

The 2012 Economic Impact Study of RI Agriculture and Plant-Based Industry

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In Collaboration with
RINLA, RI DEM, RITF, RI Ag Partnership, RIEDC

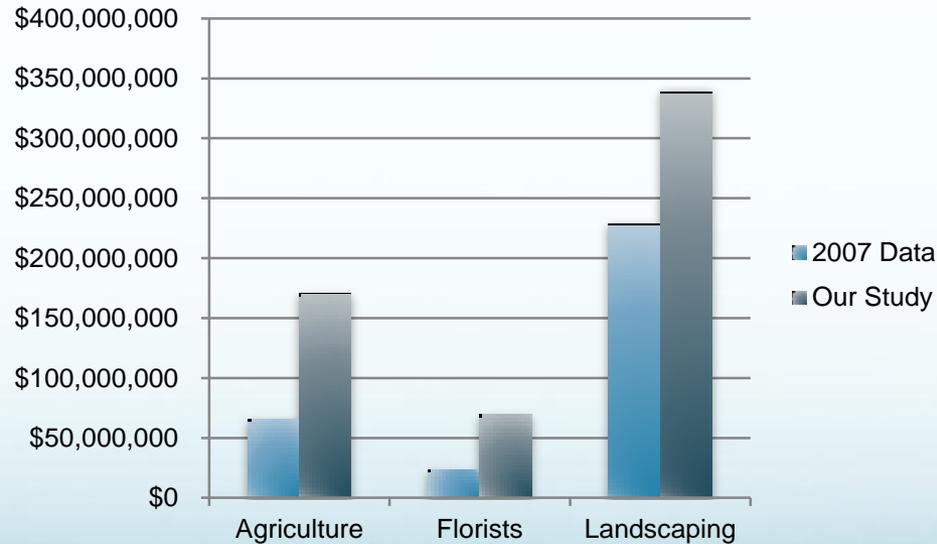
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Motivation

- Why plant-based industry and agriculture?
 - “Green-related industry”
- What makes RI unique?
- History of undercounting.
- Challenges:
 - Confidentiality
 - Survey overload
 - Sampling issues

Improving the Estimates

Category	Our Study			2007 Economic/Ag Census		
	Firms	Revenues	Jobs	Firms	Revenues	Jobs
Florists	136	\$69.6M	791	81	\$23.8M	343
Landscaping Svcs.	1,030	\$339.1M	3,034	611	\$228.6M	1,498
Farms	1,219	\$170.7M	1,792	1,219	\$65.9M	1,641



This Study

- New, bottom-up approach to statistical estimates
- Very conservative
- Builds separate estimates for agriculture, retail, and landscape (and related) sectors.
- In summary: few businesses remain un-counted, but no over-counting either.

Sector Breakdown

- Landscape (and related) includes:

NAICS	Description
238140	Masonry Contractors
238910	Site Preparation Contractors
541320	Landscape Arch. Svcs.
561730	Landscaping Svcs.

- Retail includes:

NAICS	Description
444210	Outdoor Power Equipment Stores
444220	Nursery, Garden Center & Farm Supply Stores (Retail)
453110	Florists

Data Sources

- Combined Business-Level Data with Aggregate Counts/Listings by Type (NAICS).

Data Sources

<i>Business-Level Economic Data</i>	<i>Business Listings, No Economic Data</i>	<i>Statistical Data and Counts</i>
1. Survey	3. RI DEM	5. USDA/NASS Ag Census
2. ReferenceUSA	4. RI Sec State	

- Survey: 210 responses (22 dropped)
- ReferenceUSA: 954 unique businesses (967 loc.).

Estimation Process

- ‘Missing’ farms drawn from smallest possible.
- ‘Missing’ businesses drawn from bottom *quartile*.

Sales and Jobs Data, by Category

Category	Firms	Sales (\$M)	Jobs
Agriculture	204	\$161.9	954
Landscape	520	\$258.0	2,259
Retail	258	\$241.0	1,513
Golf Courses	62	\$144.6	1,872
Other	44	\$81.1	284
Total	1,088	\$866.5	6,882

State-Level Sales and Jobs Estimates (Direct)

Category	Firms	Sales (\$M)	Jobs
Agriculture	1,219	\$170.6	1,792
Landscape	1,030	\$339.1	3,034
Retail	454	\$290.6	1,723
Golf Courses	62	\$144.6	1,872
Other	47	\$82.4	287
Total	2,812	\$1,027.3	8,708

Multipliers

- RIMS II Multipliers (2002/2007)
- Give indirect impact of \$/Jobs created in other sectors of the economy, e.g.:
 $\$1.028 \text{ billion} \times 1.735 = \1.782 billion
- Ignore job impacts outside RI.
- Conservatism:
 - All indirect effects on agriculture dropped.
 - All 'own industry' effects dropped.
 - 3.35% reduction in weighted-average multipliers.

