ENVIRONMENTAL CHANGE AND CONFLICT OVER HOGS IN EARLY NINETEENTH-CENTURY DELAWARE

David J. Grettler

January 1816 was the last good time to be a hog in the town of Smyrna, a thriving village nestled among the wealthy farms of central Delaware. Left to roam free and forage for themselves, pigs enjoyed the run of the town. Anything edible was fair game and hogs regularly indulged their "notoriously mischievous nature" by raiding gardens, orchards, and even kitchens. These halcyon days for free-roaming hogs, however, ended abruptly when a new law allowed landowners to shoot them on sight. Landowners exercised this privilege with a vengeance, bringing to a head a century of conflict over hogs and fences that ultimately transformed the region.

The story of conflict over hogs in central Delaware is important in two ways. First, it provides an excellent example of the social and legal adjustments that followed the market revolution of the American countryside after the Revolution. Second, conflict over hogs demonstrates how environmental factors shaped this capitalist transformation. In this case changes in Delaware's forests and fences made the countryside an integral part of its capitalist transformation and the adjustments that followed.[1]

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[1] The study of the social and political ramifications of economic change in the early republic was pioneered by Steven Hahn and Jonathan Prude, eds., *The Countryside in the Age of Capitalist Transformation: Essays in the Social History of Rural America* (Chapel Hill, 1985). Two essays in this work emphasize the role of ecological factors in the capitalist transformation of early America: Gary Kulik, "Dams, Fish, and Farmers: Defense of Public Rights in Eighteenth-Century Rhode Island," *ibid.*, 25-50; and Robert C. McNath, "Sandy Land and Hogs in the Timber: (Agri)cultural Origins of the Farmer's Alliance in Texas," *ibid.*, 205-32. An excellent recent essay exploring the role environmental factors

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Prior to the Revolution, free-roaming hogs were a nuisance throughout Delaware. The advantages were obvious: setting hogs free to feed themselves was the easiest and cheapest way to raise them. Free to eat whatever they could dig up or run down, omnivorous hogs fattened quickly, and according to early nineteenth-century accounts, could be ready for slaughter after only two years of free range. These beasts also multiplied rapidly: early American farmers on prime forested land could plan on at least two large litters of hogs per year. By 1804, more than a third (39%) of all adult men and taxable widows in central Delaware owned brood sows and set their weaned piglets free to fend for themselves.[2]

Not all of these half-wild hogs, however, proved content to stay in the woods. Many succumbed to the temptation of invading the fields, orchards, and even the kitchens of neighboring farms. Such hogs were a perennial nuisance, and nowhere less than in local courts, where justice was caught between grazing privileges protected by centuries of English common law and increasingly irate farmers intent on protecting their farms.

As in other colonies, Delaware courts first attempted to solve the problem of free-roaming swine by enacting fence laws, placing the burden of preventing damages squarely on the owners of land, not pigs. The first such Delaware fence law was enacted in 1739, allowing farmers to sue the owners of errant livestock for damages but only if they could prove they had adequately fenced their fields or "enclosures" against the expected depredations of hogs. Adequate fences, the law specified, were post-and-rail or worm fences "well-staked and ridered" to a height of at least four and a half feet from the ground. Also known as Virginia rail fences, worm fences were made of rails laid in a zigzag pattern that pinned the ends of lower rails with the weight of the upper rails. Stakes were shorter rails driven into the ground at each "zig" to strengthen the fence. Riders were longer rails laid atop the crossed stakes to provide additional height and support.[3]

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in the capitalist transformation of the coastal South is Harry L. Watson, "'The Common Rights of Mankind': Subsistence, Shad, and Commerce in the Early Republican South," *Journal of American History*, 83 (June 1996), 13-43.

[2] Gordon G. Whitney, *From Coastal Wilderness to Fruited Plain: A History of Environmental Change in Temperate North America, 1500 to the Present* (New York, 1994), 164-65. Hog ownership statistics are based on a twenty-five percent systematic random sample (N=136) of taxables listed in the "Tax Assessment" 1804, Duck Creek Hundred, Kent County, Delaware (Delaware State Archives, Dover, DE), microfilm edition.

[3] "An Act for Regulating Fences within this Government," Counties of New-Castle, Kent, and Sussex, *Laws of the Government of New-Castle, Kent and Sussex Upon Delaware* (Philadelphia, 1797), 111-12. Similar fence laws were passed in Virginia in 1632 and

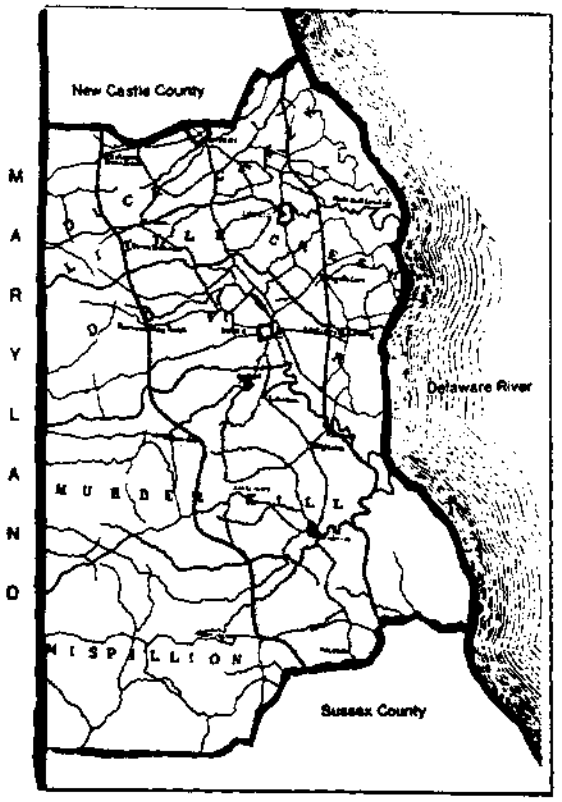
Post-and-rail fences used less wood than worm fences but took considerably more effort to build. That extra effort went into setting the vertical posts that anchored the horizontal rails. In Delaware, these posts were typically round timbers at least one foot in diameter set into the ground from one and a half to three feet. The state's soft, sandy soil made such substantial posts necessary. The propriety of all fences was determined by "fence-viewers," freeholders appointed by county courts to review all fences in question.[4]

Delaware hogs, however, were unperturbed by both fence types. Even the stoutest fences were no match for determined hogs who simply tunneled through them. Frustration with the 1739 law mounted, and in 1742 landowners won the first specific law against free-roaming swine in the state. This law forbade anyone from permitting swine "not sufficiently yoked or ringed" to run free over the entire eastern half of Kent County (Figure 1). Swine caught beyond the bounds of their owner's property could be captured or killed by any freeholder or tenant of a property renting annually for more than thirty shillings. These property qualifications were designed to prevent the wholesale slaughter of swine by unscrupulous members of the landless class.[5]

Maryland in 1640. See Richard B. Morris, *Studies in the History of American Law* (New York, 1930), 207.

