expanding to include food education, and efforts are underway with the county and funders to increase the size of their facility, and to build a community kitchen to serve prepared foods, offer classes, and as a resource for local food producers.

DCC&S started a farmers market in Dove Creek, which did not operate in 2020-21 due to COVID. They have plans to resume the market in the fall of 2021. DCC&S started a community garden three years ago. With assistance from The Community Voice, a project of the Colorado Trust, a new garden at the Dove Creek School is up and running, and the students are now harvesting their first crops.

Evangel Assembly of God
Cortez, Montezuma County, Colorado
Kathy McDonnell, Director

Beginning in 1995 with an emptied-out storage closet and church members donating food, the Evangel Assembly's food assistance program grew to a full food pantry in 2001. Still operating in limited space, the pantry currently provides food boxes to 25 families a month.

In 1992 they started a "Power" Lunch for students at the old, near-by Montezuma Cortez High School, where students would meet with the Youth Pastor for a sack lunch and short bible devotion. The "Power" Lunch grew from a sack lunch to a hot meal every Wednesday during the school year, with about 7 local churches taking turns cooking at Evangel Assembly's facility. About 150 high school students attended every Wednesday!

In 2008, when the new Montezuma Cortez High School was built and students could no longer come across town to eat lunch, Evangel Assembly moved the youth feeding program to Wednesday nights at the church. They are currently feeding 100 children and youth a hot meal every Wednesday night during the school year. Many of the children are picked up in the church's vans and attend classes after the hot meal. When COVID interrupted the Wednesday night gathering, 20 food boxes were delivered to the kids and their families in place of the in-person meal. During the summer, the Wednesday evening hot meal is replaced with two weeks of Vacation Bible School, where lunch and a snack are provided Monday thru Friday.

Evangel Assembly feeds approximately400 people a month. They reach mostly families, and 80 percent of those assisted are non-congregation community members. The demographics served are quite varied and include youth, Native Americans, Latinos, and Caucasians. They also serve a limited number of seniors and veterans. Evangel Assembly believes there is much more they could do to reach additional people and they are constantly trying to expand their services. The real barriers to reaching more people are their limited facilities and storage space. They have no requirements to qualify for assistance.

In past years, Evangel Assembly also prepared backpacks of food for Manaugh Elementary School students. (Recently, the school began their own food program by collaborating with Care and Share food bank.) Evangel Assembly continues to provide 15-20 food boxes at Christmas to families in need, including all the items needed for a complete Christmas dinner, and more.

To expand access to locally grown products, Evangel Assembly has started working with the Sharehouse community food center and local growers. They continue to expand their collaboration with outside organizations including Manaugh School, Care and Share, Good Samaritan Food Pantry, and Heart to Heart.

Evangel Assembly is most excited about helping meet the needs of families, knowing they are helping those who are truly in need of food. Or, in some cases, providing additional help to those in need. One recent evening a young boy came to church without any shoes. He had really wanted to come with his brother, and even though it was cold, he came shoe-less. He did not leave Evangel Assembly shoe-less, however, because helping people meet their needs is the most exciting aspect of their work. The little boy left with a new pair of shoes.

Good Samaritan Center Food Pantry

Cortez, Montezuma County, Colorado

Kirbi Foster, Director

Serving the area for 37 years, Good Samaritan Center food pantry (Good Sam's) provides emergency food assistance in the most dignified way possible. Members may visit The Pantry to "shop," and food box deliveries are available for those unable to shop in person. The Pantry has also started a small garden, provides seedlings to members, and offers several gardening classes. The number of people served by Good Sam's fluctuates yearly and monthly. In 2020, they served 2850 households, 9300 individuals. From January thru the present (October 2021) they have served 7000 individuals and 2300 households. Good Sam's does not track the demographics of those they serve, but representation is a diverse cross-section of the community.

Good Sam's is continuously reaching out to those who need assistance. With the initiation of food deliveries, they are reaching more people than ever before. The barriers to reaching more people include: the past image of a very insular organization (church community), the need to reach more individuals, and the stigma associated with asking for food assistance.

Good Sam's has changed the way people access food assistance at their facility. Photo ID or income verification are no longer required, and counseling and mandatory prayer have been discontinued. A huge improvement has been the ability for members to choose the items they want, eliminating the generic food box. They have added vegetarian and gluten free foods, reduced the number of prepackaged items, and added more staples like flour, salt, and sugar to the offerings. They have also expanded the availability of culturally appropriate foods, and purchase from indigenous organizations and suppliers. In addition, the pantry has added gardening classes, seedling distribution, and special classes in growing indigenous foods. Good Sam's has also extended their hours to reach people with different schedules.

Locally grown products are key to items that Good Sam's offers their members. Produce, meats, beans, flour, and eggs are sourced locally. To broaden their outreach and effectiveness, they collaborate with many different organizations including Montezuma School to Farm Project, Four Corners Food Coalition, Sharehouse, Mancos FoodShare, Cortez Community Garden, County Extension Office, WIC, and Pinon Project. In another collaborative effort, the Dolores Family Project is now a fiscal fund of Good Sam's.

The Good Samaritan Center is most excited about their partnerships and feels it is the only way to truly impact food insecurity. They feel it is important to delve deeper into their services, and build connections between people. Food assistance should be an experience in learning and sharing, and not just an in- and-out experience. Some members are now volunteering, and sharing in the rewarding feeling of assisting the community. In the future, Good Sam's is looking forward to more educational programs, access to a community kitchen, programs in youth leadership, a more robust garden, and the expansion of resource sharing and communication with Navajo and Ute populations.

Mancos FoodShare

Mancos, Montezuma County, Colorado

Stephanie Marquez, co-director.

In operation since 2013, Mancos FoodShare is dedicated to addressing hunger and food security by supporting and offering a variety of programs in the Mancos Valley. These programs include a weekly food pantry, USDA commodities distribution, cooking classes, free snacks to kids through schools and the Mancos Library, gardening classes, free summer lunches for kids, and a bulk buying club. In cooperation with Colorado Pet Pantry, they also offer monthly cat and dog food assistance.

MancosValley Resources serves as the fiscal sponsor for Mancos FoodShare. In 2020 Mancos FoodShare was pronounced Project of the Year by Mancos Valley Resources, and was also selected as Citizen of the Year by the Mancos Valley Chamber.

Mancos FoodShare served 5,489 people in 2020 and serves approximately 50 households per week. Their main service group is comprised of families between 30 and 40 years of age, and they also serve single seniors. According to Marquez, Mancos FoodShare reaches the majority of people who need food assistance in their geographic area. To increase their reach they have recently started to deliver food to people's homes once a month. However, there are still people who need food assistance and are unable to cross the psychological threshold to ask for help.

New programs and services offered by Mancos FoodShare include gardening classes and a seed share program, as well as cooking classes. These additional programs open the door to new people who may not have asked for assistance in the past.

Living in an agricultural community, Mancos FoodShare distributes locally grown produce and meats, some purchased and some donated by local farmers. They also collaborate with several local organizations, including The Sharehouse, Durango Food programs, and Four Corners Mutual Aid. Another effective collaboration is with the Mancos School District, where a teacher picks up food for up to twelve families that Mancos FoodShare had not been able to reach due to scheduling issues with the parents.

The three employees of Mancos Food Share are most excited about addressing food system problems and helping to address hunger on a local level. Mancos FoodShare believes it is important for people to take responsibility for each other.

Montezuma County Social Services

Cortez, Montezuma County, Colorado

Gina Montoya, Director; Amy Branson, Eligibility Manager

Montezuma County Social Services provides a variety of programs for the community. One of these programs is the Supplemental Nutrition Assistance Program (SNAP – formerly known as food stamps), where income eligible individuals may apply for and obtain food assistance benefits. There are currently 4,412 individuals enrolled, and although these numbers fluctuate by month, they represent only 45 percent of the people eligible for the program. Some of these numbers include Ute Tribal members eligible for a USDA food distribution program. If Tribal members participate in the USDA program, they are ineligible for SNAP. They must choose one program or the other. The main demographic served by the food assistance program is younger people, ages 18-50.

Based on the above numbers it is clear the program is not reaching all those who need food assistance. Most of these are older adults, whose pride and the stigma of receiving help from the government are key reasons for this lack of participation. Other obstacles reaching those who need help include transportation issues, inability to read and understand the application forms, lack of computer skills, and lack of internet access. There are also businesses that choose not to support the SNAP program and stand in the way its success.

In an attempt to reach the under-served people in Montezuma Country, Social Services has launched several new programs. Outreach has become a key component of their services, and staff members attend community events, visit senior and veterans' centers and other locations, speaking to people who are eligible for benefits. To stand out in the crowd they have created "SNAP Squad" t-shirts, and the squad is out to spread the word about SNAP eligibility. They have gone above and beyond by doing outreach at multiple community events, and are planning on doing outreach at our local Senior Center once a month starting in January 2022 to help reach our elderly and disabled community members who may be eligible. At Good Sam's food pantry, the SNAP team goes in person once a month to the site and provides applications for SNAP, guidance on how to fill out a SNAP application, or any other questions that are asked regarding benefits including ongoing case management. They have also produced a Food Resources brochure detailing all the various locations for food distribution and hot meals. To increase access to local foods, a statewide program called "Double Up Bucks" provides an additional dollar to spend on locally grown fruits and vegetables at the Farmers Market for every dollar a person spends with their SNAP benefits.

The Social Services Food Assistance Program collaborates with The Pinon Project, Renew, the Recovery Center, and Adult Protective Services. They also have addressed the food shortage due to COVID by participating in the Federal Government Food Stamp Allotment, which allows the maximum amount in food stamps to be issued.

Moving into the future, the Food Assistance Program of Social Services is most excited about continuing and expanding their outreach activities in order to reach more of the under-served people in the community.

Reaching Out to Community and Kids - ROCK
Dove Creek, Dolores County, Colorado
Carol Marie Howell, Director

The day I met with Carol Marie, the director of ROCK, their building in the middle of Dove Creek (population 632) was buzzing with activity. They made a party out of distributing school supplies, and wouldn't let me leave without a big helping of frito pie! There were kids of all ages helping to prepare the supplies, and volunteers to prepare the food and run the activities. Carol Marie enthusiastically took time out to show me around and answer a bunch of questions.

ROCK acquired a building on the highway that runs through Dove Creek, and recently added a storage trailer to house refrigerators, freezers, and shelf stable food storage. Her love for her community is expressed in honest, engaging, and creative programming designed for kids, providing them with activities and interactions that build skills and confidence. With COVID, ROCK added food and essential supply distribution, which ends in August 2021. When ROCK had to pivot away from in-person gatherings due to COVID, Carol Marie and ROCK volunteers made sure that no family was left wanting for food. They worked with the community to create instructional videos, and boxes with art kits and activities in support of mental health.

The staff and volunteers at ROCK are constantly brainstorming ideas and developing new and innovative ways to reach their community. They have developed key partnerships with the Dolores County Sheriff's Department, the Dolores County Public Health Department, the Dolores County School District, and the Care and Share Food Bank of Southern Colorado. Additionally, cooperation and collaboration regularly happen with multiple local nonprofits, government, and community groups. ROCK's vision is the building of a stronger, more prosperous, and healthier community whose citizens are always proud to call home.

Ute Mountain Ute Community Health

Towaoc, Montezuma County, Colorado

Mary North, Community Health Nurse

Mary North has been a Community Health Nurse at Ute Mountain Ute Tribe for 16 years. She works with the members of the Tribe who are 65+ years old, the elders. Before COVID, Mary did an average of five home visits a day, where home health (medication, vital signs, doctor appointments, etc.) was the focus. During the pandemic, she would conduct her visits from the front porch for safety. Each client takes a survey that assesses their eating habits and their risk factors regarding nutrition and health.

When the pandemic happened, home health visits had to be reduced, and her focus became nutrition because she had the time and the resources. Through Mary's participation on the Advisory Board for Options for Long Term Care, she was able to participate in a healthy food distribution program offered by the Sharehouse community food center, enabled by COVID relief funds. At the end of this effort, an opportunity for a Health and Wellness in Indian Country grant arose, allowing for increased flexibility in types and quantities of food. With these funds, Mary's program Healthy Eating for Healthy Aging serves over 30 elder households at present, chosen by need and the probability that they would use the program.

