Economic Impact Model for South Mountain Fruit Belt in Adams County, PA
The Historic South Mountain Fruit Belt is an integral part of the South Mountain Conservation Landscape Initiative, supported by the Pennsylvania Department of Conservation and Natural Resources and the many members of the South Mountain Partnership.

The mission of the Partnership is to sustain the South Mountain Region’s quality of life which is critically reliant on its natural, cultural, and economic assets.
The South Mountain CLI is unique in its support of agriculture:

On the October 18, 2007 Spotlight on South Mountain Tour in Adams County where Tonya-Khouse-White presented to DCNR Secretary DiBerardinis the importance and challenges of the fruit industry and opened the door for the unprecedented March 17, 2008 Align-Protect-Expand partners meeting, in the words of Secretary DiBerardinis:

“to provide this unique opportunity unlike he has seen anywhere else in the state during his time for the alignment of the work of DCED, DCNR, and the Department of Agriculture for immediate action around protection and to expand into new markets for tourism, agriculture, more land protection, learning about stewardship, outdoor recreation, heritage and agricultural tourism.”
Project Stepping Stones:

April 2010 Balancing Nature and Commerce Workshop for the CLI – a Fruit Belt Team was assembled representing the Growers, tourism, economic development, agriculture, government and conservation.

The group discussed ways to enhance the economic viability of the fruit belt, while calling attention to the unique identity of South Mountain.
The Team was awarded a South Mountain Mini-Grant in 2010 for the Arendtsville South Mountain Interpretive and Fruit Belt Branding Project. This project serves as a Gateway to South Mountain.

2013-2014 $10,000 AT&T Mitigation Grant to install fruit belt signage for the “Historic South Mountain Fruit Belt” ‘America’s Orchard.’
The South Mountain Fruit Belt Economic Inventory and Framework

The South Mountain Partnership – December 9, 2013

Written proposal and action plan developed by Dickinson College Students Nick Bailey, Jennifer Shields, Connor Shields and Leigh Ratino (with assistance from Jon Peterson)

Recommending: “The collection of data that demonstrates the Fruit Belt’s importance is vital to the region’s future. This data currently does not exist. By studying the regional economic impact of the fruit industry, stakeholders will have clear data that illuminates the importance of fruit growing in the region. This data will be used to advocate the continued conservation of the landscape. We recommend that a comprehensive economic impact study be conducted to quantify the South Mountain Fruit Belt’s significance.”
Adams County’s Fruit Belt has been thriving and growing for over a century

This is undoubtedly “America’s Orchard” as the products from the South Mountain Fruit Belt are served in over 70% of the restaurants and cafeterias across America.

This Economic Impact Model helps us to know our place in the economy, to sustain our industry, grow our jobs base, attract new investment, and to maintain our way of life.
What is the Economic Value of America’s Orchard?

The Components:
- Productive Land
- Labor Force
- Fertilizers & Chemicals
- Tractors & Harvesters
- Farm Equipment
- Insurance
- Shipping
- Research
- Labels
- Export
- Marketing
- Sales Tax
- Tourism
- Distribution
- Retail Markets
- Property Taxes
- Quality of Life

The Beneficiaries:
- Orchard Industry
- Employees
- Families
- Nurseries
- Suppliers
- Tourism
- Packers
- Banks
- Rail
- Building
- Festivals
- Distributors
- Research
- Processors
- Advertisers
- Government
- Hotels / Restaurants
Economic Impact Model for the Historic South Mountain Fruit Belt in Adams County, PA

Partners

Adams County Commissioners
Adams County Fruit Growers Association
Penn State Extension
Adams County Office of Planning & Development

Penn State Extension
Economic Impact Model for the Historic South Mountain Fruit Belt in Adams County, PA

Goals

Determine the total economic impact of fruit production in Adams County, PA.

Provide a refined, simplified model that does not require computer modeling skills and substantial person hours to update on an annual basis.
Economic Impact Model for the Historic South Mountain Fruit Belt in Adams County, PA

Context

• Apples are our prime product in terms of acreage cultivated.
• Apples are grown throughout the country.
• Dominance > WA, NY, MI & PA
• There are approximately 100 varieties of apples grown in Pennsylvania. About 20 of those varieties are marketed commercially.
• Adams, Franklin, Bedford, and York Counties have the highest concentration of orchards in PA.
• Adams County apple production accounts for 70% of Pennsylvania’s total crop yield.
Future viability of the fruit belt and its primary product in Adams County.

Strong partnership with Penn State Cooperative Extension Services

Number of fruit farms and farmers
  • Consolidation rather than loss of numbers of farmers and to lesser extent farms

Acreage in cultivation
  • At any one time acres out of production to change trees, fruits, etc.
  • Other acres could be added
  • Overall supply of acres roughly same but greater yield over time
The changing fruit industry and implications to Adams County

Decrease in processed product & increase in fresh.