[4] Morris, *History of American Law*, 207. The connection between free-roaming livestock and fences in Delaware is also discussed in Bernard L. Herman, "Fences," in J. Ritchie Garrison, Bernard L. Herman, and Barbara McLean Ward, eds., *After the Revolution: Material Life in Delaware, 1789-1820* (Newark, DE, 1988), 7-20. Changing fence styles in the state are also discussed by Paul G. Bourcier, "'In Excellent Order': The Gentleman Farmer Views His Fences, 1790-1860," *Agricultural History*, 58 (Oct. 1984), 546-64. Archaeological evidence of changing fence styles has been identified at numerous eighteenth- and early nineteenth-century sites in Delaware. The addition of stakes and riders to worm fences is especially clear at the Strickland Plantation, an owner-occupied farmstead in central Delaware inhabited from ca. 1740-1770. See Wade P. Catts *et al.*, *Final Archaeological Investigations at the Strickland Plantation Site, A Mid-Eighteenth Century Farmstead, State Route 1 Corridor, Smyrna, Kent County, Delaware*, (Dover, 1995), 40a.

[5] "An Act to prevent Swine running at large with Rings and Yokes in certain Parts of Kent County in this Government," in Counties, *Laws of the Government of New-Castle*, 245-47.



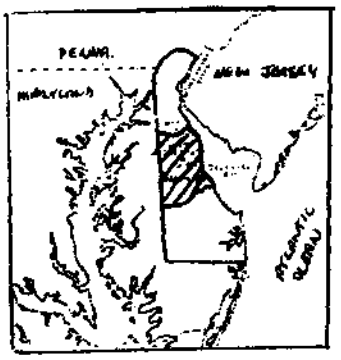


Figure 1: Area of Conflict Over Swine in Central Delaware
Source: Delaware Legislative Papers, RG 1111, Delaware State Archives, Dover, Delaware. Base map adapted from D. G. Beers, *Atlas of the State of Delaware* (Philadelphia, 1868), 5.

The 1742 law, however, proved a resounding failure. Ringed hogs had large iron rings forced through their sensitive noses; yoked hogs had large wooden cross pieces attached at their shoulders. Both were designed to keep hogs from digging under fences, but both were profoundly ineffective. Not only were rings and yokes difficult to attach and easily lost, they also prevented hogs from foraging effectively in the wild. Many animals became entangled in thick underbrush where they starved or were attacked and eaten by other hogs. Moreover, neither device worked on hogs born in the wild or on fast-growing piglets impossible to keep fitted with rings or yokes. The failure of this law soon became evident and the legislature repealed it at the next session.[6]

The failure of yokes and rings kept the burden of preventing damages on landowners and their fences. Farmers took this burden seriously and by the mid-1800s, Delaware farms exhibited a maze of worm and post-and-rail fences. Archaeological investigations of farms from this period have found hundreds of the distinctive "footprints" of the substantial fences demanded by law and common sense. One such farm was the Strickland Plantation, a substantial family farm less than a quarter of a mile from the town of Smyrna. By 1750, William Strickland had enclosed his entire farmstead (Figure 2) with over three hundred feet of staked-and-ridered worm fence. Two more post-and-rail fences, each about fifty feet long, protected his three most tempting buildings: his house, smokehouse, and detached kitchen.[7]

For the next four decades, between 1750 and 1790, the issue of free-roaming swine was politely avoided in Delaware. No new fence legislation was proposed and only a few sporadic attempts were made to control free-roaming hogs. The most serious attempt came from the state capital in Dover where legislators believed free-roaming hogs detracted from the town's exalted status. Why had this conflict over hogs disappeared during this period? Simply put, economic growth submerged conflict over swine

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[6] *Ibid.*, 247.

[7] Catts *et al.*, *Strickland Plantation*, 103. The archaeology of fences on other mid-eighteenth century farm sites in Delaware is discussed in Lu Ann De Cunzo *et al.*, *Final Archaeological Investigations at the John Darrach Store Site, Delaware Route 6-Woodland Beach Road, Smyrna Section, Delaware Route 1 Corridor, Kent County, Delaware* (Dover, 1992), 170-92; and Mark Shaffer *et al.*, *Final Phase III Investigations of the Whitten Road Site 7NC-D-100, Whitten or Walther Road, County Road 346, New Castle County, Delaware* (Dover, 1988), 108-12. The archaeology of fences on nineteenth-century farms is also ably discussed in William H. Adams, "Landscape Archaeology, Landscape History, and the American Farmstead," *Historical Archaeology*, 24 (1990), 92-101.

Figure 2: William Strickland Plantation ca. 1750

Source: Wade P. Catts *et al.*, *Final Archaeological Investigations at the William Strickland Plantation Site (7K-A-117), A Mid-Eighteenth Century Farmstead, State Route 1 Corridor, Kent County, Delaware*, Delaware Department of Transportation Archaeology Series No. 119 (Dover, 1995), 102.

under a temporary mantle of prosperity. Strong markets for Delaware grain, timber, and livestock in Europe and the Caribbean made agricultural labor so valuable that landowners scrambled to attract and keep good tenants and laborers. Part of this bargain included the customary right of the landless to raise as many livestock as they wished and to forgive the inevitable damages.

The key to Delaware's strong late eighteenth-century economy was its strategic location in the growing Middle Atlantic region. The state's broad tidal streams fed into both the Delaware and Chesapeake bays and farmers enjoyed easy access to three of the largest markets in the colonies: Philadelphia, New York, and Baltimore. By 1762, merchants in the central and southern parts of the state could travel to Philadelphia by boat, conduct their business, and return home the same day. By 1775, Delaware farmers were firmly fixed in the agricultural hinterland of Philadelphia and the rest of the Middle Atlantic.[8]

The effects of this new prosperity quickly trickled down to nearly every level of rural society. Landowners enjoyed high land prices and, because of the demand for labor during wheat harvests, offered tenants and laborers increasingly liberal terms. One wealthy central Delaware farmer, Abraham Allee, even offered his tenants lifetime contracts in exchange for their exclusive service during harvests. Freed from the expense of starting a farm, tenants could work the best land without any other capital. Farm rents generally were paid in cash and all but the poorest inhabitants actively participated in an openly commercial economy. Shallow draft vessels plying Delaware's broad tidal streams brought back some of the finest domestic goods available in Philadelphia and Baltimore. Some of these items, including hand-painted pearlware and porcelain tea sets and other fine ceramic vessels, found their way onto the tables of tenants and landowners alike.[9]