Food is given out every two weeks. Mary prepares a handout that focuses on a different food each time, offering a sample of the focus food prepared with a recipe and nutrition information that is included with the handout. Care is given to make sure the handout is visually pleasing and is written to reach all levels of literacy. At the beginning of COVID, Mary ran the food assistance program solo. With the growth of the program, Mary now has three Community Health Representatives that help her pack and deliver to the elders' homes.

A collaborative effort between Mary's nutrition program and the Sharehouse began with the pandemic, providing sourcing, procurement, and packing facilities. She also works with Indian Health Services to target nutrition education based on medical advice from their doctors. The Health and Wellness in Indian Country funding has enabled the Tribe to hire an outreach person to create gardens that will serve as a resource for the Tribe as well as for Mary's nutrition program.

Participants in the program comment that it has helped diversify their diet. They are using the vegetables they have learned about, which they hadn't done before. She doesn't yet know statistically if it has lowered their A1C, for example, but on a practical level, Mary has observed a better quality of life with her elder clients having a broader choice of foods regularly available.

Mary is unsure how sustainable her nutrition program will be once everything returns to normal. The current funding only lasts two years, so she will take advantage of it while it is available and put everything down in writing so that someone else can repeat it. She is passionate about the program and will continue to find resources as necessary. As Mary states, it's not a food give-away, it's an educational program to improve the nutrition of older adults by incorporating foods that are specifically nutritious for them.

Women, Infants and Children – WIC

Cortez, Montezuma County, Colorado

Delilah Darland, Director

WIC, or Women, Infants and Children, is a USDA funded program that has been in existence since the 1970's. WIC began as a supplemental food program aimed at improving the health of pregnant mothers, infants, and children in response to growing concerns over malnutrition among many poverty-stricken mothers and young children. Many studies have proven that participation in a WIC program from pregnancy through early childhood creates healthier outcomes for children. Today, Montezuma County (MoCo) WIC is housed in the county health department where a variety of wrap-around services can be offered. Clients receive health screenings, nutrition education, and referrals for other resources every six months. Delilah Darland has worked in the WIC program for 21 years and has been WIC Supervisor for five years. Her associate Linda Hill is a WIC Educator.

Food insecurity is a stressor that can cause many other issues. If a family is food insecure, they are more likely to have child abuse issues, more likely to have drug abuse issues, and it affects their self-esteem. Food insecurity can affect brain development in children. The Montezuma County WIC program collaborates creatively with other organizations in order to provide food, education and resources to the community. Such efforts include:

- Cooking classes at the Sharehouse, where participants take home the ingredients and equipment such as crock pots, dehydrators, and blenders used in the lessons.
- Working with the CSU Extension office to offer canning classes and tools.
- Visiting assisted housing complexes run by the Housing Authority with the WIC resource van, carrying with them free healthy groceries.
- Sharing food with ROCK in Dove Creek and collaborating with the Ute Mountain WIC office to ensure food gets to the places it will be best used.

During the Covid shutdown, food insecurity in the county skyrocketed and the MoCo WIC office worked diligently with the Ute Mountain WIC office to distribute food that poured into the area from multiple Colorado-based emergency food relief grant programs. Interestingly, the pandemic caused a marked decrease in WIC enrollment, nationwide. This decrease is believed to be because SNAP benefits were greatly increased and made available to a larger population. The MoCo WIC office is growing their clientele again, largely because recently the federal WIC program greatly increased the benefit amount given for fruits and vegetables. Delilah's office has done so much education in the community about healthy eating that word has spread, and enrollment is going back up. Still, only about 65 percent of the people who qualify are participating in WIC in Montezuma County.

In early 2020 the MoCo WIC office received a $25,000 grant from The United Way, Denver for COVID emergency food relief. With additional help from The Sharehouse, The Good Samaritan Center, and the Ute Mountain Ute Tribe, that money has supplied the WIC food pantry for a year and a half. They are the only WIC office in the state that has a food pantry. They also have a unique car seat program, and a program that disperses diapers and wipes. While those programs do not directly address food security, money not spent on those essentials can be used for food.

The MoCo WIC breastfeeding program is also successful, with more moms who are breastfeeding than the average WIC program. Even so, Delilah and Linda wish that everyone was breastfeeding their children and doing it for longer. Under Delilah's leadership, the MoCo WIC office pays close attention to the needs of the community. They are all very excited about the work they are doing to help families in our region.

Farm and Ranch

Colorado Land Link

Salida, Chaffee County, Colorado

Amanda Laban, Land Link Director, Guidestone Colorado

Colorado Land Link is one of four cornerstone programs offered by Guidestone Colorado, a 501(c)3 non-profit organization that is "growing a vibrant agricultural future through education, community building, and partnerships." Colorado Land Link's mission is to create innovative solutions to the challenges of agricultural land access and land succession while providing professional educational and resource support to ranchers, farmers, landowners & land seekers in order to secure agriculture's future on the land.

Working regionally across the state, Colorado Land Link supports:

- Beginning farmers and ranchers looking to enter agriculture
- Prospective farmers and ranchers seeking land access and farm opportunities
- Non-farming landowners seeking farmers
- Retiring farmers and ranchers looking to develop farm succession and transfer plans

Colorado Land Link strives to match agricultural landowners with farmers and ranchers, enabling agricultural producers to secure affordable access to land. Between 2017 and 2021 there have been ten listings in the southwest region, most recently in McElmo Canyon where a new owner at an historic orchard, with no experience in agriculture, was matched with a producer seeking land for organic seed production, resulting in a mutually beneficial and secure relationship. Applications for landowners and land seekers can be found at www.GuidestoneColorado.org.

Colorado Land Link is currently partnering with The Old Fort at Hesperus to collaborate on pathways for students coming out of The Old Fort's farmer incubator program. A seminar is planned for summer 2022 at The Old Fort to reintroduce Colorado Land Link to the community.

Four Seasons Greenhouse and Nursery
Dolores, Montezuma County, Colorado
Vic Vanik, co-owner

Vic Vanik is co-owner/operator of the Four Seasons Greenhouse and Nursery family business in Dolores, CO. The business encompasses an extensive garden center as well as organic produce sales. They utilize around 22 outdoor acres and have almost an acre of heated greenhouse space, for both flower and food production. They sell a variety of vegetables common to this area: broccoli, kale, lettuce mix, tomatoes, chard, kohlrabi, sprouts, cucumbers, herbs, etc. They also experiment with a few fun crops, like pineapple.

Four Seasons is very successful - Vic describes business as "definitely growing." They sell every item of produce they grow without much marketing and pay their employees a living wage. They sell wholesale through their storefront and through Southwest Farm Fresh, and sell retail at their store location and the popular winter farmers market, which they host. They also supply Dolores High School with a standing weekly order and would sell again to Cortez schools if the order process was easier. They do not donate to community nonprofits, as they choose to support those efforts in other ways.

They have few challenges bringing produce to market: everything they produce they easily sell either in the store or via delivery or pickup. Their only recent setback was a greenhouse failing during a particularly cold week (they lost all their cucumbers). They do not have the capacity or interest in scaling up, as it "takes capacity to build capacity" and they are currently functioning at their limit. They may strive for a modest profit increase of five percent in the near future by creating more efficient systems in the existing structure. It's important to note that nonedible products comprise more of their business than produce sales. All produce is grown organically; however, they have let their USDA organic certification lapse due to losing their large accounts (which required the certification) during COVID.

Regarding infrastructure, Vic recommends that all local growers utilize heated greenhouses. Cold frames and high tunnels afford slightly extended shoulder seasons but not enough to create significant increased production. With over 50 years of experience, he now has the acumen to consult others on how to run a profitable greenhouse business. He has clients in Connecticut, Pennsylvania, South Carolina, Wisconsin, New Mexico, and Washington State.

Vic has seen that consistent and active networking (word of mouth and daily social media activity) leads to sales, as some people will pay more for high-quality products if they know about it. He also notes that local growers should stay attuned to what people want and provide that product consistently, as customers want a reliable supply of certain items.

Vic has no new creative suggestions for increasing food accessibility, as prices will only be increasing due to growing challenges, inflation, and producers needing a larger margin.

Four Seasons has no major changes on the horizon; they hope to continue producing delicious, nutritionally dense food at a fair market price. In light of the current devastating drought and the region's poor soil quality, Vic would like to see growers better managing water and creating long-term practices around increased soil health. He'd also like to see a way for small-scale farmers to see a larger profit margin.

Montezuma Orchard Restoration Project
Cortez, Montezuma County, Colorado
Addie Schuenemeyer, Co-director

The roots of Montezuma Orchard Restoration Project (MORP) were established when co-founders Jude and Addie Schuenemeyer began their horticulture careers in 2001. For fifteen years, they ran a nursery that had originally been in business for over 50 years and had a lot of older clientele who often asked about apple varieties they remembered enjoying as children. In asking around, the Schuenemeyers realized just how many old trees still grew in the region – hidden or right in plain sight – sometimes forgotten, and other times revered by the families who always remembered. In collaboration with the Montezuma County Historical Society, they founded MORP in 2008 with the belief that the remarkable orchard culture and economy that once thrived in southwestern Colorado could be rebuilt.

In the spring of 2020, MORP purchased land to establish a permanent home. This is the first property MORP has owned. It provides a location for MORP to grow its mission for the next 100 years and more. Montezuma Orchard Restoration Project now owns 36.35 acres of residential/agricultural land near Cortez/Dolores, Colorado, irrigated with 35 shares of Montezuma Valley Irrigation Company water. Historically the property was used for orchards, but the majority of the trees were cut out by 1960 in favor of water intensive crops such as alfalfa. MORP was recently awarded a Water Supply Reserve Fund (WSRF) grant to work with its partner, The Nature Conservancy (TNC), to restore the site to heritage orchards while demonstrating crop conversion opportunities and water conservation methods to area farmers. The property known as the Orchard Hub is located in the San Juan Basin on lands that use water from the Dolores River basin.

This project is part of a larger capital campaign of MORP to grow southwestern Colorado's orchard culture and economy by reaching the following goals:

1) Purchase a historic orchard property to establish a MORP home base "Orchard Hub" location to build the orchard infrastructure needed to serve the SW region.
2) An apple press to provide mobile juicing services to area farmers that can also travel to neighboring counties to have a greater economic impact.
3) Establish a water conservation and cultivar preservation orchard at the property to demonstrate resilient orchard management practices following Good Agricultural Practices.
4) Construct an energy efficient facility to serve as critical storage, processing infrastructure, crew housing, commercial kitchen, and classroom necessary to restore a local fruit economy.

MORP, with support from its partners, has fully funded and implemented goals 1-3. Goal 4 is in progress.

This project provides benefit to rural farmers, community members, businesses, and students of all ages in a region that suffers one of the highest poverty rates in Colorado. In the face of climate change, drought, and agricultural water deficits, MORP believes there is an urgent need to help area farmers plan for future water shortages, and a timely opportunity to demonstrate innovative orchard management practices as we rebuild a resilient fruit economy based on the legendary quality and diversity of Montezuma Valley Fruits. From the preservation of historic fruit varieties and a resilient food system to remembering and re-

establishing a historically significant agricultural heritage, this project contributes to the culture, economy, and quality of life of the region.

MORP seeks to accomplish its vision of southwestern Colorado being renowned for an orchard culture and economy based on the legendary quality and diversity of Montezuma Valley Fruits through three main program areas: (a) Preservation activities including cultivar preservation of historic apples and preservation of historic trees and orchards through documentation; (b) Education and Outreach activities including orchard and grafting workshops, orchard establishment at schools and in communities, and historic research; (c) Cultural and Economic Revitalization activities including: orchard restoration and harvest, mobile juicing service, and apple tree sales and donations. Through these programs and direct engagement with knowledgeable people, an active interest in heritage orchards is again taking hold, locally and throughout Colorado.