Impact of WA, China and other exporting countries

- Counterbalanced by product demand growth, diversification, farm-to-table trends, increase in nearby markets.
- As trends continue taste becomes an increasing factor as well.
The changing fruit industry and implications to Adams County

Labor Shortages
- Less migrant labor compared to past
- Lack of next generation interest in production ag (more interest in precision management technologies)
- Uncertain immigration laws

Innovations that counterbalance
- Change in production (smaller trees, for example)
- Increase in use of lifts
- Other technological advances that increase labor efficiency
The changing fruit industry and implications to Adams County

Diseases, invasive species, climate, etc.

• Partnership with Penn State
• Extension Service heavily involved in advance of potential issues surfacing
• Precision agriculture resulting in greater knowledge of when to plant, as well as when and how much fertilizer, pesticides, etc. to use.
The changing fruit industry and implications to Adams County

Continued introduction of technology and research are critical!

- Orchard systems trials with yields impacted
- Integrated pest management to reduce spray costs and manage new invasive pests
- Research on new varieties, rootstocks, and labor-saving and precision management technologies
The changing fruit industry and implications to Adams County

Diversification
- Fresh versus grown for processing
- “New” product development
- Hard Cider
- Honey Crisp inspired products such as juice, seltzer, scones, pies, and breads
- Wine
The changing fruit industry and implications to Adams County

Retail

• Tourism & Agritourism
  • Current markets in area associated with growers
  • Current events such as festivals
  • Links to historic-oriented activity
• Direct Marketing
Economic Impact Model Process

Primary sources:
• 20 growers interviewed face-to-face
• Excellent cooperation in access to accounting records
• At least 80% of the farms represented
• Complexities include:
  • Differing “corporate” structures
  • Differing accounting methods
  • Differing treatment of retail
  • Lease-own patterns
Economic Impact Model Process

Key Assumptions and Notes for Model

• “But for” activity considered
• Growth anticipated in both fresh and retail
• Labor is the highest cost = 45% to 50% of costs
• Repairs and Maintenance = 10% of costs
• Chemicals/fertilizers/etc. = 10%
• Fuel = 5%-10%
Economic Impact Model Process

Key Assumptions and Notes for Model

• All figures in constant dollars to exclude inflation
• Annual market prices could cause unexpected increase in economic benefits even if processed product bushels decline, but trend is to decline.
• Only Adams County impact included. The economic impact on Pennsylvania likely exceeds 2-4 times the impact to Adams County.
### 2015 Fiscal Year Model Inputs

<table>
<thead>
<tr>
<th>Type of Income</th>
<th>Source</th>
<th>One Year Income</th>
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<tbody>
<tr>
<td>Processed</td>
<td>Knouse</td>
<td>$26,294,590</td>
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<tr>
<td>Non-processed/Package</td>
<td>Rice</td>
<td>$24,000,000</td>
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<tr>
<td>Direct Retail and New Product</td>
<td>3 to 5 Entities</td>
<td>$4,800,000</td>
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<tr>
<td>&quot;But For&quot; Activity</td>
<td>Knouse + 2 Other Entities</td>
<td>$343,200,000</td>
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</tbody>
</table>

**Local Taxes**

$16,427,481
## Multipliers

<table>
<thead>
<tr>
<th>Income Base</th>
<th>One Year Income</th>
<th>Impact Multipliers</th>
<th>Impact from Adams County Residents</th>
<th>Impact from Non-county Residents</th>
<th>Dollars to County Operations for Chemicals, Fertilizers, Etc.</th>
<th>Dollars to County Operations for Other Supplies, Etc.</th>
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</thead>
<tbody>
<tr>
<td>Processed Income</td>
<td>$26,294,590</td>
<td>Multiplier 1</td>
<td>4.25</td>
<td>1.69</td>
<td>3.0054</td>
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<td></td>
<td></td>
<td>Multiplier 2</td>
<td>0.3</td>
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<td>0.125</td>
<td>0.11</td>
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<tr>
<td>Non-Processed/Packing Income</td>
<td>$24,000,000</td>
<td>Multiplier 1</td>
<td>4.25</td>
<td>1.69</td>
<td>3.0054</td>
<td>3.0054</td>
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<tr>
<td></td>
<td></td>
<td>Multiplier 2</td>
<td>0.3</td>
<td>0.2</td>
<td>0.125</td>
<td>0.08</td>
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<tr>
<td>Direct Retail &amp; New Products</td>
<td>$4,800,000</td>
<td>Multiplier 1</td>
<td>4.25</td>
<td>1.69</td>
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<tr>
<td>&quot;But For&quot; Activity</td>
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<td>4.25</td>
<td>1.69</td>
<td>3.0054</td>
<td>0</td>
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<td></td>
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<td>0.05</td>
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</tbody>
</table>
Adams County Fruit Belt Economic Impact

The Fruit Belt contributed an estimated $580 million to the economy of Adams County.