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[8] *Journal of Benjamin Mifflin: The Record of a Tour from Philadelphia to Delaware and Maryland, July 26 to August 14, 1762*, ed. Victor H. Paltsits (New York, 1935), 16-17. The prosperous colonial economy of Delaware has been ably explored by many authors including Marc Egnal, "The Economic Development of the Thirteen Continental Colonies,1720-1775," *William and Mary Quarterly*, 32 (Apr. 1975), 156-79; Harold Hancock, "Agriculture in Delaware, 1789-1900," in H. Clay Reed, ed., *Delaware: A History of the First State* (3 vols., New York, 1947), I, 373-89; and John Munroe, "The Philadelawareans: A Study of the Relations Between Philadelphia and Delaware in the Late Eighteenth Century," *Pennsylvania Magazine of History and Biography*, 69 (Apr. 1945), 128-49.

[9] The standard economic history of Delaware and the Philadelphia hinterland in this period is Diane Lindstrom, *Economic Development in the Philadelphia Region 1810-1850* (New York, 1978), 1-22. Agricultural conditions, including tenant life, are discussed in

Prosperity also brought a good deal of population growth. In 1751, the Reverend Hugh Neill, an Anglican minister in the town of Dover, estimated that there were 1,320 families in central Delaware according to the "exactest count" he could make. By 1810, the population of central Delaware had grown to 20,495 people. In that year, the biggest town was Smyrna where 109 houses and shops had been built. As population grew, farm size decreased from an average size of 200-300 acres in 1760 to only 150 acres by 1804.[10]

Under these happy circumstances, free-roaming hogs were a nuisance best tolerated. By 1787, the physical expression of this potent economy was a mature agricultural landscape where fields were fenced in and livestock fenced out (Figure 3). Keeping good fences kept good neighbors. And throughout the state, good fences meant pig-proof fences. Truly pig-proof fences, however, were notoriously difficult to build, and between 1750 and 1830 Delaware farmers experimented widely with new fence designs.[11]

Richard O. Bausman and James A. Munroe, "James Tilton's Notes on the Agriculture of Delaware in 1788," *Agricultural History*, 20 (July 1946), 176-87 and J. Ritchie Garrison, "Tenancy and Farming," in Garrison *et al.*, *After Ratification*, 21-38. The archaeology of tenant life in Delaware in this period is discussed in David J. Grettler *et al.*, *Marginal Farms on the Edge of Town: Data Recovery Investigations of the Moore-Taylor, Benjamin Wynn Tenancy (Lewis-E), and H. Wilson-Lewis Farmsteads, Kent County, Delaware* (Dover, DE, 1994), 199-224. See also De Cunzo *et al.*, *John Darrach Store Site*, 306-16; and Angela Hoseth, Wade P. Catts, and Rebecca Tinsman, *Status, Landscape, and Tenancy at Mount Vernon Place: Final Archaeological Investigations of the Jacob B. Cazier Tenancy Site #2, State Route 896, New Castle County, Delaware* (Dover, DE, 1994), 88-102. Abraham Allee, Jr. and Edward Carney, Lease, 1799, Reese Collection, Allee Papers (Delaware State Archives).

[10] A detailed discussion of the demographics of central Delaware, including Hugh Neill's 1751 census, appears in Catts *et al.*, *Strickland Plantation*, 17. Information of the number of houses in Smyrna is taken from the manuscript return of the Federal Census of Delaware, 1810 (University of Delaware Center for Archaeological Research, Newark, DE), microfilm edition. Data on pre-1760 farm size were abstracted from Lu Ann De Cunzo and Wade P. Catts, *Management Plan for Delaware's Historical Archaeological Resources* (Newark, DE, 1990), 39, 48. Data on farm sizes in 1804 is based on a statistical analysis of a twenty-five percent random systematic sample of farms described in the 1803-04 tax assessment for Duck Creek and Little Creek hundreds, the two largest hundreds in central Delaware and the primary locus of conflict over hogs. Mean farm size in Duck Creek Hundred was 159 acres in 1804 (N=197). Mean farm size in Little Creek Hundred in that year was 153 acres (N=110). Changes in farm size between 1797 and 1860 in both hundreds and the rest of Kent County are also discussed in Grettler *et al.*, *Marginal Farms*, 32.

[11] Judith Quinn, "Traversing the Landscape of Federal Delaware," *Delaware History*, 23 (Spring-Summer 1988), 39-61.

Figure 3: Detail of a "Perspective View of the Country between Wilmington and the Delaware, Taken from the Hill S.W. of the Academy," *Columbia Magazine* (June 1788).

The two first and ultimately most common attempts at pig-proof fencing were paling fences and combination wood-and-ditch fences. Paling fences consisted of vertical boards, or pales, set into panels eight or ten feet long. The vertical boards were buried in a shallow ditch excavated before the fence was erected. Paling fences required a great deal of wood as well as substantial posts to support each panel. Both factors added greatly to their cost and made paling fences impractical for all but the smallest and most valuable areas such as kitchen gardens.[12]

Combination ditch-and-rail fences were post-and-rail fences improved by burying the lowermost rails under three to four feet of soil banked along the fence. The soil came from a wide ditch dug along the outside edge of the fence. Ditch-and-rail fences especially were popular in central and southern Delaware, where fields were flatter and more poorly-drained. J. P. Bordley, author of *Essays and Notes on Husbandry and Rural Affairs*, gave this description of the ditch and rail fences he used in central Delaware:

> My ditches are 4 5/10 [feet] wide at top, 10 inches at bottom, 3 to 3 5/10 feet deep. The common laborers of the farm, men with spades, women with dirt shovels and hoes, after a few days of awkward work, will rid off these ditches with a good rate; and make a permanent bank five or six feet high from the bottom of the ditch. Two or three rails on this, whilst the hedge is growing, make a temporary fence that nothing will attempt to cross.[13]

Although Bordley spoke lightly of several days "awkward" work, most farmers found ditch-and-rail fences too expensive and too difficult to build. Such advanced fences commonly were used to protect only small and highly sensitive areas, such as the Brown and Graham family graveyard near Dover that was started about 1790 and at least partially protected by a ditch and rail fence. Such improved fencing is particularly fitting as Benjamin Brown, the patriarch of the Brown-Graham families and the only identified interment in the cemetery, was a well-known local agricultural reformer who supported new fence laws.[14]

All of these pig-proof designs ultimately failed for two reasons. The first was that Delaware's sandy soil was simply too easily excavated. Even

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[12] Grettler *et al.*, *Marginal Farms*, 76-79, 133-38, 176-77.