Results Summary

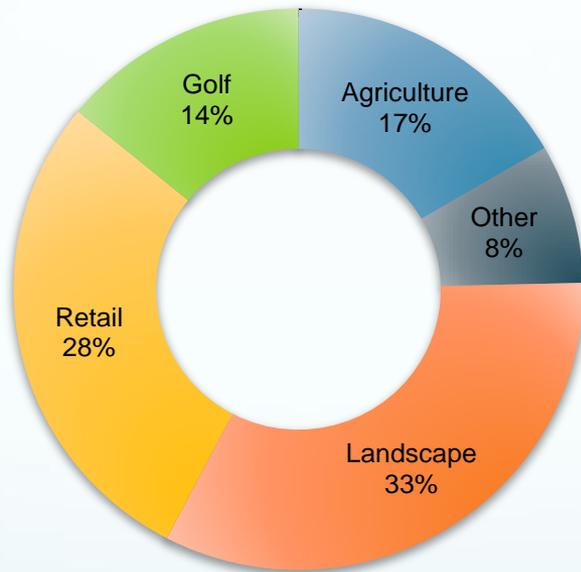
- Estimated direct contributions to the RI economy:
\$1.0 billion revenues (2%) and 8,700 jobs.
- Indirect contributions to other sectors:
\$755 million revenues and 3,660 jobs.
- Total contribution: \$1.78 billion and 12,370 jobs.

Agriculture Results

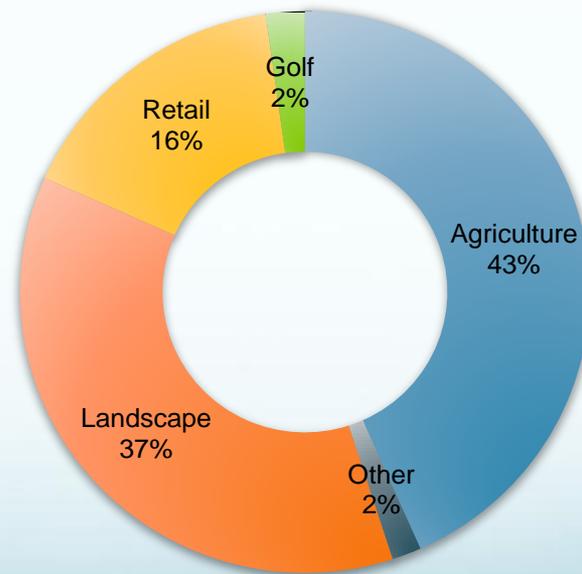
- Estimated direct contributions to the RI economy:
\$170.7 million revenues and 1,792 jobs.
- Indirect contributions to other sectors:
\$97.5 million revenues and 542 jobs.
- Total contribution: \$268.1 million and 2,334 jobs.