MORP's biggest challenges include drought, climate change, agricultural water shortages, aging orchards, start-up funds for juicing operations, ever increasing supply and building costs, harvest labor, and challenges finding donors to establish an endowment or legacy fund.

Their goals over the next few years are to complete the facility at the Orchard Hub, significantly develop its volunteer and education programs, and establish a legacy fund.

MORP now has a HOME, an "orchard hub", a place to grow its mission well into the future. Right now, they are excited to do the on-the-ground work to preserve our orchard heritage, demonstrate water conservation in orchards, and grow our local fruit economy.

Mountain Roots

Mancos, Montezuma County, Colorado

Mike Nolan, co-owner

Mike Nolan is co-owner/operator of Mountain Roots Farm in Mancos, CO. The farm grows every crop common to the area on seven acres of land. Starting as early as possible in the spring they grow a succession of green veggies on three acres of land, switching to storage crops for the fall. The remaining four acres are cover crops.

In early 2022 they began scaling back production, but for the previous 15 years they ran a CSA with annual membership fluctuating between about 120 to 250. They also ran a farm stand in Telluride and maintained between six and 10 wholesale accounts in the Durango area. They are scaling back almost all production in 2022 due to the exhausting, unpredictable nature of farming, and due to new stressors like age, drought, and the increasing frequency of extreme climate events. This year they will focus on "smarter, more unique" products. Mike started a culinary garlic seed cooperative with three other farmers, which will sell nationwide. Mike's partner will manage a flower business.

Mike and his partner have been very active in the agriculture and land stewardship arenas for over a decade, and their successful farming business was built over years via word-of-mouth and networking (both in person and on social media). He also attributes much of their success to consistently providing high-quality produce year after year. They experienced very few challenges getting product to their markets (farmers markets, wholesale accounts, etc.).

Regarding infrastructure, Mike speculates that cold storage, processing facilities (dehydration, commercial kitchen services), and standardized reusable packaging and shipping equipment could help local small farms. More local animal processing facilities would fix major bottlenecks as well. He cautions that these fixes cannot reverse the more deep-seated problems of small SW CO farming, though - namely razor-thin profit margins and market saturation.

When Mountain Roots ran a CSA, they embedded a small additional amount into each share so they could provide food to lower-income folks in the area. This model was far more effective than asking for donations (which would appear sporadically) or unloading large amounts of #2 produce onto folks when they didn't need it. Mike has seen a significant inflow of grant money into the area during the last few years for community food support. Thus, Mountain Roots has supported food access by supplying lower-cost produce to local nonprofits (which can now pay) over the last couple of years. Mike is unsure how to increase food access to lower-income folks, as small-farm profit margins are so minimal and their capacity is already stretched to the limit (so they can't address the additional factors of delivery, culturally appropriate items, etc.). He believes that grant-funded food programs show promise, as they are pragmatic, educational, and well attuned to people they serve.

Mike hopes that in the future, local, direct-market agriculture becomes a more viable profession for the general public. He sees a troubling trend developing: most small farms in the area are a privileged product of inherited land, inherited wealth, or they are an avocation for otherwise resourced people. He also thinks the area is near its cap on small-scale multi-crop farms. He thinks people need to focus on specializing in one or two market-friendly crops or value-added products.

Navajo Ethno-Agriculture Project - NEAP

Nenahnezad, San Juan County, New Mexico
Nonaba Lane, Founder/Director

Mission statement: We are a 14-acre farm along the San Juan River that sustains traditional Navajo farming methods through bilingual education and storytelling (Navajo and English), hands-on farming, community involvement, and cultivation of chemical free traditional Navajo produce.

What is the business structure (cooperative, community owned, nonprofit, etc.), why did you choose this model, and what was the motivation to start the project?

We are a registered nonprofit on tribal land and tax exempt. Our motivation to start this project was twofold. Our main purpose is to retain and sustain the cultural value around traditional Navajo crops. For instance, we preserve heritage and heirloom seeds that have been used traditionally in our family for generations. We also preserve and maintain traditional Navajo concepts around food – how food was used in ceremony and prayer, how we are connected to the land, and how to respect the water and land around us.

Our second purpose is to integrate our traditional food ways with STEM education. We seek to uphold traditional Native indigenous knowledge and also recognize the value of blending it with Western science and technology, and honoring its important place in the Western, academic, higher education system.

Our heritage crops include:

- CORN: Navajo Blue Corn, Navajo White corn, Navajo Yellow corn
- MELONS: Santo Domingo Pueblo casaba, Navajo heritage casabas, heritage musk melons, heritage honey dew, king and queen watermelons
- SQUASH: blue hubbard, cushaw, banana squash
- CHILES: San Juan Pueblo, Jemez Pueblo

Does NEAP receive support or inspiration from outside of the Navajo Nation?

Firstly, we receive no government support, either from the Navajo Nation government or U.S. government. Historically that type of funding simply did not reach us or address our needs - which was main reason why we started our nonprofit. We figured starting a nonprofit was the best way to do the work that needed to be done, which was support the immediate Navajo farming community.

Our funding comes primarily from donors. Approximately 95% of those donors are non-Navajo, non-tribal, and not even in the Four Corners region. Our work has been recognized and funded by outside academic institutions.

Our second channel of support is through selling our crops and using these crops for fundraising (we also use our crops as gift for donors). Most of the people who receive our food are non-tribal. We just held our first annual fundraiser and attracted individual donor support, which went to supporting a student or somebody who may not have had the means to attend the fundraiser.

Where and how are your products distributed?

Our primary purpose is to serve and support our immediate local tribal community, and about 75% of our crops are allotted to this area. This service is primarily funded by our donors, we match their funding and We've also identified and adopted two very rural Navajo Nation communities outside of our immediate area; we educate and donate to them as well.

The remainder of our crops are sold in the general Four Corners area that focus on selling local, organic food, like Southwest Farm Fresh. If not for COVID we would have placed produce in specialty stores as well, and this will happen in the near future. We only really offer one major product that is year-round, maybe two, so we don't have a tremendous amount of produce to sell except during the high season.

Does NEAP keep a seed bank to preserve traditional varieties?

In the fall, after harvesting, food preparation, and storing are complete, we begin the most critical step in retaining and protecting our heritage foods. Seed saving is a special process for us because we are carrying on the tradition of preserving our cultural foods, which have not been altered or genetically modified and are adaptive to our changing climate.

In what ways does the community participate, and how does participation impact community members?

We involve our community by offering hands-on education at the farm, and another credited academic track. We instruct on healthy soil and water practices (soil testing, moisture saturation measurements, cover crop experimentation, water quality testing, irrigation, etc.). We also teach our community key historical context around our agricultural heritage, like Indian water rights, the Navajo Indian irrigation project, the Native American food sovereignty movement, and court cases and policies that affect Indian agriculture. We also deal with environmental issues, catastrophes that affect agriculture, as well as chemical free, non-GMO, and culturally driven farming.

Do you think there are philosophical differences between an indigenous approach to growing food vs. non-indigenous agriculture? If yes, how would you describe those differences?

First of all, there are very important *logistical* differences for indigenous farmers. We are immediately put at a disadvantage when compared to non-tribal farms because all tribal land is under a trust agreement with the US government, which means we are less likely to receive resources (loans, for example) via the government or similar entity. This means we have to find creative ways around those disadvantages in order to compete and position ourselves at the same level as non-tribal farms.

From a philosophical perspective, we hold a very different type of dynamic with the land, water, and air. We see the system as holistic and maintain respect and traditional around ceremony and food.

What aspect of the project are you most excited about?

We have several interesting projects in place right now, but I'm most excited to start thinking "bigger picture" and integrate food, water, and energy into one comprehensive field of study that we could offer. I'm very focused on raising the capital to make this happen. But for now, we are focusing on our traditional food systems. If we can inspire just one young Navajo farmer to retain our traditional wisdom and continue with their education, it's a win.

SongHaven Farm
Cahone, Dolores County, Colorado
Michele Martz, co-owner

Michele Martz is co- owner/operator of SongHaven Farm in Cahone, Colorado, which opened in 2005. They grow between 20 and 30 different kinds of vegetables on a half-acre plot, and maintain a small orchard of about a dozen trees, which they use for value-added products like jam. They also keep a flock of 30 to 50 chickens, and a herd of six goats.

They sell their product through their CSA (community supported agriculture) project with on-farm pickup, as well as through the Southwest Farm Fresh Cooperative, where they are farmer-owners. The co-op delivers their products to Four Corners area residents and wholesale restaurant accounts. SongHaven also donates food to the food pantry in Cortez.

Michele anticipates that their business will stay at the same volume in 2022. They are not interested in scaling up production primarily because they do not want employees, but they are considering producing a value-added product during the off-season that would increase their sales margin. They choose not to hire employees because their production only yields enough profit to support the two owners. Profit from perhaps a three acre farm would justify the complexity of hiring employees.

Their rural location is the biggest challenge in the process of bringing product to market. They live 35 miles from the nearest sizable town; trips require significant time, energy, fuel costs, etc.

Regarding local food access to lower incomes, Michele hopes that in the future, SNAP benefits and Double Up Bucks are easier for farms to utilize. She doubts local food could be sold at a lower price, since margins are razor thin for small family farms. She also notes that middle-income people choose not to buy local due to price; even though local produce is affordable for them, the idea of a “deal” is more important than purchasing quality items from neighbors.

SongHaven holds no major business goals in the next three to five years other than maintaining the status quo. They simply hope to create happy customers, stay viable during the era of drought, make high-quality compost in order to improve soil quality, and minimize water use. They prefer to stay flexible and respond to conditions as they arise each season; this lets them pivot easily when inevitable drought-related obstacles occur.

In general, Michele hopes that local growers recognize the unique and positive conditions that do exist in SW Colorado. While the area does have drought and wind, farmers have very few pest problems when compared to other regions. She’d like to see growers implement more sustainable practices like boosting soil health, planting windbreaks, conserving water, and increasing year-round growing without a lot of consumptive energy use.

Southwest Farm Fresh Cooperative
Cortez, Montezuma County, Colorado
Shawn Fagan, Manager

Shawn Fagan started as the Manager of Southwest Farm Fresh (SWFF) in February 2022, with the business in its eighth year as a food hub serving southwest Colorado, and its third year of utilizing an online store platform for the majority of its sales. Fagan is a recent transplant from the Austin Texas area where he farmed and helped start CSA. He is excited about the potential for specialty crop farming in the area, and is quickly getting to know the farming community.

SWFF is a cooperative of small family farms and ranches in Southwest Colorado. About 20 farmers and ranchers came together in 2014 to form the cooperative, which is a member-owned marketing and distribution business. They began by serving wholesale customers only, and in 2016 launched a multi-farm Community Supported Agriculture program (CSA) in Durango, and in 2018 the CSA expanded to Cortez. In 2020, the board responded to realities of our members farms by opening an online farmers market to accommodate the diverse capacities and products of producers, and the choice desired by customers. Coincidentally, the online store was up and running just weeks before the start of the pandemic, which turned out to be a saving grace during a time when so many of the coop's normal market channels evaporated overnight.

The cooperative is engaged in conversations among food hubs and food justice organizations in Southwest Colorado that culminated in a Roadmap to Regional Connectivity – a plan to connect food hubs that will potentially provide more demand for producers, and more choice for consumers. Collaborations like this, and those in our food assistance community, are ways that Southwest Farm Fresh strives to build a profitable business for our member farmers, ranchers, and value-added producers. Fagan is excited about the coop's partnerships with the nonprofit sector that provide food-insecure members of our community with great fresh food from local producers.

Fagan's hope for the future is to help the coop grow and increase in efficiency and profitability. In its first year the coop sold about $70,000 worth of produce. In 2021, they sold about $350,000 in produce, meat, eggs, cheese, grains, and value-added products. Both he and the coop's board of directors feel that the infrastructure that SWFF has invested in over the years can handle double the current volume, and looks forward to working with current membership and recruiting new members to increase supply and achieve the goal of $500,000 per year in sales. The revenue from these sales directly supports dozens of local farm, ranch, and food businesses. That is exciting.