[13] Quoted in Herman, "Fences," 16.

[14] David C. Bachman and Wade P. Catts, *Final Archaeological Investigations of the Lafferty Lane Cemetery, 7K-D-11, State Route 1 Relief Corridor, Dover, Kent County, Delaware* (Dover, 1990), 78-81.

the best fence was little match for determined hogs: fences that could not be gone through, could always be gone under. Ditch-and-rail fences were more difficult to undermine but could be breached if the banks were weakened by tides, neglect, or muskrats. Hogs could hardly lose: the softer the soil, the weaker the bank and the easier it was to penetrate.[15]

The more important reason improved fences failed was that they became too expensive to build and maintain. Ponderous creations built with as much wood below ground as above, pig-proof fences were too expensive to erect and maintain over large fields. Throughout Delaware, farmers faced a cruel truth: pig-proof fences were impractical—if not impossible—to build.

Why good fences suddenly became so expensive is important and shows the role environmental factors played in the capitalist transformation of central Delaware. The cost of fencing rose after the Revolution because the region's forests were shrinking. That Delaware's forests were dwindling at an alarming rate was evident to some landowners as early as 1745. In that year, William Strickland, the man forced to fence his entire farm (Figure 2), noted on a plat of his land that most of it was already "long cleared" and "much worn." By 1804, after another six decades of settlement and openly commercial agriculture, only thirty-one percent of the forest cover on most central Delaware farms remained (Table 1). By 1816, the year Smyrna's hogs lost their freedom, seventy-eight percent of the land on area farms had been cleared. This high percentage of cleared and cultivated land was not surpassed until 1860 when a new railroad and another agricultural boom led to the clearing of a whopping eighty-three percent of the region's forests.[16]

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[15] Maintaining the integrity of earthen banks in central Delaware was a notoriously difficult task. Cows and muskrats were especially serious threats to bank stability. See David J. Grettler, "The Landscape of Reform: Society, Environment and Agricultural Reform in Central Delaware, 1780-1840" (Ph.D. diss., University of Delaware, 1990), 161-63.

[16] The statistics on forest cover based on a twenty-five percent random systematic sample of 105 farms from Duck Creek and Little Creek hundreds described in the "Tax Assessment," 1803-04, Kent County, Delaware (Delaware State Archives), microfilm edition. Both assessments measured "improved" versus "unimproved" acreage. Improved acreage in this assessment measured cleared and cultivated or pastured land. Unimproved land consisted of woodland, marsh, and "cripple," the heavily wooded fringes of inland swamps. The amount of deforestation in Duck Creek and Little Creek Hundreds is consistent with data from nearby St. Georges Hundred in New Castle County. In 1816, approximately sixty-eight percent of the area of all farms in St. Georges Hundred was cleared and cultivated. See Bernard Herman, *Architecture and Rural Life in Central Delaware, 1700-1900* (Knoxville, 1987), 113. Contemporary accounts of deforestation and

Table 1: Percent of Forest Cover on Farms in Duck Creek and Little Creek Hundreds, 1797-1860

YR	PERCENT FORESTED	PERCENT CLEARED & CULTIVATED	MEAN FARM SIZE (ACRES)	N
1797	44%	56%	150	164
1804	31%	69%	196	105
1816	22%	78%	113	104
1828*	36%	62%	142	121
1860*	17%	79%	123	135

Note: The percent of forested and cleared farm acreage in 1828 and 1860 do not add up to 100 percent because of changes in the way lightly wooded "cripple" areas were assessed. "Cripple" was a local term for the brushy and lightly timbered fringes of swamps and waterways.

Source: Based on a 25 percent systematic, random sample of farms in the 1797, 1803-04, 1816, 1828, and 1860 tax assessments of Duck Creek and Little Creek hundreds, Kent County, Delaware (microfilm, Delaware State Archives, Dover, Delaware).

Fencing hogs out of cultivated fields simply demanded too much wood to be practical. As farmers cultivated more land, their woodlands shrank; but clearing more land demanded more fences and fence rails. By the early 1790s, some Delaware farmers found local wood prices so high that they were forced to import fence rails from New Jersey. Even firewood became so expensive in this decade that county courts appointed "wood-corders" to protect desperate consumers from being cheated by unscrupulous

erosion in the colonial Chesapeake are discussed by Henry Miller, "'Transforming a Splendid and Delightsome Land': Colonists and Ecological Change in the Chesapeake, 1607-1820," *Journal of the Washington Academy of Sciences*, 76 (Sept. 1986), 173-87.

sawyers. By 1797, woodlands traded for one-and-a-half times the value of cleared and cultivated land throughout central Delaware.[17]

The rising cost of fence rails is not the only effect deforestation had on Delaware farmers. The connections between forests, fences, and hogs run even deeper: pig-proof fences not only demanded a great deal of wood, they also demanded special rot-resistant timbers ever more rare and valuable in Delaware's smaller and degraded forests. Strengthening fences only forced hogs deeper underground. The best solution lay in fortification with buried timbers, but not just any wood could be buried and be expected to survive long enough to justify the labor and expense. Two particularly dense and rot-resistant species, locust and black gum, made the best underground fences. Unfortunately for Delaware farmers, nearly a century of fence-making already had depleted much of this timber. Shortages of rot-resistant fencing made the rising cost of standard fence rails even more burdensome. Without enough cheap locust and black gum to properly fence their fields, Delaware farmers were at the mercy of free-roaming hogs.[18]

After the Revolution a brief but dynamic economic boom set the stage for the final and most vicious stage of conflict over free-roaming swine. Goaded by rising fencing costs and growing towns (where pigs were especially vexatious), landowners in 1790 began to campaign actively for new hog laws to replace the "former ineffectual laws long since expired." Over the next two decades, property owners argued strenuously that the "great scarcity of timber suited to the construction of proper fences" demanded new swine laws throughout central Delaware. Ideally these new laws would allow property owners to "beat, shoot, or kill" free-roaming hogs. Failing to secure this privilege, these new laws hoped to allow landowners to capture errant hogs and turn them over to a constable who would sell them at public sale.[19]

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[17] See "An Act to Appoint a Woodcorder in Smyrna," Acts Passed, 1815, State of Delaware Delaware Legislative Papers, RG 1111, (Delaware State Archives). See also Petitions, 1819, *ibid.*; Bernard L. Herman, "Delaware's Orphan's Court Valuations and the Reconstitution of Historic Landscapes, 1785-1830," in Peter Benes, ed., *Early American Probate Inventories* (Boston, 1989), 121-39; and Herman, "Fences," 7-20. In 1797, woodland in Kent County was assessed at £10 per acre. Cleared and improved land was assessed at £7.5 per acre.