1. The direct impact of non-processed apple fruit production - more than $70 million - presently exceeds the impact of apples grown for processing purposes - roughly $61 million - when "but for" activity is excluded.

2. Excluding "but for" activity, the impact of fruit grown for non-processed purposes in ten years - more than $91 million - is expected to grow while apples grown for processing purposes' impact will diminish to below $57 million.

3. Fresh and retail production impact is expected to increase by 24% over the next ten years.

4. In addition, local taxes associated with fruit belt properties contribute $16.4 million to the economy.
Barring natural or man-made catastrophic events, it will remain a significant contributor to the County’s economy in the foreseeable future.
Where do we go from here?

Recommendation from consultant to enhance marketing of fruit belt:

- **Experiential Destination** – couple with historic resources

- **Taste** – the soils are deep, well drained and gravelly, and make this one of the finest fruit producing regions in the United States. Only in Italy can similar soils be found.

- **America’s Orchard** – working on U.S. patent/trademark

- **Protecting the Fruit Belt** – through preservation efforts and compatible zoning/land development regulations
Greater Carlisle Heart & Soul Project

January 2016 – January 2018
Dr. Lindsay Varner, Project Director

Story collection at Lindenwood tree planting, Dickinson Twp.
Heart & Soul: Phase 1

- GCP’s Partnership with PA Humanities Council, Orton Family Foundation and South Mountain Partnership
- Bring community partners together
  - Greater Carlisle Project
  - Volunteers from community
- Know your community – An analysis of who we are
  - Community Network Analysis
Phase 2

- Explore your community
  - Identifying what matters most to the community
  - Broad based story collecting to pinpoint the heart & Soul of the community
  - Collecting personal stories – what do you love or would hate to lose in Greater Carlisle?
    - These stories help us to identify what areas of common ground in Greater Carlisle – IE what we value most

What do you value?

What would you hate to lose?
Your Thoughts Here

I fear losing the shops, charm, and livelihood of downtown Carlisle as more and more businesses move to big shopping centers outside of town. Thank you!

GREATER CARLISLE HEART & SOUL PROJECT

Your Story

My favorite attribute to the area is the abundance of nature - the mountains, trees, and scenery.

GREATER CARLISLE PROJECT

Woud miss the farm land. So many houses are being developed where there used to be farms.

GREATER CARLISLE PROJECT
Interview with Rachel Seitz at the Heart & Soul story collecting day, May 2016
How the Greater Carlisle Community Responded
Phases 3 & 4: Making decisions & Taking Action in the Community

• How do we protect and enhance our community’s heart & soul?
• What action can we take as a community to ensure our community’s values are maintained?
• How can we bring the community together to build a sustaining culture of community engagement?

Greater Carlisle community coming together to clear out Mt. Tabor AME Zion Church in Mount Holly Springs

From left: Harriet Gumby; Pam Still; Edna Gumby
Phases 3 & 4

Making Decisions & Taking Action in the Community

Video - Heart & Soul 2016

Interior: AME Zion Church in Mount Holly Springs

Filming congregants of the AME Zion Church in Mount Holly Springs

Ward and Smith family at Heritage Day, Sept. 10
2017 and Beyond

- Create Value statements
- Share out our values with the public through community events and organizations
  - February 25 – Black History Festival, New Life Community Church, Carlisle
  - May 6 – Amani Festival, Carlisle
  - June 2, Carlisle First Friday Block Party – ‘Living History’
  - September 2 – September 9: Cumberland County Heritage Days
  - All year – Detailed story collection
- Continue to grow our team and aid in the community taking ownership of the project.
  - Direct community involvement in projects
  - Creating partnerships with organizations
Presents:
Faces of the food System
What is LEAF?
Faces of the Food System
Partner Profiles

North Mountain Pastures

Talking Breads
Partner Profiles

Piney Mountain Organics

Three Springs Fruit Farm
Partner Profiles

Keswick Creamery

Trattoria Piatto
Exhibit on the road

Mobile Museum

Story Collection
Know Your Farmer
Collaboration at 101st PA Farm Show
Project Results

• 10 youth interns engaged in visioning, designing, conducting interviews, and creating exhibit
• Increase in awareness about and participation in local food economy by youth and families
• 6 local food leaders profiled
• 6 youth led workshops
• 350+ stories collected
Thank You

Please contact us:

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(717) 559-5323