Ute Mountain Ute Farm and Ranch Enterprise and Bow & Arrow Brand LLC

Towaoc, Montezuma County, Colorado

Simon Martinez, General Manager

Bow & Arrow Brand is part of the Ute Mountain Ute Tribe Farm and Ranch Enterprise located on the Ute Mountain Ute reservation in Montezuma County. Farm and Ranch was established in 1987 and farms 7,700 acres and raises 650 black and white "bald face" cow/calf pairs, seasonally grazing on leased land in the high country. The Bow & Arrow cattle brand was established in 1962. In a typical year, Farm and Ranch grows alfalfa on 4,200 acres, yielding 30,000 three-quarter ton bales. In 2021, however, the drought caused a 90 percent reduction in alfalfa production. Typical corn production is 360,000 bushels, yielding approximately twenty million pounds of blue, yellow, and white corn product. Bow & Arrow LLC purchases corn from Farm and Ranch and processes it in their on-site state-of-the-art mill. End products include whole kernel dried corn and corn meal, packaged in bulk and in 24-ounce bags for the retail market. Bow and Arrow employs twelve full time workers at the mill, eleven of whom are Tribal members.

All products grown at the Ute Mountain Ute Tribe Farm and Ranch Enterprise are non-GMO, and sustainable growing methods are utilized. These aspects are increasingly attractive to buyers in the market, and there is an increased interest in supporting Indigenous businesses as well. Bow & Arrow has successfully leveraged social media, which plays an important role in spreading the message of their growing practices and the values held by the Tribe. Currently twenty five percent of Bow & Arrow's products are sold in Colorado and the Four Corners region, with the balance sold across the country.

Bow & Arrow is increasing the amount of product milled at its facility and looks to increase sales of the more profitable retail-packaged corn meal. Competitors in the marketplace include Quaker, General Mills, and Bob's Red Mill. However, Bow & Arrow cannot compete in pricing, therefore markets their products as non-GMO and sustainably grown, with a compelling story to back it up.

The Farm and Ranch Enterprise has allotted ground for vegetable production to benefit members of the Ute Mountain Ute tribe in recent years but were not able to plant assorted vegetables for their community in 2021 due to the drought.

Education

Dolores County CSU Extension Office
ValuDove Creek, Dolores County, Colorado
Gus Westerman, Extension Agent

The CSU Extension Service in Dolores County is staffed by Gus Westerman, and works on multiple levels in the community, from 4H and food education to weed identification, soil science, and consulting with large scale producers to solve problems and assist with access to resources. Gus notes that many residents have backyard gardens and pride themselves on self-sufficiency which includes deep generational knowledge of working the land, cooking, and food preservation. He feels there is a need to encourage these skills among students and thus collaborates with other entities in offering food education.

In the 4H program, about ten percent of the kids in grades K-12 (29 out of about 300 students in the 2020-21 school year) participate in 4H-STEM (STEM focus areas can include computer science, robotics, environmental science, agri-science, financial literacy, entrepreneurship, and veterinary science). A small percentage of students plan to stay in Dolores County to, one day, take over the family farm. Several students are interested in pursuing a career in veterinary science.

Current challenges among ag producers include low market prices, environmental conditions, and the need to meet global market prices. In 2021 the dryland wheat producers are achieving 15 bushels per acre, compared to the average 25-30 bushels per acre. Due to the drought, irrigated producers received about 5% of their normal allotment of water, forcing them to plant a small portion of their normal crop. Primary crops are wheat, alfalfa, dry beans, and safflower. More recently, the Montezuma Orchard Restoration Project has spurred interest in apple orchards, encouraging a new five-acre orchard that was planted in Cahone, ten miles south of Dove Creek.

Three quarters of the wheat is exported out of the region. High Country Elevators and Cortez Milling, both locally owned by the Tanner family since 1966, aggregates and processes the balance for local and regional markets. Twenty percent of the wheat grown in Dolores County is certified organic, most of which is exported to Salt Lake City, Utah. Dolores County boasts a number of dryland bean producers, many of whom utilize Adobe Milling for retail and wholesale distribution.

Fozzie's Farm

Cortez, Montezuma County, Colorado

Jay Loschert, Outreach and Education Coordinator

Fozzie's Farm is a part of Montezuma Land Conservancy (MLC), whose mission is to help educate the community about land conservancy and the importance of protecting farm and ranch land. MLC believes in the importance of protecting land that provides necessary resources and habitat from development. Fozzie's Farm and Jay Loschert's primary goal is to help people in the community, as well as other farmers and ranchers, discover better ways to preserve and utilize land resources.

One issue that MLC and Fozzie's Farm are addressing is climate change and diversity in farming and ranching conditions. As climate change continues to affect the planet, farmers and ranchers must learn to adapt to new ways of raising their crops and livestock. Farmers and ranchers in different areas may need to learn new agricultural methods as conditions make production more difficult. To help this, MLC and Fozzie's Farm try to educate farmers and ranchers to learn other methods that might help them specifically in their own local environments.

Jay Loschert is working to prepare future farmers for the hardships that are likely to come in the next fifteen to twenty-five years. One way Jay is tackling this problem is by experimenting with different drought conditions. Jay is artificially creating different drought scenarios and conditions that he applies to different pastures. He then collects data to help understand and utilize different irrigation methods for varying drought conditions. The overall goal of Jay's experiments is to be able to produce healthy pastures with the least amount of water while capturing carbon and contributing to local agricultural resilience.

Jay believes the future for Fozzie's farm is to create an example of a sustainable farm. This includes producing and selling its own produce and diverse agricultural practices. MLC and Fozzie's Farm are dedicated to conserving land, resources and teaching ranchers and farmers about the future crisis of climate and its effects on our local agriculture.

Jay and Fozzie's farm collaborate with many different organizations and institutions from the region to educate, study, and better understand local agriculture and conservation. Southwest Open School has partnered with Fozzie's to help educate future generations about water preservation, conservation and Agriculture through hands-on experiences. Water organizations such as Montezuma Valley Irrigation and Dolores Water Conservation District are the main water suppliers for irrigation on the farm. Jay has partnered with Fort Lewis College Interns to conduct studies collecting data on water usage and the effects of droughts on fields and pastures. In the near future, Fozzie's Farm is poised to work with The Old Fort to help farmers learn about growing in the local area by adding a vegetable production operation.

Montezuma-Cortez High School
Cortez, Montezuma County, Colorado
Kanto McPherson, Family Consumer Sciences Teacher

Kanto McPherson is the Family Consumer Science teacher at Montezuma-Cortez High School (MCHS) in Cortez, CO. Kanto is also the Panther Chefs manager which is a student operated catering group at MCHS. Kanto helps educate youth ages 14 through 18 at MCHS about culinary arts and catering.

There is an issue in the four corners region, including Montezuma County, when it comes to eating healthy. Fast food and processed food is a major part of the overall diet among students. Kanto teaches her students about healthy eating including nutrition, meal preparation and other things that contribute to our health when it comes to food. She also addresses the consequences of a poor diet. In addition to healthy eating, Kanto focuses on teaching students about sourcing and utilizing locally grown foods. Kanto tries to incorporate local foods into the school's program and emphasizes the importance of quality ingredients. She says, "We do buy local beef and accept any donations of fruits and vegetables." Additionally, she would like to do more for her students by giving them more access to local foods through farmers markets but faces roadblocks due to timing, transportation and coordination.

The lack of knowledge about our local food system is a huge problem among our community's youth. Our younger generations need more knowledge about local food to help our community in the future. Kanto is working to obtain grants and other contributions to help bolster her program. Additionally, she is helping build an internship program for seniors to help connect students with post-secondary opportunities including culinary arts programs and jobs. Along with internships, Kanto works to bring guest instructors from the community to help teach the students about their expertise and experiences.

Kanto recognizes how imperative it is to educate her students on locally sourced food as much as possible and also find ways to make them more accessible. Over time this repetition of education about healthy local food will help make the community better by allowing the next generations to have more access and knowledge about our local food system. Lastly, teaching youth culinary skills about how to prepare and cook food in some of the healthiest ways is a major benefit for personal health and self dependance.

Montezuma County CSU Extension
Cortez, Montezuma County, Colorado
Greg Felson, CSU Extension Agent and 4H Director

Greg Felson is responsible for the overarching projects of the CSU Extension Office in Montezuma County. These projects include:

- Colorado Master Garden Classes
- Grow and Give Program
- Gardens and Food Pantries
- Garden Classes
- Food Skills Classes (production and preservation) in cooperation with the Montezuma County Health Department
- Management of the Southwest Colorado Research Center project in Yellow Jacket
- Distribution to Food Banks (Care & Share)

One could ask what *doesn't* Greg do, as he also provides fruit tree workshops and serves as agriculture and livestock range manager which includes acreage management, water management, and soil health. Extension office programs provide access to research-based information for producers, as CSU is a state land grant university that provides producers with support and education. Additionally, Greg supervises the 4H youth development programs - the 4H program is an avenue for skills development for future agricultural producers.

Greg sits on the board of the Montezuma School to Farm Program, is involved in their Indigenous foods program, and works on the inclusion of all in agriculture, especially the LatinX community. Greg also works in partnership with Pueblo Community College on economic development and agriculture classes.

The relationship between local agriculture and food security is addressed by Extension programs. Local agriculture provides the ability to enhance our community and care for all people. The programs teach people to live off the land by creating strong producers and promoting food resilience. Agriculture has the potential to provide unity in the community and the ability to thrive in times of challenge, such as pandemic or drought.

Extension programs work within the community by providing education, training, and resources to increase agricultural production and home gardens. The Extension office collaborates with other organizations to inspire and motivate local garden production, such as The Dolores Food Project, with a new large garden in Joe Rowell Park that will grow vegetables directly for the community. The garden will focus on commonly consumed produce grown in large quantities. There are also future plans to provide smaller community garden plots in the town of Dolores.

Greg is excited about community collaboration to enable food entrepreneurs to attain success. He is proud of Extension programs that provide education and resources that lead to viable endeavors. Mostly he is excited about inspiring the next generation to understand where their food comes from, and taking responsibility to care for the land.

Montezuma School to Farm Project

Cortez, Montezuma County, Colorado

Ben Goodrich, Executive Director

Ben Goodrich wears many hats as Executive Director of the Montezuma School to Farm Project (MSTFP). He is responsible for all the agricultural activities at the project from maintaining garden spaces, to overseeing crop planning, planting, harvesting and distribution. He also co-directs with his education director, Sosrrell Redford, who oversees all the educational programs, curriculum development and implementation.

During the school year the project holds monthly hands-on gardening classes for students in grades K-5. In grades 6-8, MFTSP is developing programs focused on STEM science standards through hands-on lessons in water resilience and resource conservation. During the summer months, MSTFP partners with Southwest Conservation Corps to provide paid opportunities to local High School students to help expand their skills, knowledge and confidence in food production. MSTFP also offers a High School internship where the student tends to school gardens and learns the process of actually bringing a crop to market. Projects within the local community include volunteer workdays and workshops, and participation in farmers markets. During the school year, a weekly stand-alone farm stand is held outside Southwest Open School where produce is available to students and their families at no charge. MSTFP has plans to set up farm stands at additional schools in the fall of 2022.

MSTFP believes in reaching students at the youngest age possible in order to build excitement for agriculture. That theory is the reason programs are offered initially in grades K-5. There is a middle school gap in school year programming, and it is difficult to integrate programs during the school year at the high school level.

The Program promotes healthy eating habits. In 2021, over 6,500 tastings were provided, and students gained the necessary skills to prepare healthy foods with confidence. Ben believes there is societal pressure surrounding the consumption of healthy foods, and a student who actually grows, harvests, and tastes the produce they have had a hand in growing, it will often alter their view. Although the program does not push any particular diet, it does teach the difference between eating simple whole foods versus highly processed snacks and meals. The student is challenged to understand the process of seed to tortilla chip or the cycle of grass to hamburger. Food preparation classes demonstrate the difference between fresh produce and highly processed snacks. Next year the program plans to focus on easy healthy alternatives like adding fruit and herbs to water as an alternative to high sugar beverages.