[18] John Skinner, "Notices for a Young Farmer, Particularly on Worn Lands," *American Farmer*, 1 (June 25, 1819), 97.

[19] Legislative Petitions, 1796 and 1797, Delaware Legislative Papers, RG 1111. Manuscript versions of the six hog laws can be found in Acts Passed, 1790, 1798, 1801, 1802, and 1804.

New hog laws were proposed in six areas of central and southern Delaware: Duck Creek Hundred (1790), Little Creek Hundred (1798), Georgetown (1801), Lewes (1802), Appoquinimink (1803), and Milford (1804). Although all six efforts ultimately failed, they effectively focused attention on an important loophole in earlier hog laws: lax enforcement. Earlier laws left enforcement to local sheriffs (and for one year, in 1786, an appointed ranger responsible for all strays in Kent County). All six of the new swine laws presented in the 1790s made one public official responsible for prosecuting all cases. In three cases, that official was a constable, but in Smyrna, Leipsic, and Appoquinimink the law would be administered by a new "Receiver" who accepted hogs captured under the new law and kept the beasts until sold at public sale. Further provisions threatened to punish officials who did not prosecute cases, with fines ranging from two dollars per hog in Georgetown to a staggering thirty dollars per occurrence in Appoquinimink.[20]

Improving enforcement sparked another brushfire of opposition throughout central Delaware. The key to this opposition, as with the original impulse towards stronger hog laws, was rising timber costs. Delaware's shrinking forests not only forced landowner's hands but became the centerpiece of efforts to resist stricter hog laws. This may sound self-serving and contradictory, but opponents of the new hog laws had powerful arguments on their sides. New swine laws demanded that hog owners prevent damages by controlling their animals. In practical terms, this meant penning hogs out of harm's way. But penning hogs presented the poor with two new and insurmountable costs: first, the expense of the timber to construct the pen, and second, the cost of feeding and fattening their hogs.

The forty-three inhabitants of Little Creek Hundred who successfully protested the 1798 law presented exactly this case to state legislators in no uncertain terms. The many "Evil and Pernicious Effects" of this new law would "ruin the poor with Benefitting the Rich." There is not one poor man in ten, they argued, who could possibly raise "one hog in the Pen" when they had to buy corn for both their hogs and families. Without the privilege of the range, the many poor people with "large families of small Children" would be robbed of the only meat they could afford and the spare hog they needed to sell and "lay in the other articles" their families needed. This new hog law, they concluded, put the "Poor and week [*sic*]" at the mercy of the "Opulent and Powerful." The state legislature debated this

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[20] *Ibid.* The appointment of a ranger for Kent County is described in "An Act for Appointing Rangers and Regulating Strays," Acts Passed, 1786, *ibid.*

bill six times in both houses where finally it was defeated in the Senate in January 1798.[21]

The differences between these two camps made it difficult for local officials to keep the peace. Farmers without enough forests to fence their fields were in essentially the same sinking boat as poor hog owners who could not afford to build pens for their hogs or feed them while confined. But free-roaming swine continued their depredations; unless such hogs were shot, private property would continue to be destroyed. One town, Milford, was forced to repeal their 1804 hog law before it went into effect because it promised to be "too much trouble to enforce."[22]

The failure of this second round of hog laws created a uneasy stalemate where neither side attained any particular advantage. Poor hog owners vigilantly watched for any new attempt to restrict their "privilege of the range." Landowners stood as galled as ever by fence prices and their inability to protect improvements to their property. As frustration mounted, some landowners tried to introduce related legislation, sometimes with hilarious effect. In Federaltown, a small community in nearby Sussex County, landowners judged that the same people who allowed their pigs to roam free also enjoyed the "brutal and shameful" practice of encouraging horses to mate in public. Both breaches of civility, they lamented, were "disgustful" to anyone who possessed "any degree of Modesty or delivery."[23]

This uneasy stalemate continued until three new economic and environmental crises ignited the issue of free-roaming swine for the third and final time in 1816. The first blow to Delaware farmers was the Embargo of 1807, Jefferson's attempt to force England and France to recognize America's right as a neutral nation. The Embargo closed all American ports to French and English ships, a move that crippled trade, especially in the Middle Atlantic.

The second blow to Delaware's economy came with the end of the Napoleonic Wars. In 1815 peace broke out and inflated wartime prices in every major European market plummeted. The loss of these lucrative markets affected other sectors of the American economy and contributed to America's first depression, the Panic of 1819.[24]

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[21] Legislative Petitions, 1798, *ibid.*, and Bills Not Passed, 1798, *ibid.*

[22] Legislative Petitions, 1801, *ibid.*

[23] Legislative Petitions, 1802, *ibid.*

[24] The single most complete discussion of the economic and agricultural difficulties of Delaware farmers after the Revolution is Hancock, "Agriculture in Delaware," 373-75. Two other sources that discuss this aspect of the Panic of 1819 are Samuel Rezneck, "The Depression of 1819-1822, A Social History," *American Historical Review*, 39 (Oct. 1933),

The third blow to Delaware resulted from nearly a decade of bad weather caused by the eruption of an Indonesian volcano in 1815. This eruption created an enormous ash cloud that blocked sunlight and created a series of cold, rainy "summers that never were" over most of the northern hemisphere. In New York City, ponds froze in June and throughout the Middle Atlantic, spring wheat and corn plants froze, then rotted. Wheat rust, Hessian flies, and other pests thrived in the cold and wet conditions and further crippled production. Delaware crops fell "much below" previous years and in Massachusetts in 1816, corn was so scarce that farmers paid cash for the privilege of trading a large hog for a smaller one needing less food. The only benefit of this frigid weather in Delaware was that swamps solidly froze so that remote stands of locust and black gum finally could be harvested.[25]

These staccato blows to Delaware focused people's attention on free-roaming swine like nothing before. The third and final round of conflict over swine began in January 1816, when eight leading citizens of Smyrna won the most comprehensive and permanent hog law yet in central Delaware. The "considerable evil" caused by hogs, they argued, finally had become intolerable. Citing the "great scarcity of Timber Fencing" and the failure of "improved" fences, they demanded a new hog law to effect a "Great saving" of timber, grain, and grass that would otherwise be wasted.[26]

The legislature shared this sense of urgency and in early February 1816 passed the first comprehensive bill to control free-roaming swine in central Delaware. Henceforth, hogs found at-large in the town of Smyrna and the surrounding countryside could be shot on sight by anyone. Surviving hogs could be taken to a new Receiver who kept them for five days and then sold them at public auction. During those five days, owners could redeem their

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28-47; and the anonymously written pamphlet *A brief and popular account of all the financial panics and commercial revulsions in the United States from 1690-1857 with a more particular history of the two great revulsions of 1837 and 1857* (New York, 1857). This unusual pamphlet is located in the collections of the Hagley Museum and Library, Greenville, Delaware.

