

Enhancing Access to Preserved Farmland for Small and Medium-Sized Farmers

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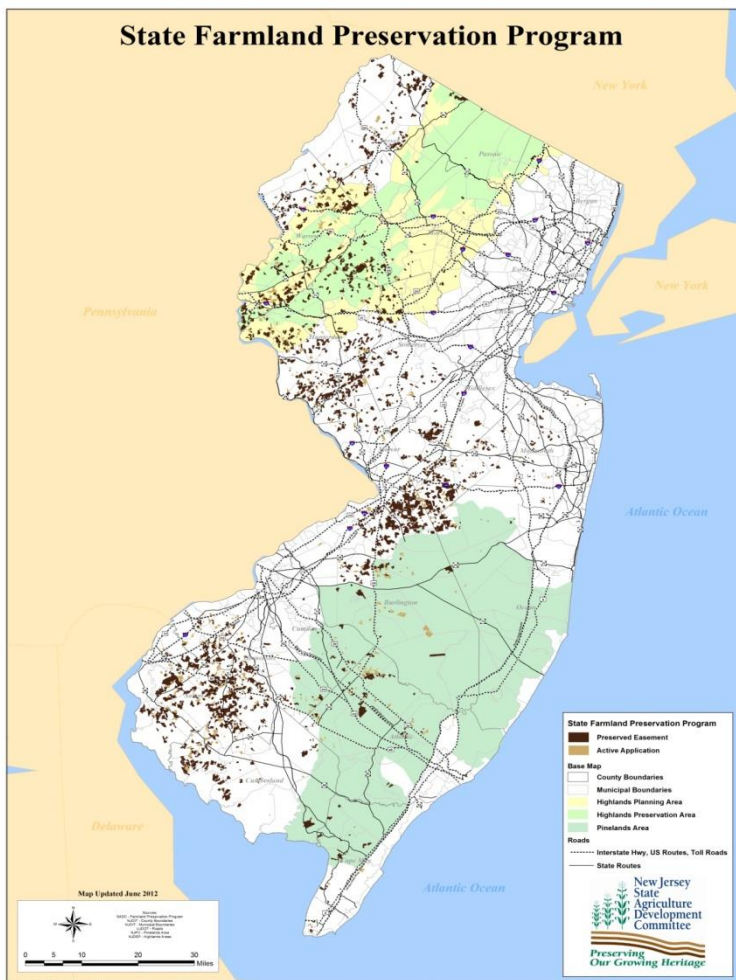
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Project Goals & Structure

- Provide a policy evaluation that offers useful insight to policy makers and farmland preservation practitioners
- Advance understanding of the land use, market, and socio-demographic dynamics impacting the affordability and access to (*and interest in*) preserved farmland
- Several research components:
 - PDR program administrator survey
 - **Econometric modeling of preserved farmland values**
 - ***Modeling of farm profitability impacts of PDR participation***
 - **Regional preserved farmland owner survey**
- Geographic focus: NJ, MD, DE
 - Approx. 660,000 acres of preserved farmland through PDR

Highlight 1: Preserved Farmland Values



- Methods: Hedonic pricing models (OLS, SL, time restricted)
- Data: PDR program records on preserved NJ farms sold b/w 1990 and early 2007; local property tax record cards; other secondary sources; (n=211 complete cases)

Time Period	No. of Preserved Farm Sales	Preserved Acreage Sold	Avg. Sale Price/acre (unadjusted)	Pct. Chg. In Avg. Sale Price/Acre
1985-1989*	9	1,070	\$2,493	N/A
1990-1994	22	3,210	\$3,113	24.9
1995-1999	89	10,891	\$3,064	(1.6)
2000-2004	153	15,076	\$5,857	91.2
2005-2007	52	4,172	\$10,111	72.6
Total	325	34,419	\$5,128	

Highlight 1: Preserved Farmland Values

Variable	Hypoth. Effect	Outcome
<i>Dependent Variable: natural log of price per acre</i>		
Time	+	7-19% annual appreciation
Residential infrastructure	+	21-31% increase
Size of house	+ (& non-linear)	4-9%/1000 sq ft (no support for non-linearity hypothesis)
Agricultural structures (i.e., barns)	?? Asset? Or liability?	Not Sign.
Distance to major cities	-	0.6-0.7% decrease per mile distance
Future development flexibility	+	27-48% increase

- Other control variables were well-behaved (e.g., size of farm, median housing value in community, extent of rurality/urbanization, quality of soils, etc.)
- Good goodness-of-fit. R^2 ranged from 0.74 to 0.80.

Highlight 2: PDR & Farm Profitability

- Methods: Propensity score matching
 - PSM method used to address selection bias (allows comparison of farm profitability between preserved farms vs. observationally equivalent matches)
 - Matching is based on a vector of covariate (farm/operator characteristics, development potential, etc.)
 - Calculates the Average Treatment Effect on the Treated (ATT) for: (1) the full sample and (2) each of 8 USDA-ERS farm types
 - Several matching algorithms used; balancing tests conducted; overlap conditions examined
- Data: Respondent-level data from 2007 Census of Ag (NJ); other secondary data; PDR program records

Highlight 2: PDR & Farm Profitability

ERS Farm Type	ATT (Profit Impact)	
Full Sample	Not significant	} Not surprising - consistent with <i>a priori</i> expectations
Small Family Farms		
Residential/lifestyle	Not significant	
Retirement	Not significant	
Limited resource	Not significant	
Low sales	Positive	
High sales	Negative	Surprising!
Large Scale Farms		
Large	Not significant	} Expectations were ambiguous
Very large	Not significant	
Non-Family Farms	Not significant	