Students are very enthusiastic about growing, cooking and eating fresh fruits and vegetables, and are excited about every step of the process. Students plant onions and potatoes in the spring and harvest them when they return to school in the fall. Working with their hands makes this a popular activity, and the program provides a means for students to re-connect with the natural world and get out into that world for learning experiences. Students begin to appreciate the difficulty producers face while at the same time developing an appreciation for them. It is hard to determine from the program who wants to be a farmer, but the experiences open the student's eyes to understanding where food comes from and the work necessary to produce it.

With the increasing age of farmers/ranchers and the loss of farmland, Ben lays awake at night wondering how many young people will decide to follow in that direction. Future farmers/ranchers face the reality of

water availability and the amount of work necessary in order to succeed. Many programs offered at PCC, through CSU extension and opportunities like the Ft. Lewis College Old Fort Farmer-in-Training program provide additional training and resources for students. Most students express an interest in home gardening and different entrepreneurial experiences related to agriculture.

MSTFP has an impact on community food security by growing future consumer interest and by growing vegetables that go directly into the community. In 2021 over 5,000 pounds of school garden vegetables were distributed to area food distribution partners. The main garden for the program is located at the Middle School in Cortez. Other gardens are at Elementary Schools in Cortez, Mancos and Dolores.

MSTFP interfaces with school curriculum through an alignment with state standards. New curriculum around water conservation for grades K-8 align with state standards and provide complimentary lessons to STEM curriculum. Teachers are the programs biggest ally, and continue to provide great feedback to the program. Seven local teachers provide guidance as school garden coordinators. They work with MSTFP staff and have developed six new lesson plans centered around nutrition in the garden, and six new lesson plans based on local Indigenous agricultural history and practices

Looking into the future, Ben hopes to develop a generation that is proud of their agricultural heritage and excited to carry that heritage into the future. He hopes to restore interest in food production, as well as stewards of the land, with skill sets centered around both water and soil. Ben also hopes to create bridges between the older generation of farmers/ranchers and the current generation through mentor-ships. Goodrich thinks Covid was a real wake up call for understanding the fragility of the current food system and supply chain. Empty shelves and rising prices made students, and all of us, more aware of where food comes from and how important it is to support local food producers and work towards a resilient local food system.

Pueblo Community College
Mancos, Montezuma County, Colorado
Heather Houk, Agriculture Program Coordinator

Heather Houk started working at Pueblo Community College (PCC) right before the COVID-19 outbreak in March of 2019. Because of the outbreak, the Ag program was briefly shut down until it recently resumed for the 2021/2022 school year. The program is focusing on community engagement through agricultural education and connections.

Heather's mission with the PCC Ag Program is to introduce more agriculture classes to teach about farming at an institution that is convenient and economical for the community. Heather believes that in our southwest region there is an "Academic Desert". This means that there are very few programs in our area that offer agricultural education. The closest post-secondary programs are in Fort Collins, Grand Junction, Alamosa and Farmington, New Mexico. Heather also wants the program to be less expensive but just as beneficial as a larger college or university. The goal from the beginning was to have around 20 students enrolled per semester, and PCC currently has 17 students attending in fall 2021, giving the program a solid start. Students are currently enrolled in classes that teach farming practices and techniques, and an agriculture business course to increase their chances of finding a job when they graduate.

Another mission that PCC is addressing is to provide more and more classes that people would be interested in to increase participation in the region. She wants to help students in the southwest earn their associates degree and finish their undergraduate degree without leaving and going to Fort Collins or somewhere farther away, all the while remaining affordable. In developing the program, PCC conducted a survey asking Montezuma County residents and the local ag industry what they would need to help their businesses be more successful. The survey concluded that we need more education. This would help the local agriculture industry because it could offer more support for farmers and ranchers who sell their crops and livestock across the state to be more locally focused and contribute to the local community. If Heather’s program can help to boost our ag economy in the southwest region it could be very beneficial to our entire community by strengthening our local food system.

Heather also discussed how the Southwest is drying up while the Northeastern states are flooding. She wants to prepare farmers for how to farm in the future. Houk explained "I want smart people. My goal is to make people prepared so that we're not just specialists but that we're also generalists and that we know enough to fix our own tractor if it breaks and how to irrigate with less water and how to regenerate the soil on our farms to be better growing mediums so that we can continue agriculture because we are going to need it." Heather wants to educate our community to make sure that we can be prepared for a changing social and ecological environment. She wants Pueblo Community College to be the resource we need so that we can be self-reliant as a community. Heather’s main goal is to give support to the community and provide education that leads to good jobs, helping our community reduce dependency on outside resources.

The Old Fort

Hesperus, LaPlata County, Colorado*

Beth LaShell, Director

Beth LaShell is the Director of The Old Fort at Hesperus in Hesperus, CO. The Old Fort is an organization that offers farmer training and support for farmers to learn how to grow crops in a high-elevation desert environment. The Old Fort is addressing the challenges of farming in the four corners and Southwest region through internships, an incubator farmer program, farmer-in-training program, and a gardening program. Many beginning farmers face challenges ranging from resources, business and marketing, to general knowledge of growing food in a difficult environment.

Farming in the Southwest requires a lot of knowledge, support and experience to be successful. The Old Fort is teaching people how to farm by allowing them to have hands -on experiences with farming on a piece of land belonging to The Old Fort. The incubator program provides the land with the necessary amount of resources to help new farmers begin their business and career in growing. This program helps participants understand the amount of resources that is needed to take care of a farm and how to profit and remain sustainable. Along with the incubator program The Old Fort offers an internship and education garden program. Participants in the internship program aid in the farming operations at Hesperus and are paid for the duties performed. The Old Fort also partners with different organizations in the region to help bring more opportunities to the community.

The incubator, internship and garden education programs would not be possible if it wasn't for The Old Fort collaborating with other organizations. The program that lends farmers land and water for the purpose of teaching is a collaboration project between The Old Fort and Fort Lewis College. Much of the funding and logistics is developed with Fort Lewis College and is focused on attracting young and aspiring farmers. The Old Fort also receives grants focused on recruiting Native Americans to participate in the internship and incubator programs. Fort Lewis College and The Old Fort are working to aid more Native American farmers as well as support the indigenous farming practices.

The Old Fort supplies people with a chance to learn how to grow crops, get experience, and earn income that will hopefully lead to more successful independent farmers in the region. The program is growing and expanding and collaborating to reach more potential farmers to create a more resilient farming community. In conclusion The Old Fort is helping local farmers and students to farm. This in the end will result in more local food and will overall improve the health of the community.

**While The Old Fort is in La Plata County, it is an essential component to the farming community in our local food system.*

Value-added Production & Retail

Absolute Bakery and Café

Mancos, Montezuma County, Colorado

David Blaine, Baker and Co-Owner

The Absolute Bakery and Cafe began in1998. Prior to the pandemic, the cafe was a full-service restaurant, with takeout available. It is a family owned and operated business. Baker and co-owner David Blaine says that since the pandemic, the cafe has become largely a takeout business, with a reduced number of tables for dining in. Absolute is known for made-from-scratch and eclectic meals designed to meet the preferences of their small Mancos community. About 60 percent of their business comprises meals, and 40 percent is bakery.

David offers locally sourced products due to their superiority in quality and freshness. But the season is short, and he cannot always find products that he needs, like spinach, that are grown by local farmers. Regularly purchased locally grown products include meats, produce, and eggs as available. Colorado grown products have top priority. The bakery and restaurant use local Red Rose Flour from Cortez Milling. David estimates they use between 250-300 bags each year. Each bag contains 50 pounds.

The Absolute has always been known for its warm and casual atmosphere, attracting a combination of younger people and older "hippies" for its homemade food and a curated selection of used books and local art for sale. Seasonal visitors find the Absolute to be a slice of local culture. Customers do not really request locally grown products, but they know that fresh, local, and organic products are used. Locally grown is not advertised due to lack of consistency with product availability. Absolute Bakery and Cafe strives to fit into the local economy by supporting local producers, buying local whenever possible, and providing healthy, homemade meals and bakery items.

The café's desire is to serve the common man on a limited income. The challenging aspect of offering local products is their inconsistency, lack of dependability, seasonality, and higher prices. Blaine would offer more locally produced products if they were available, consistent, and priced competitively since local foods cannot be beat for freshness.

Cortez Milling

Cortez, Montezuma County, Colorado

Gary Tanner, co-owner

Gary Tanner is the co-owner and manager of Cortez Milling, located in downtown Cortez, CO. The mill processes several varieties of flour, including the iconic Bluebird all-purpose flour, which they sell in five-to-50-pound sacks to wholesalers primarily in Southwest Colorado and the greater Four Corners region. They also process blue cornmeal, with blue corn sourced from the Ute Farm and Ranch Enterprise. The mill owns a separate business entity, High Country Elevators in Dolores County for use as a grain storage facility.

Cortez Milling exclusively grinds local wheat and depends completely upon local growers for that raw material. Gary describes the current drought conditions as "very scary" and their number one challenge; without local grain the mill will cease production. Luckily, Gary had a large store of wheat to process in 2021, but that stockpile is gone and this year they will rely on 2022 crops.

Currently, inflation ranks as the second biggest challenge for the mill. The costs of fuel, machinery, and maintenance have all risen dramatically. The business must raise employee pay due to inflation as well, in order to keep providing a living-wage. With these increased costs, the mill will be raising its prices in 2022 for the first time since 2011.

Gary attributes the mill's continuing success to the substantial business coming from the Navajo Nation. Cortez Milling flour has been a staple food on the reservation for many, many years – it has become a traditional food and woven into Navajo culture. Gary explains that big corporate mills drove the smaller mills out of business over the years, but Native communities became loyal clientele due to Cortez Milling's superior quality, and that business has kept the local mill viable.

Gary is most excited to see the younger generation invest time and energy into the mill, as interest in farming is a huge concern nationwide and beyond. He's also excited that in the last few years the mill started shipping into Idaho, Texas, and a bit into the Northwest and Southeast regions of the U.S. He hopes to see that growth continue and expand.

EsoTerra Ciderworks

Dolores, Montezuma County, Colorado
Elizabeth and Jared Philbrick, co-owners

EsoTerra Ciderworks, owned by Elizabeth and Jared Philbrick, produces artisan hard cider and non-alcoholic juices made with fruit from heritage and historic orchards in the Southwest. The Dolores business started in 2019 but did not open its doors until September of 2020. Several years ago, Jared noticed that hundreds of apple trees were dropping fruit that was rotting on the ground. In 2013 he began to produce a small amount of hard cider from rescued fruit. After meeting Elizabeth in 2015 he took a new look at hard cider, when she influenced him to view hard cider as a wine, not a beer. Their goal became producing small batches of high-quality wine-like cider, served in a wine glass.

Finding fruit in Montezuma County was not a problem. Local, historic orchards were bearing fruit that was going to waste. Jared started asking people if he could pick apples in their orchards and yards, as well as local peaches and apricots for peach and apricot cider. EsoTerra went as far as Farmington, NM to acquire some of their apples from an NMSU project located on the Navajo Reservation's Navajo Agricultural Products Industry (NAPI). They also import a small quantity of frozen apple juice from the Pacific Northwest. Working closely with the Montezuma Orchard Restoration Project (MORP,) many of their small batch ciders come from one of dozens of varieties of apples in the area that are unnamed. If the apples make good cider, MORP grafts the trees to produce more apples.

Elizabeth and Jared believe people today are "locavore obsessed." As cultures become more homogeneous and cultural differences are lost in the food chain outlets found everywhere, people are looking for something different…. a return to local. EsoTerra's customer demographics are about half local residents and half seasonal visitors. EsoTerra ships their hard cider all over the country and currently has distribution in 37 states. Locally, resorts and restaurants like Dunton Hot Springs and James Ranch feature EsoTerra hard ciders exclusively. Elizabeth and Jared are picky about who serves their hard cider, and that it is served as a wine.

EsoTerra is helping to revive the orchard economy in Montezuma County through sustainable agriculture. An apple tree can live for 300 years and still bear fruit. Thousands of trees are already here, and most are well established. Established trees with good root systems use less water. Pulp waste from the cidery feeds local livestock, and eventually their yeast waste will be used as animal feed as well. The most challenging problem EsoTerra faces is finding apple pickers. Using the fruit is one way to put the landscape back to work, help the local economy, and bring outside dollars into the community.