[25] Governor Daniel Rodney, Message of Governor Rodney, 1817, Delaware Legislative Papers, RG 1111. The effects of high grain prices in 1816 on Massachusetts farmers can be found in Asa Sheldon, *Yankee Drover: Being the Unpretending Life of Asa Sheldon, Farmer, Trader, and Working Man, 1788-1870* (Hanover, NH, 1988), 74-75. The effects of the eruption on farmers in the Middle Atlantic are described in John Skinner, "Prospects for Farmers in 1826," *American Farmer*, 7 (Dec. 16, 1825), 312. The worldwide environmental effects of this eruption in 1815 are discussed in Henry M. Strommel, *Volcano Weather: The Story of 1816, The Year Without a Summer* (Newport, RI, 1983).

[26] Legislative Petitions, 1816, Delaware Legislative Papers, RG 1111.

animals by paying a fine of fifty cents for each pig weighing under fifty pounds and a dollar for every larger hog. All proceeds of sales would be divided between the plaintiff and the former owner of the hog, if one came forward. The halcyon days of Smyrna's swine-about-town definitely were over.[27]

Smyrna's landmark hog law effectively reversed a century of weak and ineffective livestock laws. Hog owners—not landowners—now bore the burden of preventing damages. The legal role of fences had changed: fences now had to keep pigs in, not keep them out. Sufficient fence was now the responsibility of livestock owners; either pen your hogs or lose them to a well-placed bullet. Smyrna's farmers finally had freed themselves of both free-roaming pigs and pig-proof fences.

The Smyrna law remained in effect until 1829 when it was superseded by an even more comprehensive law outlawing free-roaming swine in all of Kent County. More importantly, the Smyrna law actually appears to have been enforced, and its success spawned new swine laws in Kenton (1816), Bridgeville (1822), Murderkill Hundred (1823) and New Castle County (1827).[28]

As could be expected, resistance to these new hog laws was swift and vehement. The greatest outcry came from Little Creek Hundred (just south of Smyrna) and Duck Creek Hundred. In December 1817, 135 petitioners from Little Creek Hundred defended their traditional grazing privileges on the ground that the new hog laws "deprived the grater [*sic*] part of the Citizens" of "that advantage they had so long been in the Custom of [*sic*]." Unusually cold weather, they reminded legislators, had recently destroyed crops and raised the price of corn so high that the few people who could afford to pen their hogs could not afford to feed them. The new laws, they predicted, would create a "general bankruptcy" or an "aristocracy."[29]

Such explosive sentiments alarmed state legislators already swamped with a flood of hog petitions. Most of these petitions came from landowners pleased with the new laws. As they had in the past, farmers defended the laws as the only way to protect their farms and woodlots. The "scarcity and value of Timber," inhabitants of Duck Creek Hundred reminded legislators, was too obvious to bear repeating. Secondly, their experience

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[27] "An Act to Prevent Hogs or Swine from Running at Large within the Limits of Duck Creek Hundred, Kent County," in Delaware, *Laws of the State of Delaware* (Dover, 1817), 128-29. See also the manuscript version used by the legislature found in Acts Passed, 1816, Delaware Legislative Papers, RG 1111.

[28] Acts Passed for 1816, 1822, 1823, and 1827, *ibid.*

[29] Legislative Petitions, 1818, *ibid.* See also Grettler, "Landscape of Reform," 201-03.

with "pig-proof" fences had proved to all that it was nearly impossible to protect crops from "half-starved" hogs.[30]

The economic turmoil of the Panic of 1819 lent even more weight to landowner's arguments. In early 1820, Governor John Collins convened an emergency meeting of the legislature to combat the state's "Embarrassed and fallen" condition. Foremost among Delaware's problems was the sorry state of its once prosperous agriculture, the condition of which Governor Collins found "impossible to describe without anxiety and regret."[31] These hard times, the governor continued, reminded all citizens

> to keep constantly in view the great advantages of the land in which we live that we may diligently improve the means of perpetuating these advantages and guard with unremitting vigilance against everything that may threaten their destruction.[32]

Free-roaming swine gave this anxiety over the agricultural decline of the state a very real and immediate face. Rampaging swine were the very embodiment of waste and destruction. With these images in their minds, state legislators erupted into a frenzy of agricultural reform, and in the end, effectively sealed the fate of free roaming swine throughout Delaware. Some of the other improvements the legislature considered were efforts to catch commercial quantities of migratory fish, raise silkworms, drain tidal marshes, and protect imported sheep from marauding dogs. In the 1820s, the crest of this wave of enthusiasm for agricultural change, (Figure 4), almost half (forty-six percent) of the adult white male population of central Delaware petitioned the state legislature about possible improvements. Petitions to halt sheriffs' sales and to free imprisoned debtors also swept the legislature, feeding the flames of class conflict ignited by pigs.[33]

This new interest in agricultural reform affected the ongoing problem of free-roaming swine in one important way. At stake was a fundamental right of all private property: the ability to defend your property from the encroachment of others. Until farmers were convinced they could reap the benefits of their labors, they were justifiably wary of investing in their farms. Haunted by the previous half century of weak and dilatory swine laws, farmers watched closely to see if these new hog laws would be enforced. Legislators, painfully aware of this scrutiny and its implications

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[30] Legislative Petitions, 1819, Delaware Legislative Papers, RG 1111.
[31] Legislative Reports, 1820, *ibid.*
[32] Governor's Message, 1820, *ibid.*
[33] Grettler, "Landscape of Reform," 212-13.