Key Sectors

Direct Impact by Sector



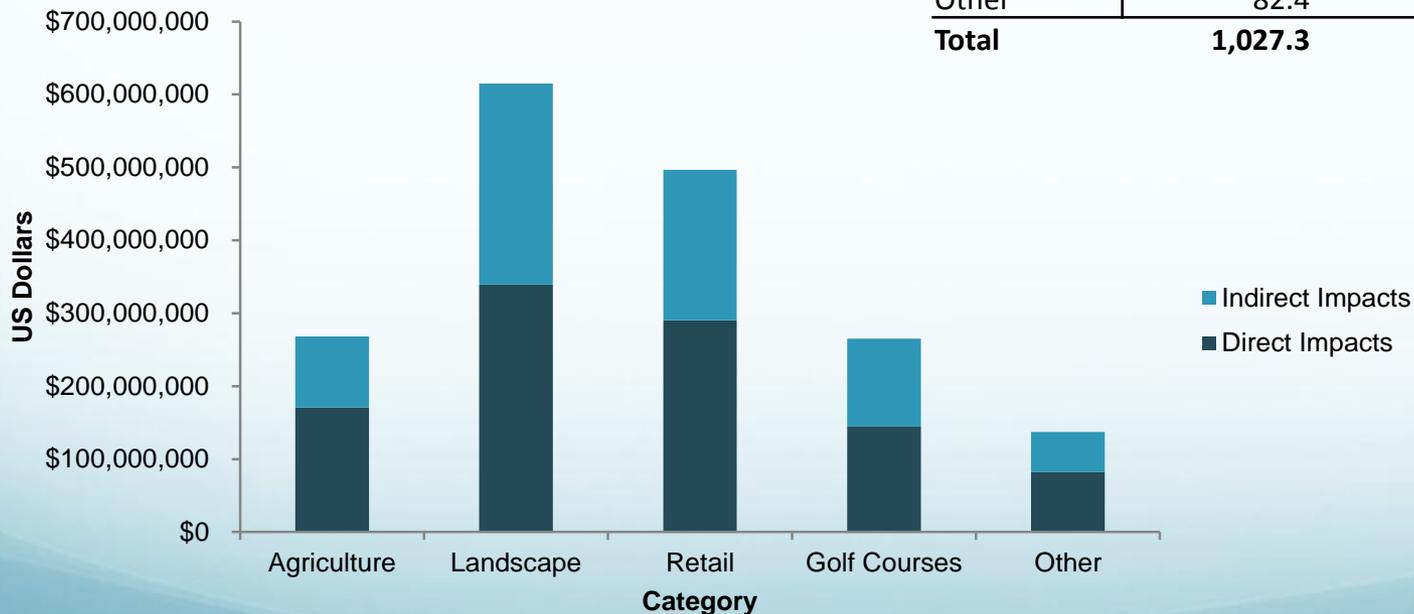
Firms by Sector



Results: Economic Impacts

Economic Impact by Category (\$M)

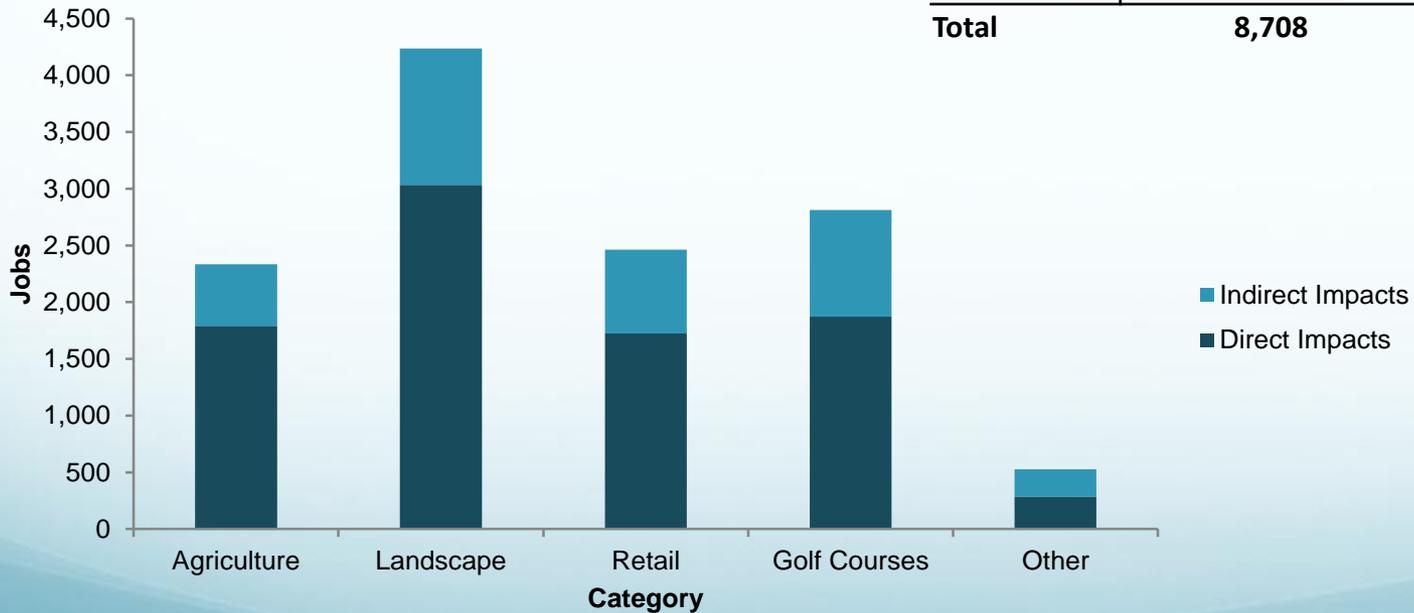
Category	Output	Indirect	Total
Agriculture	170.6	97.5	268.1
Landscape	339.1	275.8	614.9
Retail	290.6	206.0	496.6
Golf	144.6	120.7	265.3
Other	82.4	55.0	137.4
Total	1,027.3	754.9	1,782.2



Results: Jobs Impacts

Jobs Impact by Category

Category	Jobs	Indirect	Total
Agriculture	1,792	542	2,334
Landscape	3,034	1,203	4,237
Retail	1,723	739	2,462
Golf	1,872	940	2,812
Other	287	240	527
Total	8,708	3,664	12,372



What Did We Learn?

- Green-related industries are strongly inter-connected in Rhode Island.
- We have:
 - High-value agriculture (food and non-food).
 - Estimated 60% value from direct-marketing
 - Almost twice as many landscaping firms.
 - Many jobs in Golf and turf-related.

Future Research

- Many sectors left out:
 - Forestry and wood products
 - Fisheries, aquaculture, marine resources
 - UConn: commercial fishing alone is \$274M/2,900 jobs.
 - Non-market values of resources/open space.
- Want more than 'lower bound' estimates:
 - Agriculture
 - Landscape
 - Retail

Questions?