Elizabeth and Jared are most excited about working together in a family owned and operated business. To them, EsoTerra is home, and their young children will grow up knowing the rewards of hard work. At EsoTerra, apples lead to success.

Mancos Brewing Company
Mancos, Montezuma County, Colorado
Kathy Hands, Co-owner

In operation for over seven years, Mancos Brewing Company is a brew pub and restaurant with a relaxed atmosphere that takes advantage of its beautiful surroundings with outdoor seating and a stage for live music. Indoors, theme nights, a bar and a pool table keep things lively. But the handcrafted beer is the star. Brewing beer is their own contribution to the local economy - in addition to supplying the pub, their in-house canning facility distributes their beer to liquor stores in Mancos, Dolores, Cortez, Durango and Pagosa Springs. Restaurants in Mancos, Cortez, and Mesa Verde National Park also serve their beers.

Mancos Brewing Company offers local meat, produce, and cheese on their menu as well as brewing their own beer on the premises. Located in the small community of Mancos, co-owner Kathy Hands believes it is important to support the local economy, and feels it is important to her customers as well. Although she does not advertise locally grown, she does believe that local is "chic" and promotes local and organic due to her own personal ethics.

As with other local businesses, Mancos Brewing finds seasonality and availability the most challenging aspects of offering local produce. Hands would use more local products if they were affordable and available. The overall benefit of offering locally grown food is that businesses are supporting other businesses as all try to make a living in a rural economy.

The Farm Bistro
Cortez, Montezuma County, Colorado
Geno Powell, Owner, Chef

A true farm-to-table restaurant, The Farm Bistro has been a part of Cortez since 2009. Geno Powell purchased the restaurant in 2019, and Powell believes in using locally sourced, high-quality products, which help support the local economy. Offering local products keeps the dollars here, provides farmers with an outlet for their products, and provides a fresher product for his patrons. The Farm benefits from offering locally grown foods because the quality is better, and the items stay fresh longer - he would use more if it were available year-round. Because of typically thin restaurant margins, some local products are priced too high to be cost-effective, such as potatoes and onions.

Geno uses local meats, produce, and flour, and although his customers do not specifically request locally grown products, they know they can count on The Farm to serve locally grown food. Customers of The Farm represent a large spectrum but tend to appreciate the attention to healthy and fresh ingredients. Locals support the restaurant year-round, while tourists enjoy trying local products, like yak from Mesa View Yak Ranch, during the summer months.

The Farm Bistro fits into the local food economy by providing an outlet for local farmers. A popular feature is the farm stand, which sells local produce, jams and honey, Bow & Arrow corn meal, Dove Creek dry beans, and more. Steady suppliers, such as Cachuma Ranch beef and Berto Farm pork enjoy a mention on the menu. One of the most challenging aspects of offering local products is the short growing season, which makes winter more challenging. Geno appreciates the organic produce from Four Seasons Greenhouse, located just north of Cortez, for shoulder season greens.

The original owners started the bistro to utilize produce grown on their nearby farm. As the business grew, they began to purchase produce from other farms. Currently, up to thirty local farms and ranches find a steady outlet for their products, much to the delight of customers seeking a genuine local dining experience.

Healthcare

Axis Health System

Cortez, Montezuma County, Colorado

Haley Leonard-Saunders, Director of Public Relations and Development

Haley Leonard-Saunders is based in Cortez, but she covers the region which includes five counties, with about 100,000 people in their service area. Starting in July, Axis Health System will cover 11 counties. AXIS started in 1960 as a community mental health center. In the early 2000's, they added detox and an acute treatment unit. Later, realizing that there needed to be a better intersection between physical and mental health - looking at the whole person - Axis has evolved to be an effective model for integrated care.

Axis serves as a safety net provider and can serve anyone regardless of ability to pay. They have a sliding scale that is 200% of the Federal poverty level. They have other programs to fill in any gaps and take private health insurance and self-pay. Currently, 70 percent of their clients are on Medicare/Medicaid. According to the October 2021 Accountable Healthy Communities screenings for the social determinants of health for the five-county region, 27.3 percent of the 9,200 people screened identified as food insecure, potentially inhibiting people's ability to focus and listen to and remember doctor's directives.

Food as medicine is a concept they embrace, and Axis always has a diabetes educator and a nutritionist available to patients as a part of the model of care. Pre-pandemic they provided cooking classes, shopping tours, and hands-on education that addressed the many issues that might impact people who suffer from food insecurity.

Creating wrap-around support between agencies would benefit clients, and at this time that support is being done by referrals to community resources such as WIC, SNAP, and local food assistance organizations.

Southwest Health Systems
Cortez, Montezuma County, Colorado
Karen Hubley, Director of Food and Nutrition

Karen Hubley is the Director of Food and Nutrition Services at Southwest Health System (SHS) in Cortez, which includes Southwest Memorial Hospital, Southwest Medical Group Clinics, and labs. It is a large and growing organization serving the Four Corners region. Karen has been in her position for seven years. While SHS serves the needs of all people, the hospital clientele tends to be elderly.

Karen's colleague Laura Taylor is the registered dietitian nutritionist at SHS. When talking with clients, either inpatient or outpatient, she observes that many are eligible and currently participate in SNAP (Supplemental Nutrition Assistance Program).

SHS sees a direct correlation between nutrition and health. As such, those with limited resources tend to be at a higher risk for chronic disease. Laura visits with inpatients and sees outpatients on a referral basis. She provides "diabetes education and nutrition services based on current clinical research, using both one-on-one and group sessions, tailored to the individual's needs."

Karen is excited to be able to offer fresh produce to her clients, and great effort is made to use local ingredients whenever possible. Obtaining fresh, locally grown food is more difficult in the winter, however. Minimizing waste is of importance, so she collaborates with several agencies to share her surplus food:

- Sandwiches, salads, bagels, and pastries that haven't been sold in the commissary are donated to The Pinon Project for their kids' program.
- Leftovers of hot line food are cooled down and frozen, then delivered to the Bridge Emergency Shelter and food assistance groups.
- When stock is rotated, it gets donated to Grace's Kitchen, a local soup kitchen.
- They save all food scraps (except bacon and onions) in five-gallon buckets and give it to a pig farmer twice weekly.

In her volunteer position as a member of the TeamUp Food Security Action Team, Karen has learned that lack of transportation is a huge barrier to hospital clients in increasing their consumption of fresh and healthy food.

Utah Navajo Health Service

Montezuma Creek, San Juan County, Utah

Hansley Eltsosie

Please describe your organization.

Our center in Montezuma Creek is a clinic within the Utah Navajo Health System. There are a series of six sites in this area including Monticello, Blanding, etc. Other parts of the system have specialties, such as the women's center in Blanding. Our center handles medical services (pharmacy, dental, clinical care) and my department provides meals to our staff members, doctors, providers, custodians, and maintenance workers.

UNHS travels to Cortez to purchase fresh fruits and veggies from Southwest Farm Fresh cooperative. What is your motivation for purchasing locally grown products?

Farm to Table farm fresh food is the whole idea behind what I'm seeking for my community. For people in this area, the nearest grocery store is between 60 and 100 miles away. Food availability on the reservation is extremely limited, and that creates a deeply insufficient diet in many ways.

For instance, many people, including young people, in this area don't know what a farm-fresh vine-ripened tomato tastes like at its peak. When I learned this, I was inspired to import as many high-quality fruits and vegetables as possible. I want to demonstrate how enjoyable and energizing healthy food can be, compared to the type of produce we're used to – like tomatoes sprayed with chemicals and forced to look red when they still taste green.

In addition, native farmers are limited as to what can grow on the reservation, and what they end up selling at the markets. We succeed with native corn, watermelons, squash, tomatoes, but not cucumbers and many other important crops.

Are there Native American farms or ranches that you purchase from as well? What entities within UNHS utilize locally grown food? Do menus incorporate traditional Navajo foods?

I try to support native-owned businesses as much as possible. For instance, I buy corn from two families in Shiprock and sell traditional steamed corn to the community at our gatherings. And we sell below cost – we're not trying to make a profit from our community, we're trying to support them and provide healthy affordable native foods. Many people that come to our gatherings have traveled quite a distance. I'll also pass along extra produce I acquire to local markets and not price it up, as I simply seek to make healthy food more accessible to everyone.

Traditional foods are important to our community because we evolved and adapted to our surroundings within that traditional food system. We learned to adapt to what worked for us in our areas. We hunted and raised deer, sheep, and small game, and we gathered corn, squash, etc. and that traditional lifestyle kept us active and exercising. Traditional food was integral to a lifestyle that created healthy communities. Before we had grocery stores gas stations, we survived in that lifestyle.

What do you see as the major challenges that your clients face to increasing their consumption of fresh and healthy food? And how are those challenges being addressed?

The biggest challenge for our communities is availability. We're in a food desert – the nearest grocery stores are up to 100 miles away. The industrial food we have here provides some nutrition, but farm fresh food has a different taste and feel to it. And even when I can purchase quality food and bring it to the reservation, how can I make it available to the community on a regular basis? In addition, if those quality foods are seasonal or quite perishable, how are we going to preserve them? So refrigeration/storage is another huge challenge for us.

Another big hurdle for local food access is the USDA stamp requirement. Small local reservation farms do not have the capacity to acquire that license, and that restricts them from supplying schools and other governmental systems. As it is now, only industrial, non-rez businesses can supply our schools. We would create much wider access to local healthy food if there were governmental support in getting local farms USDA approved.

A centralized warehouse/kitchen is also a must for us on the reservation. Farmers need a place to wash, package, and distribute their produce. Our farmers are running small operations and don't have the capacity to handle every aspect of a profitable farming business.

Is "food as medicine" a concept that is embraced by UNHS??

I strongly believe food is medicine. We know from scientific studies that we need sugar and salt, but with limitations. We cannot overdo some of these ingredients. I try to provide leafy greens and lean protein to my customers so they elevate their diet, because I know the connection between food and disease.

Do you collaborate with other organizations regarding food education or food assistance?

We do not partner with any outside organizations, other than businesses like SWFF that have nutritious food for sale.

What food and nutrition programming or opportunities are you most excited about, and why?

I'm most excited about the new nutrition education I see in our school systems. Michelle Obama implemented some great programs that emphasized a low sodium diet with more vegetables, more fruit, more leafy greens.

I'm particularly pleased with the school-based education in that teachers prepare and enjoy meals with the students, and the students have a chance to observe the adults. In my experience children observe and shadow teachers and parents - if adults like something, children will often like it. We're instilling good eating habits in children when we cook with them, teach them about presentation, and then eat tasty and attractive food as a group.

Having said that, there is very little nutrition education in our community in general, and I'd like to see more education everywhere: clinics, hospitals, school systems, during parent teacher conferences, etc. That would be very, very helpful.

Here's a metaphor for the type of nutritional education I'd like to see. Speed limit signs: we don't always follow the speed limit, but the signs act as a regular reminder for us to pay attention and be safe. Similarly, widespread community messaging about healthy eating could encourage people to think about their food choices on a daily basis.

Government

Montezuma County Board of Commissioners
Montezuma County, Colorado
Jim Candelaria, County Commissioner

The role of County government, as well as the restrictions placed on it, requires more focus on statutes then involvement in production, The County provides funding for the Senior Center and MoCo Transportation. The Center supports food security for the elderly and MoCo provides transportation to the Center, as well as food delivery to seniors who are home-bound. The County provides, at no cost, the venue for the Farmer's Market, supporting local producers 6-7 months of the year. The County strives to always support ag-friendly land use policies and supports the USDA plant in Mancos.

The County is continuously engaged in water issues. Where water flows, food grows. The County government believes agriculture is a strong component of the community and strives to remove any roadblocks in the way of plant or animal-based production. Drought, unfortunately, is a major obstacle to food production and the County does not control water use. However, they are engaged with water providers to reach the best possible outcome. The County strongly believes that if agriculture fails, the County fails.

