HERE BE DRAGONS: MAPPING THE BLANK SPOTS IN DANE COUNTY LAND USE

American Planning Association, Wisconsin Chapter
June 12, 2014
The problem:
Hic Sunt Dracones
2005 Dane County Land Use
Dane County
Market Value of Agricultural Products

2007 Market Value by Commodity

- Milk and other dairy products from cows: 44%
- Grains, oilseeds, dry beans, and dry peas: 23%
- Other animals and other animal products: 16%
- Cattle and calves: 10%
- Nursery, greenhouse, floriculture, and sod: 3%
- All others: 4%

Total market value: $470,593,000

<table>
<thead>
<tr>
<th>Commodity Group</th>
<th>WI Rank in $ value</th>
<th>U.S. Percentile in $ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>All products</td>
<td>1</td>
<td>98%</td>
</tr>
<tr>
<td>Crops</td>
<td>1</td>
<td>93%</td>
</tr>
<tr>
<td>Livestock, dairy &amp; animal prods.</td>
<td>1</td>
<td>98%</td>
</tr>
</tbody>
</table>

Source: US Census of Agriculture, USDA
## Economically Significant Products 2007

<table>
<thead>
<tr>
<th>Commodity Group</th>
<th>Market Value ($1,000)</th>
<th>State Rank</th>
<th>US Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other animals and other animal products</td>
<td>Undisclosed</td>
<td>1</td>
<td>99.9%</td>
</tr>
<tr>
<td>Milk and other dairy products from cows</td>
<td>206,247</td>
<td>3</td>
<td>99.1%</td>
</tr>
<tr>
<td>Sheep, goats, and their products</td>
<td>711</td>
<td>6</td>
<td>94.2%</td>
</tr>
<tr>
<td>Grains, oilseeds, dry beans, and dry peas</td>
<td>109,384</td>
<td>1</td>
<td>94.1%</td>
</tr>
<tr>
<td>Cut Christmas trees and short rotation woody crops</td>
<td>417</td>
<td>12</td>
<td>92.9%</td>
</tr>
<tr>
<td>Cattle and calves</td>
<td>46,362</td>
<td>3</td>
<td>91.8%</td>
</tr>
<tr>
<td>Nursery, greenhouse, floriculture, and sod</td>
<td>13,521</td>
<td>6</td>
<td>91.5%</td>
</tr>
<tr>
<td>Horses, ponies, mules, burros, and donkeys</td>
<td>670</td>
<td>1</td>
<td>88.8%</td>
</tr>
<tr>
<td>Vegetables, melons, potatoes, and sweet potatoes</td>
<td>3,929</td>
<td>23</td>
<td>86.1%</td>
</tr>
<tr>
<td>Other crops and hay</td>
<td>3,577</td>
<td>3</td>
<td>84.5%</td>
</tr>
<tr>
<td>Fruits, tree nuts, and berries</td>
<td>1,111</td>
<td>20</td>
<td>83.5%</td>
</tr>
<tr>
<td>Hogs and pigs</td>
<td>5,031</td>
<td>6</td>
<td>82.2%</td>
</tr>
<tr>
<td>Aquaculture</td>
<td>364</td>
<td>12</td>
<td>73.2%</td>
</tr>
<tr>
<td>Tobacco</td>
<td>2,467</td>
<td>1</td>
<td>71.9%</td>
</tr>
<tr>
<td>Poultry and eggs</td>
<td>Undisclosed</td>
<td>19</td>
<td>0.0%</td>
</tr>
<tr>
<td>Cotton and cottonseed</td>
<td>0</td>
<td>-</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Source: US Census of Agriculture, USDA
Emerging Products
Phase 1:
Grant Writing / Brainstorming

- **DATCP**: $30,000 Farmland Preservation Planning Grant
- **Dane Co. DPD**: Grant administration; project management; incorporation into Farmland Preservation Plan
- **CARPC**: Data collection & classification; digitizing; GIS integration.
- **UWEX**: Crop identification; training
Phase 2: Data Collection
Farm Service Agency NAIP Photography
Phase 2: Data Collection
Existing County GIS Data
Phase 2: Data Collection
Field Data Collection

• Meet Zack & Omar
• URPL interns
• Windshield surveys June-August
• Laptop, ArcMap, binoculars, plat book, GPS, digital camera, phone,
• Occasionally two cars (cellular access)
• Right of way only
• Difficulties in determining crop and farm type, have to make assumptions based on clues
• Thousands of miles logged, 2 fleet cars worn out
Some Photo Highlights
Phase 3 Data Creation
Data Integration

• Began late fall 2010 with usage of 2010 NAIP imagery
• Use ArcMap to code, split, merge polygons
• Codes assigned based on: windshield survey, aerial imagery, zoning, ownership, previous land use inventories, local knowledge, employment data, parks etc...
• Longest part of the project (JoAnn, John, Tim, Aaron)
Phase 4 Quality Control

- Fill in gaps (0 or null), primarily around water features and unknown areas
- Collapse condos
- Check land use codes for fat fingers
- Variations in analysis
- Topology
- Dissolve by parcel number, land use codes
- Add in attributes
- Tedious
LU CODE: 6519
GENERALIZED LANDUSE: COMMERCIAL
LANDUSE CATEGORY: COMMERCIAL
LANDUSE SUBCATEGORY: COMMERCIAL MEDICAL SERVICES
SECOND LUCODE:
THIRD LUCODE:
DESCRIPTION: Other medical and health services, NEC.
PARCEL NUMBER: 0609972841152
PROPERTY OWNER: WAFA LLC
PLACE DESCRIPTION: Wisconsin Hyperbarics
MUNICIPALITY: City of Fitchburg
COUNTY: DANE
PREVIOUS SERIES CODE: 65
CITY OF MADISON CODE: 6519
DEVELOPED: Y
Hic Sunt Dracones
2005 Dane County Land Use

“Agriculture” = one land use code
Dragons No More!
2010 Dane County Land Use

“Agriculture” = 50 land use codes
Applications: Water Quality and Manure Management

Lake Mendota Watershed
Landowners with livestock operations in 2010

Legend
- DNR Watershed Boundary
- Perennial Stream
- Intermittent Stream
- Constructed Drainage
- Lakes and Ponds

Livestock Operations (2010)

DESCRIPTION
- All other animal production
- Beef cattle ranching and farming, including feedlots
- Cattle ranching and farming
- Dairy cattle and milk production
- Goat farming
- Hog and pig farming
- Sheep farming
- Landowners with livestock (2010)

Data sources:
2010 Land Use Inventory (CARPC/DPD)
DNR Watershed Boundaries (WI DNR)
2014 Dane County Hydrology (LIO/LWRD)
2014 Ownership Boundaries (LIO)
Applications: Farmer’s Market

Northside Farmer’s Market
Proximity to Farms Producing Food for Human Consumption
Applications: Tourism
Applications: Agricultural Infrastructure
For More Information:

- DCiMap: https://dcimapapps.countyofdane.com/dcmappviewer/
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