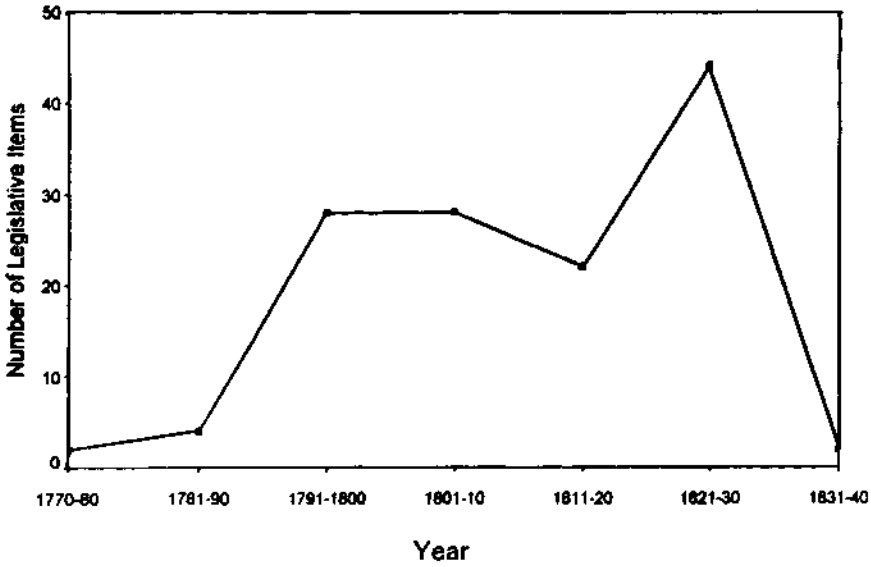

Figure 4: Legislative Activity on Agricultural Reform Issues, 1770-1840

Source: Delaware Legislative Papers, RG 1111, Delaware State Archives, Dover, Delaware. Legislative items counted were primarily petitions, act, and bills not passed.

for the future of the state, steadfastly refused to amend or repeal any of the new laws.

Despite the widespread determination to protect private property, some hog owners continued to protest. They repeated their earlier claims that hog laws injured the poor and used revolutionary era rhetoric with devastating effect. Typical of this second round of protest over hogs was a petition in 1821 of nineteen Kent County livestock owners arguing that shooting errant hogs deprived them of "the Rights of their Property." Petitions from other groups in central Delaware echoed these sentiments. Even more damning criticism of the new hog laws came later in 1821 from the town of Smyrna, where hogs had been fair game since 1816. Farmers living just outside of town claimed it was their hogs who most likely headed towards town to be captured or shot. Describing themselves as farmers in the "Neighborhood of the boundary," petitioners claimed that

the 1816 law robbed them of the "rights of Property" they held in their hogs.[34]

The legislature was stunned by this petition and chose not to respond. All sorts of wild claims then surfaced concerning free-roaming hogs. In 1822, petitioners from one town in neighboring Sussex County argued that penning hogs in the summertime created disagreeable odors threatening public health. A year later, petitioners from another town argued that free-roaming pigs actually improved public health because they cleansed the town of "Noxious Matter."[35]

The paralysis of the legislature reflected a fundamental inconsistency in Delaware's hog laws. If pigs were property, then killing or capturing them without compensation was wrong. But what about the property held in land? Real estate was in every sense property that was more "real" than pigs. But the effect of hog laws on the poor was unmistakable. Recognizing the property rights in pigs forced legislators to come full circle in their decisions: was not the foundation of all property law the assumption that no one should use their property to harm the property of another?

But Delaware's hogs did not go away. By 1824, the Smyrna hog law had become intolerable to an impressive array of inhabitants. Taking up the earlier claims of poor laborers and tenants, the outlying farmers of Smyrna brought the issue again to the legislature. The 1816 law allowed "unscrupulous men" to summarily steal "living property." The law had become an "ample Rampart" behind which evil men waited to "Injure their Neighbor and wreck [*sic*] their Revenge with fury on a poor Dumb Animal." Legislators received these reports with dismay, but refused to amend or narrow the law.[36]

In 1829 the state legislature enacted a single, comprehensive hog act effectively outlawing free-roaming swine throughout most of the state. Under this act, hogs found at large in any enclosed area could be shot on sight. Enclosed ground was defined as any fenced area regardless of the size or type of fence. Equally unimportant was its condition; property owners only had to prove that their fence had not been abandoned. The law further stipulated that hogs known to have escaped *recently* from their pens should not be shot, but it provided no penalty to anyone who did shoot

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[34] Legislative Petitions, 1821, Delaware Legislative Papers, RG 1111.

[35] Legislative Petitions, 1822, 1823, *ibid.*

[36] Legislative Petitions, 1824, Delaware Legislative Papers, RG 1111. Legislative Bills Not Passed, 1824, *ibid.* The amendment proposed to allow people to shoot only hogs not visibly ringed or yoked.

them. The entire carcass of every killed hog had to be turned over to the former owner to prevent anyone from abusing the law for profit.[37]

The rest of the 1829 law codified the most effective parts of earlier hog laws while avoiding their most obvious weaknesses. Hogs found outside enclosed areas had to be captured alive and impounded. No hogs could be shot legally. In an effort to limit possible abuses, the law stipulated that only adult white males could capture swine, and written notice must be given to the owner of the hog within twenty-four hours of its capture. If the owner was unknown or lived more than three miles distant from the place of capture, public notice of impoundment had to be posted in at least five places for three consecutive days after capture. After an additional five days of impoundment and three days of advertisement, constables could sell the impounded animals at public sale. After deducting the expenses of impoundment, the sale price would be split between the person who captured the swine and the Trustees of the Poor. Livestock owners could redeem their animals at any time prior to public sale for the price of all fines and impoundment costs. Larger hogs were fined at three times the rate of small hogs. Hogs previously caught at large were fined at even higher rates.[38]

These detailed instructions in the 1829 law were designed to prevent the charges of unfairness that had plagued reform efforts since 1816. The problems faced by outlying farmers, however, went unanswered. With characteristic perseverance in the face of a threat to private property, the Smyrna group advocating free-hog rights was ready for the next meeting of the legislature in January, 1830. There they restated their 1824 concerns and added the unusual claim that in summertime stricter hog laws endangered animals traveling to water. One point, however, remained clear: stricter hog laws deprived these farmers of their "Liberty as Free People."[39] Similar petitions came from farmers living around seven other towns in central Delaware, including the capital in Dover (Figure 5). But defending pigs on the basis of property rights only underscored more

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[37] Legislative Acts Passed, 1829, *ibid.* The act effectively outlawed free-roaming swine over most of the state. In Kent County, the law covered substantial portions of Duck Creek Hundred, Little Creek Hundred, and Dover Hundred around the towns of Smyrna, Dover, Kenton, Frederica, Camden, and Milford. In northern Delaware, the law affected most of New Castle County, especially the towns of Wilmington, Newark, St. Georges, and Cantwell's Bridge (present day Appoquinimink). In Sussex County, the law primarily affected the areas surrounding the towns of Milton, Laurel, Georgetown, Bridgeville, Seaford, and Lewestown (present day Lewes).