Montezuma County works closely with the CSU extension office and the CSU Research Center in Yellow Jacket. It is actively involved in a Salt Cedar and Russian Olive eradication project that helps save water. It also supports composting at the landfill. The County is involved in programs designed to educate, teach, and assist with use of resources, in order to achieve effective production.

The County believes agriculture is our way of life, but that it is constantly under attack. Legislative issues, inflation, and the increasing age of farmers in Montezuma County all threaten agriculture. County officials believe people need to know where their food comes from. The biggest threat to food production and security is water. Everyone wants it and Montezuma County needs to keep what it has.

Town of Dolores
Dolores, Montezuma County, Colorado
Chad Wheelus, Mayor

The Town of Dolores operates as a rural municipal government that is governed by a town board. The board is made up of volunteers and they do not create policy. The Town Manager is really the person who gets and keeps things moving. The Town does not have a budget line item for the food share program. It does support a free venue for the Farmers Market, is working with Amber Lansing's Backpack Program and will be providing free space in Joe Rowell Park this year for a community garden.

Dolores is participating in the County's Economic Development Road Map, and the County has plans to hire an ED Director. Agriculture is a major topic within that road map: where is it going, how it can be supported, and how best to deal with water issues. The Town of Dolores supports value-added agriculture, e.g. products that are specific to the community and are sustainable. Examples include Esotera Cidery, Adobe Milling, Lavender Farms, etc. The move toward value-added agriculture will require a change in the way agriculture is viewed in the community and will require diversity in products grown. The town supports the concept of growing, selling, and distributing the product in/from the area.

Appendix

County Profiles

The following profiles provide a snapshot of demographics, economic drivers, and landscapes of the five counties included in this Community Food Assessment. Note: the profiles are for entire counties, however this assessment is limited to Dolores County, Montezuma County, and border communities in Arizona, New Mexico, and Utah.

Apache County, Arizona

Apache County, Arizona is located in the northwest corner of the state and borders Colorado, Utah and New Mexico. It is the third largest county in Arizona, and 68.34% of the county is tribal land. The population is 71,714 (2020), with the majority of the population Native American, and includes the Navajo Nation, Fort Apache Indian Reservation, and a portion of the Zuni Reservation.

- Out of a total of 7,179,520 acres, 5,554,963 are in farmland, 11,878 of which are irrigated. The average farm size is 1,001 acres, with 98 percent family owned and operated.
- The county seat is St. Johns with a population of 3,507 (2020). There are two other towns in the county, Eagar 4,910 (2020) and Springerville 2,208 (2020). The county has 36 census designated places, and 8 unincorporated areas. There is a representation of many different ecological zones, and the areas are divided by canyons, mesas, buttes, mountains, water areas, forests, and open land. Overgrazing is a problem in some areas.
- Primary crops are forage and traditional, or Indian, corn. The combined livestock inventory for sheep/lambs and goats is over 95,210. Cattle and calves are a distant second at 38,995. A very small amount is in fruit and vegetables, and many Native people have their own gardens.
- The market value of agricultural products is $18,003,000, which includes $2,058,000 in vegetables, melons, and potatoes.
- As of 2017, there are 5,551 farms (down one percent since 2012) with 8,979 producers, of which 1,698 are new/beginning farmers. Over 93 percent are American Indian and less than six percent are white.
- The Farm Service Agency in Apache County, in conjunction with the USDA, provides agricultural loans to farmers/ranchers, especially those who are under-served. The Farm Bureau provides scholarships to any local student who majors in agriculture.

St. Johns, the county seat, is located on US 180 west of the intersection with US 191. It is a Mormon community, although Hispanics represent 25% of the population. St. Johns is "The Town of Friendly People." There are several grocery stores and several convenience stores in St. Johns.

Eagar is the largest town, in population, of the three towns. Eagar, "Where the Road Meets the Trails," is located in the White Mountains of Arizona. The Chamber of Commerce is shared with Springerville, and several other smaller communities. Eagar/Springerville has two grocery stores and many convenience stores with food purchase options.

Springerville is called the "Gateway to the White Mountains." The towns of Eager and Springerville reside in the Round Valley within the White Mountains. Recreation opportunities abound in the Springerville/Eager area.

Apache County is home to many food banks and pantries, as well as senior service centers. Food stamps (SNAP) are also available through county offices. In addition, many Federal and Tribal food programs assist the large population of Native Americans in the county.

Dolores County, Colorado

Dolores County, Colorado, population 1857, lies directly north of Montezuma County and borders Utah to the west. The county is historically agricultural, with the following characteristics:

- Out of a total of 683,500 acres, 157,644 acres are in farmland, 7241 of which are irrigated. The average farm size is 504 acres, with 95 percent family owned and operated. The balance of acreage is national forest, BLM, State of Colorado wildlife areas, and non-agricultural private land.
- There are two population centers in Dolores County: Dove Creek and Rico, populations 711 and 172, respectively (2020). These communities are divided by grasslands, ravines, canyons, and mountains.
- Primary crops are wheat, dry beans, forage, and safflower, and the vast majority of livestock is cattle and calves (over 5,000 as of 2017). A tiny percentage of acreage is in vegetables and fruit for market, while many residents maintain home vegetable gardens.
- The market value of agricultural products is $8,516,000 annually, which includes $65,000 in vegetables, melons, and potatoes.
- As of 2017, there are 313 farms (up 11 since 2012) with 549 producers, 175 of which are new or beginning farmers. Over 95 percent are white, with 7 percent identifying as Hispanic or Latino.
- In support of local producers, the Dolores County Development Corp. which is the county economic development organization, offers a micro-loan program with low interest loans up to $5000 and is accessible to local agricultural enterprises.

Dove Creek is the larger of the two towns in Dolores County and is located on Highway 491, a main thoroughfare on the western slope of Colorado. It is a proud and largely self-sufficient community where people rely on family and neighbors. With considerable distance to major grocery stores, many residents maintain a home garden and raise livestock and poultry. The closest major grocery store is about 50 miles away in Cortez, Montezuma County.

Rico, a town of 200 residents, was originally a mining town and is now developing as a bedroom community of nearby Telluride. Cattle grazing is the only significant agriculture in the area.

Montezuma County, Colorado

Montezuma County, Colorado, population 26,266 (2020) is the most southwestern of the 64 counties in Colorado. Located in the Four Corners Region, the county borders Utah, Arizona, and New Mexico. The County is 1/3 Tribal Land, 1/3 federally managed land, and 1/3 private, state or county owned. Mesa Verde National Park is located in the county and provides an economic base for tourism. Historically, and today, agriculture is a major contributor to the area economy.

- Montezuma County total acreage is 1,306,000 acres, of which 690,788 are in farmland with 79,029 irrigated. Average farm size is 615 acres with 96 percent family owned and operated. The balance of acreage is federal, tribal, state, and non-agricultural private land.
- Cortez is the County seat and the largest population center (8,729 in 2020). Two other incorporated towns are Dolores (1,017 in 2020) and Mancos (1,349 in 2020). There are three unincorporated towns, Pleasant View (459 in 2020), Yellow Jacket (33) and Arriola (population not available), and two census designated communities: Towaoc (1,140 in 2020) and Lewis (186 in 2020). The communities are divided by grasslands, canyons, and mountains.
- Cropland represents 17 percent of the land in farms, and major crops are grains, dry beans and forage. Majority of livestock is cattle and calves (over 15,337 in 2017). A small amount of acreage is in vegetables and fruit for local markets and restaurants. Many County residents have home vegetable gardens.
- Market value of agricultural products is $46,424,000 annually. Vegetable and fruit products have a market value of $614,000.
- As of 2017 there were 1,123 farms (down one percent from 2012) with 1,991 producers, of which 640 are new and beginning farmers. Over 96 percent are white, two percent identify as Hispanic or Latino, and one percent are Native American.
- Cortez is the largest town in Montezuma County. It is located on highways 160, 145, and 491. These roads are main connecting routes in Southwest Colorado, and also link to Utah, Arizona, and New Mexico. Cortez developed as an agricultural region to provide food to the mines in Silverton and Telluride. Cortez has a lively Farmers Market every summer, a farm-to-table restaurant, many restaurants that use locally produced products, and three major supermarkets. There are several small outlets for local food sales, and several agencies that provide food assistance to those who are in need.

Mancos, the next largest community, is located on Highway 160 between Cortez and Durango (La Plata County), Mancos is known for its small town friendless and western traditions. Mancos is cattle country, and the area around Mancos is rangeland and mountains. They also host a summer Farmers Market providing local producers an outlet for direct sales. Several restaurants use local products on their menu and there is an exclusive farm-to-table restaurant in town. There is also a locally owned grocery store. Using the historic orchard apples of Montezuma County, Mancos is also home to a cidery. For those in need of food assistance, residents have access to those services mentioned in Cortez. There is also a Mancos FoodShare program for local residents.

Dolores, the third incorporated town in Montezuma County, is located on Highway 145, north of Cortez, and on the way to Telluride. Dolores is a small town located in a canyon with the beautiful Dolores River cutting along one side and rock cliffs on the other. Known more for its outdoor environment than agriculture, Dolores was the location for the Galloping Goose, which carried produce from the county to the mines further up into the mountains. Dolores has a variety of restaurants and a grocery store that specializes in fresh, local products. Dolores also has an active Farmers Market in the summer. Once again taking advantage of the historic orchard apples in Montezuma County, Dolores has a cidery. Those in need of food assistance may access those services in Cortez, and Dolores provides food assistance through the Dolores Family Project.

Towaoc is the capital of the Ute Mountain Ute Tribe. It is located on Highway 160/491 south of Cortez, near the New Mexico border. Food service is limited to the Ute Truck Stop and the Casino, and residents of Towaoc generally travel to Cortez for their grocery shopping. Towaoc is surrounded by a high desert landscape, canyons, and the Sleeping Ute Mountain. The Ute Mountain Farm and Ranch Enterprise is a 7,700-acre irrigated agricultural project located on Tribal land. This market-oriented agricultural enterprise grows and mills their own corn, and raise cattle and alfalfa.

Other small unincorporated towns are located in the grasslands and farmlands of Montezuma County. These communities commute to Cortez for food and supplies. Many maintain their own gardens and some raise cattle and other crops.

San Juan County, New Mexico

San Juan County, New Mexico, population 125,608 (2020), lies south of Montezuma County, Colorado in the Four Corners, bordered by Utah and Colorado. Major highway routes include US 64, 491 and 550. The land area is 63.4 percent tribal land, of which 60.45 percent is Navajo and 2.93 percent is Ute Mountain Ute.

- Out of a total 3,544,320 acres, 2,551,470 are in farmland, 73,560 of which are irrigated. Average farm size is 861 acres, with 96 percent family owned and operated. The balance of acreage is federal, state, and tribal owned, or non-agricultural private land.
- There are four population centers in San Juan County, Farmington (44,967 in 2020), Bloomfield (7,791 in 2020), Aztec (6,467 in 2020), and Shiprock (7,718 in 2020) a census-designated community on the Navajo Nation. There are twenty-seven census designated places, and two other communities. These communities are divided by mountains, buttes, mesas, badlands and fertile river valleys.
- The primary crop is forage (hay) and the majority of livestock is sheep and lambs (over 21,190 in 2017) and cattle and calves (16,523 in 2017). A small percentage of land is in vegetables for market, and many residents have their own vegetable gardens.
- The market value of agricultural products is $74,118,000 annually, which includes $16,309,000 in vegetables, melons and potatoes.

- As of 2017, there are 2,065 farms (up 13 percent since 2012) with 4,702 producers, 1,125 of which are new/beginning farmers. Over 66 percent are Native American, with 33 percent identifying as white.
- The Northwest New Mexico New Farmer Network in Farmington works with solving agricultural issues in the area, including the aging farmer crisis, loss of agricultural land due to high land values, and the increasing demand for local specialty crop products. Their LandLink New Mexico project links agricultural landowners and farm/ranch operators with the next generation of producers.

Farmington is the largest of the three towns in San Juan County and the commercial hub of northwestern New Mexico. Major industries in Farmington are the production of petroleum, natural gas and coal. As a large commercial hub there are a variety of grocery stores available to residents.