Highlight 3: Landowner Survey

- Methods: CATI survey of preserved farmland owners in NJ, MD, DE conducted (Aug. 2011 – Jan. 2012)
 - Avg. length: 31.7 minutes
 - Topics: owner/operator characteristics, use of easement monies (if applicable), farm investments, succession plans, perceived benefits/challenges of PDR participation, overall satisfaction with program

- Data: n=507 respondents
 - Sampling frame = 5049 unique owners
 - 949 interview attempts
 - Response rate = 53.8%

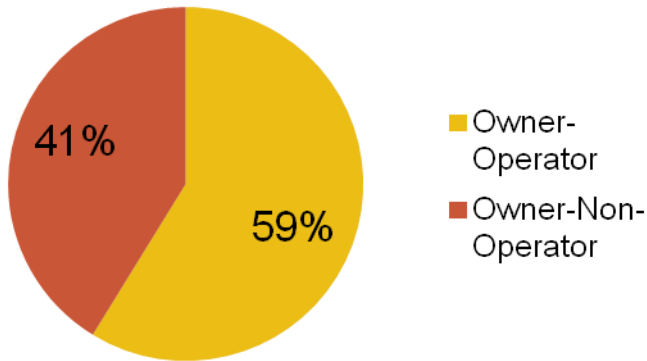
State	Cases	Acres
Delaware	59 (11.6%)	22,398 (22.1%)
Maryland	257 (50.7%)	52,683 (51.8%)
New Jersey	191 (37.7%)	26,593 (26.2%)
Total	507	101,674

Highlight 3: Landowner Survey

Structure of preserved farmland ownership

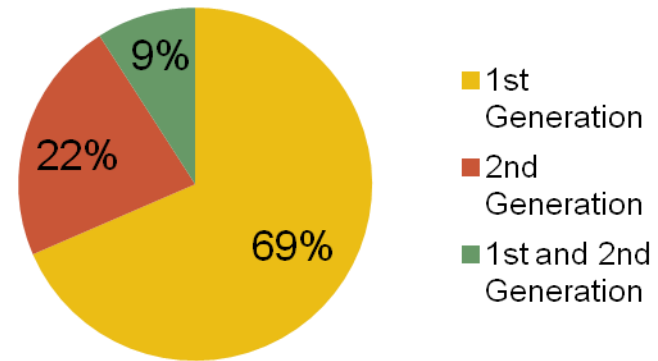
Operator Status

(% of 507 cases)



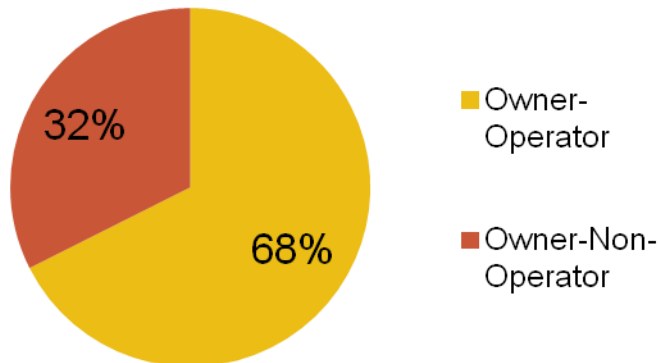
Pathway to Ownership

(% of 507 cases)



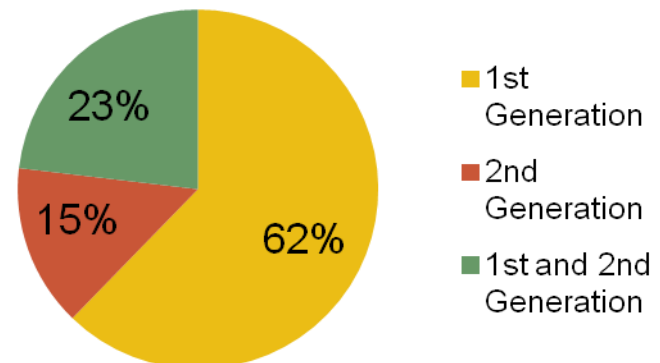
Operator Status

(% of 101,674 preserved acres)



Pathway to Ownership

(% of 101,674 preserved acres)



Highlight 3: Landowner Survey

Program satisfaction

“Looking back on [your experiences owning farmland preserved through conservation easements], how satisfied or dissatisfied are you with being an owner of farmland preserved in that way?” (n=505)

Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied
56.4%	35.8%	5.0%	2.8%

- Examining correlation with farm and operator characteristics
- Is there information asymmetry (e.g., as evidenced by distance from preservation transaction)
- Is there variability with owner motivations for ownership?
- Are deed of easements perceived as being too restrictive in the context of an evolving agriculture industry?

Project Output and Future Plans

- Spawning related program evaluation research
 - PDR and farm profitability
 - PDR and alternative enterprise development
- Three articles under peer-review
- Several papers under development
 - Use of easement monies
 - Investment behavior (“residential” v. “commercial” operators)
 - “Buyer’s remorse”
 - Forthcoming research report (landowner survey)
- Academic conferences (AAEA, NAREA)
- Stakeholder outreach (program administrators; regional round-tables and future conference)
- Synergy with ongoing research on FRPP

Contact Information

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