[38] *Ibid.*

[39] Legislative Petitions, 1830, *ibid.*

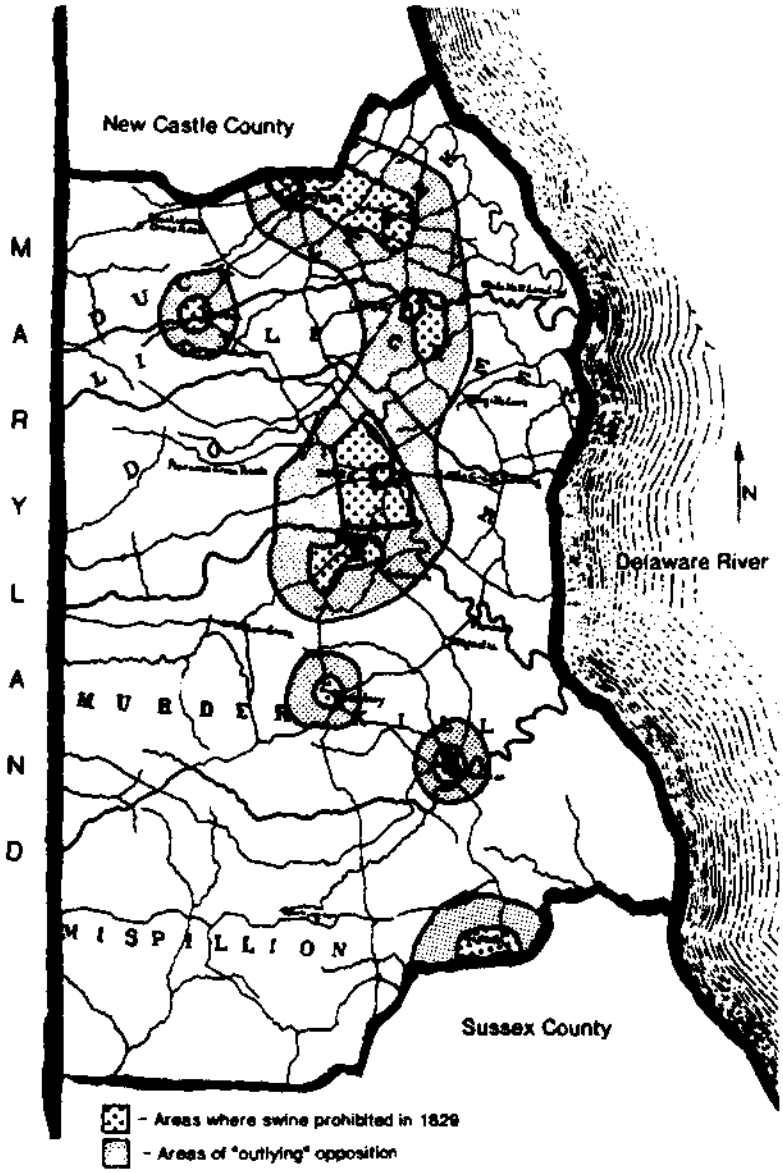

Figure 5: Location of "Outlying Farmers" and the Boundaries of the 1829 Hog Law.

Source: Delaware Legislative Papers, RG 1111, Delaware State Archives, Dover, Delaware.

tangible rights that others had pursued since the Revolution. Trapped in its own rhetoric of property rights and liberty, this argument quickly blew itself out.[40]

The conflict over hogs declined after 1830 because the capitalist transformation of central Delaware was nearly complete. Both sides now agreed that hogs were private property as much entitled to protection as land and crops. This agreement paved the way for a new balance between entrepreneurial desires and concerns for neighborliness and local harmony. The final victory over free-roaming hogs occurred in 1845, when the Superior Court of Delaware confirmed the right of landowners to protect their property by law rather than by fences. The court decreed that all real property was "enclosed by an ideal, invisible fence sufficient to protect it against trespass." Hogs crossing this invisible fence were guilty of trespass and their owners were liable for whatever damages occurred. Delaware's fence laws now had run the full gamet: wooden fences that had to be five feet high in 1742 did not even have to exist in 1845. Seven years later, the 1845 hog law was expanded to include the entire state. Nearly a century of conflict was over.[41]

The "rest of the story" in central Delaware is remarkably peaceful. The economy recovered in the early 1850s when improved transportation and urban growth in nearby cities provided new markets. The inherent agricultural advantages of the state rewarded those families who stayed on the land. A railroad completed through the state in 1856 helped farmers to capture major shares of the fruit and produce markets of Philadelphia, New York, and Baltimore. As the economy improved, the effects of deforestation became less noticeable, especially after the railroad brought cheap lumber and coal from Pennsylvania and the Midwest.

Central to Delaware's hog wars were the inseparable forces of environmental and social change. These changes both sparked and shaped the capitalist transformation of the countryside. At the heart of both processes were pigs and fences. Soft, sandy soils aggravated farmers' fencing woes as pigs undermined whatever fence they could not breach.

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[40] The legal history of the transformation in property law in early America is ably discussed in Morton J. Horowitz, "The Transformation in the Conception of Property in American Law, 1780-1860," *University of Chicago Law Review*, 40 (Winter 1973), 248-90; and William Nelson, *The Americanization of Common Law: The Impact of Legal Change on Massachusetts Society, 1760-1830* (Cambridge, MA, 1975).

[41] The 1845 Superior Court decision is described in Samuel M. Harrington, *Reports of Cases Argued and Adjudged in the Superior Courts and Court of Errors and Appeals of the State of Delaware* (5 vols., Wilmington, DE, 1901), IV, 243-44. The 1852 law appears in Delaware, *The Revised Statutes of the State of Delaware* (Dover, 1852), 161-64.

Timber prices rose even higher as more woodland was cleared and every field had to be protected from hogs. Farm labor, however, also became more valuable and land owners decided that good neighbors were well worth good fences.

Population growth after the Revolution then forced fencing costs even higher. Generations of selectively harvesting rot-resistant timbers further degraded woodlots, placing an even greater premium on legal efforts to control hogs. Landowners forged new property laws, not to become better capitalists but simply to relieve themselves of the crippling burdens of fences and nuisance hogs.

The connection between environmental and economic change became even stronger after the Revolution. As the new nation's economy grew, so too did the efforts of many Delaware farmers to maintain the commercial advantages they had come to expect. Central to this process was the ability to protect and defend private property. Whether this property was land, timber, or pigs, the market revolution of early nineteenth-century America strengthened the connection between liberty and property forged during the Revolution.

Hard times after 1820 then forced both hog and property owners to tighten their respective belts. Landowners did this by questioning customary grazing privileges. Their farms, they realized, had changed; woodland once cursed as "marsh and cripple" now was worth more than cleared and improved land. Once merely nuisances, free-roaming hogs now became demons capable of bankrupting a farm through increasingly expensive—and ineffective—fences.

The goal of this article has been to put the "countryside" back into the capitalist transformation of the early republic. In Delaware, this transformation was shaped by a few hungry hogs and a great many fewer trees. Wooden fences, both literally and figuratively, ended the free-wheeling days of Delaware's free-roaming hogs.