Bloomfield is the second largest town in San Juan County. The town's primary industry is natural gas production, while secondary industries include farming, electricity generation and tourism. Located in the tri-cities area of San Juan County, it is close to all the commercial advantages available in Farmington.

Aztec is a tourism community that also participates in the county's petroleum industry. Located in the tri-cities area of San Juan County, it is close to all the commercial advantages available in Farmington.

New Mexico ranks eighth in the nation for food insecurity. The ECHO Food Bank in Farmington collects, stores, and processes food for low-income families in Northwestern New Mexico. They also provide mobile pantries throughout the county. There are a variety of free food pantries in Farmington, Bloomfield, and Aztec, and are faith based, government sponsored, and/or non-profit. The Navajo Nation Food Distribution Program has a mission to prevent hunger across the Navajo Nation.

San Juan County, Utah

San Juan County, Utah (15,295 in 2020) is located in the far southeastern corner of Utah. It is in the Four Corners Region and borders Arizona, Colorado, and New Mexico. San Juan County is the largest county in Utah, and the second largest county in the United States. Since the arrival of Anglo-Americans in the area, the major agricultural activity is cattle ranching. Tourism is also an important economic indicator.

- Of the 5.2 M acres, 1,657,212 are in farmland, of which 7,571 are irrigated. The average farm size is 2,014 acres, with 96 percent family owned and operated. Over 72 percent of the county is administered by either federal or tribal authorities.
- There are three population centers in San Juan County, Blanding, the largest, with a population of 3,594 (2020), Monticello, the county seat with a population of 2,570 (2020) and Bluff, incorporated in 2018 with a population of 150 (2020). San Juan County also has 11 census-designated areas and two unincorporated areas. These communities are divided by grasslands, canyons, ravines, and mountains.
- Primary crops are wheat, forage, and safflower and the majority of livestock is cattle and calves, (14,591 in 2017) followed by sheep and lambs (8,260 in 2017.) A small percentage is in vegetables and fruit for market, and many residents maintain home vegetable gardens.

- The market value of agricultural products is $16,776,000 annually with $790,000 in vegetables, melons and potatoes.
- As of 2017 there are 823 farms (up ten percent from 2012) with 1,637 producers of which 391 are new/beginning farmers. Over 71 percent are Native American, and 29 percent are white.
- Restoring traditional foods and agriculture is an important emerging economic activity. Utah Dine Bikeyah Economic Development (UDB) has applied for grants to advance the restoration of traditional foods and food production. As potato reintroduction moves forward UDB will assist farmers and related business startups with access to USDA grants and loans.

Blanding is the largest town in San Juan County, located on Highway 191. It relishes its hometown hospitality and small town vibes. Blanding is a considerable distance from major grocery stores, and many residents travel to Cortez, CO for major supplies. There is a local market (Clark's) and general store (Grayson) and a Family Dollar Store.

Monticello is the county seat of San Juan County, located at the end of Highway 491 at the intersection of Highway 191. Monticello is a small community with a big playground. Twelve National Parks and Monuments surround the town, and tourism is their main economic driver. Monticello residents often go to Cortez, CO for their major grocery needs. There is a small market (Blue Mountain Foods) and Family Dollar, and several convenience stores/gas stations.

Bluff is a small artist community located on Highway 191. Bluff was incorporated in 2018, but people have been attracted to Bluff for thousands of years. Like Monticello, Bluff is surrounded by access to National Parks, Monuments, and a Tribal Park. Most Bluff residents visit Cortez, Colorado for their major grocery needs. The town's food purchasing opportunities are primarily convenience stores.

One in five people in San Juan County face hunger. There are seven Mobile Pantry distributions currently in San Juan County, three in-school pantries, three summer feeding sites, one kids cafe site, and one brick-and-mortar pantry. There are WIC Clinics in Blanding and Monticello, and a SNAP office in Blanding. To assist seniors, home delivered meals are available five days a week at the Blanding and Monticello senior centers, and two times a week at the Bluff and La Sal senior centers. Additionally, two days a week congregate meals are available at the centers.

Food Assistance Resources

Food Pantries

Independent community food pantries are self-governing and usually distribute food to their clients on a once-a-month basis. A food bank is the storehouse for millions of pounds of food and other products that go out to the community. A food pantry functions as the arms that reach out to the community directly.

Montezuma County:

- Evangel Assembly of God, Cortez (970) 565-4198
- Good Samaritan Food Pantry, Cortez (970) 565-6424
- Church of the Nazarene, Cortez (970) 565-7826.
- Agencies in Montezuma County that have recently added food pantries as an added benefit to their clients: Montezuma County WIC (970) 565-3056, Ute Mountain Ute WIC (970) 564-5363, Ute Mountain Ute Community Health (970) 565-4441
- Mancos FoodShare, Mancos, https://www.facebook.com/MancosFoodShare
- Dolores Family Project, Town of Dolores (970) 844-4567

Dolores County:

- ROCK (Reaching Out to Community and Kids) - Dove Creek, https://www.facebook.com/dovecreekrocks - food boxes and summer kid's lunches
- Dove Creek Care and Share Food Pantry Inc - Emergency food bank and pantry serving all residents of Dolores County and Egnar, Colorado regardless of situation. Also provides once-per-month distribution of USDA's TEFAP for those who qualify. We are an equal opportunity provider. Located at the Rear Entrance of VFW 5181 at 214 Highway 491in Dove Creek, Colorado. Please call (970) 769-0006 or (970) 769-0005 to schedule a pick-up or delivery

San Juan County, NM:

- Bethel Christian Reformed Church, Shiprock, NM 87420 (505) 368-4475
- Many Waters Mission Waterflow, Waterflow, NM 87421 (505) 598-5433

San Juan County, UT

- Transitions Pantry, Montezuma Creek, UT 84534 (435) 678-3741 Provides a food pantry. Serves San Juan County. Pantry hours: Monday and Thursday 10am - 3pm
- Red Mesa Mobile Food Pantry, Red Mesa Senior Center, Montezuma Creek, UT (801) 887-1242
- Aneth Mobile Pantry, Aneth Chapter House, Aneth, UT 84510 (801) 887-1242
- Montezuma Creek Mobile Pantry, Montezuma Creek, UT (801) 887-1242

Community Food Distribution and Meal Services

Montezuma County, CO

- Towoac Care & Share commodities distribution, Towaoc Recreation Center (970) 564-5360; open to Ute Mountain Ute tribal and non-tribal members
- Towaoc Recreation Center – Box lunches available for Ute Mountain Ute youth in the multi-purpose room from 12pm – 1:30pm. They will deliver as well, please call the front desk (970) 564-5360 with number of youth and the physical address.
- Mancos FoodShare commodities distribution https://www.facebook.com/MancosFoodShare
- Mancos FoodShare summer lunch kits for families with kids https://www.facebook.com/MancosFoodShare
- Montezuma County commodities distribution at the Montezuma County fairgrounds, call (970) 565-4166
- Montezuma County Senior Services senior food boxes, Cortez Meals on Wheels, Cortez Senior Center lunch program (970) 564-2776
- Dolores Community Center senior meals, Dolores Meals on Wheels, Dolores Commodities and Senior Commodities Box, Dolores (970) 882-7337
- Montezuma County Public Health Department: For delivery of necessary groceries, essential prescriptions and additional meals call (970) 564-4779
- Montezuma County WIC resource van often has groceries on the van to hand out when visiting areas of the county to sign families up for WIC (970) 564-5363
- Montezuma County RE-1 School District free and reduced lunch program (970) 565-5157
- Dolores school backpack program - run by Dolores Family Project (970) 844-4567
- Pinon Project Family Resource Center, Cortez CO: snacks and summer lunch programs for kids. Cortez, CO 81321 (970) 564-1195

Dolores County, CO

- Dove Creek senior meals, Dolores County Senior Services (970) 677-2825

San Juan County, UT

- Aneth Senior Center meal program, Aneth, UT (435) 651-3527

Apache County, AZ

- TEFAP Navajo Evangelical Lutheran Mission, One Mission Lane, Rock Point 86545 (928) 659-4201
- TEFAP Tolikan Chapter, IR 35 and 5045, Teec Nos Pas 86514 (928) 429-0977

Soup kitchens

- Hope's Kitchen at First United Methodist Church, Cortez, 12-1 Mon, Wed, Fri. (970) 565-3002
- Grace's Kitchen - at St. Barnabus Church on North St. in Cortez; open 12-1 Tues-Thurs-Sat. (970) 565-7865

Sources of food to supply food assistance programs

- Care and Share Food Bank for Southern Colorado, Colorado Springs (719) 528-1247 supplies the major food pantries in southern Colorado.
- Local agriculture producers - donations and grant-funded purchases; CSU Extension "Grow to Give" program (970) 565-3123
- Grocery stores, gleaning and purchasing
- Community food donations
- SWMH in Cortez donates surplus prepared food, revolves between several different food assistance groups
- Utah Food Bank serving San Juan County including the Navajo Nation: A mobile program runs once a month in La Sal, Montezuma Creek, Monticello, Blanding and Aneth. We drop the product, and they distribute that day; School pantries located in Montezuma Creek at White Horse Highand the high school and elementary in Monument Valley, Monument ValleyHigh, Tse'bii'nidzisgai elementary; Brick and mortar site in Monument Valley at the Transitions building; All sites can only serve residents of Utah except for Monument Valley because we are on the border of UT and AZ, and we are the closest site for food in that area.
    - Questions regarding these programs may be addressed to Utah Food Bank, 3150 S. 900 W, Salt Lake City UT, 84119 (801) 887-1252
- Arizona Navajo Department of Health Food Distribution Program, Teec Nos Pas warehouse, Teec Nos Pas, AZ 86514 (928) 656-3651

Education - food, nutrition, gardening, and/or farming

- Cooking Matters, Brigid Hunt - free small group cooking classes aimed forlow-income people (970) 300-3055
- MoCo Health Department WIC - nutrition classes for WIC participants (970) 564-5363
- Montezuma-Cortez High School culinary program
- Ute Mountain Ute Community Health (970) 565-4441
- AXIS Health System (970) 565-7946
- Fozzie's Farm education programs, a project of the Montezuma Land Conservancy, jay@montezumaland.org

- CSU Extension, Montezuma County (970) 565-3123
- CSU Extension, Dolores County, (970) 677-2283
- UHU Extension, San Juan County, Utah (435) 587-3239 ext. 9
- NMSU Extension, San Juan County, New Mexico (505) 334-9496
- High School FFA (in all available high schools)
- Ft. Lewis Old Fort Farm and Ranch - Beth LaShell, Old Fort - beginningfarmer incubator programs, https://www.facebook.com/oldfortathesperus
- Common Ground community garden project, community growing space andeducation, https://www.facebook.com/cortezrecgarden
- Montezuma School to Farm Project, https://www.facebook.com/MontezumaSchooltoFarm
- Montezuma Orchard Restoration Project – Addie and Jude Schuenemeyer, https://www.facebook.com/montezumaorchardrestorationproject
- Pueblo Community College Agriculture Program in Mancos, CO (970) 564-6200

Community Kitchens

- Montezuma County Fairgrounds (970) 565-1000 (commercial kitchen)
- Montezuma County Annex (970) 565-4166 (commercial kitchen)
- St. Barnabus Church, Cortez (970) 565-7865
- Lewis-Arriola Community Center, https://www.facebook.com/lewisarriolacommunitycenter
- Dolores Community Center (970) 394-5727
- Mt. Lookout Grange, Mancos (970) 623-2925
- Mancos Community Center (970) 533-7725 https://www.mancoscolorado.com/government/mancos-community-center/

Resources for Further Information on Agriculture

Census of Agriculture – USDA National Agricultural Statistics Service
https://www.nass.usda.gov/AgCensus/

Vegetables Summary 2019 - USDA National Agricultural Statistics Service
https://www.nass.usda.gov/Publications/Todays_Reports/reports/vegean20.pdf

Local and Regional Food Market News – USDA Agricultural Marketing Service
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