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Public Interests in Private Property: Conflicts Over Wood Chip Mills in North Carolina

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ABSTRACT The controversy over chip mills in North Carolina is part of a larger public discussion of forest policy throughout the southern Appalachians, Ozarks, and Ouachitas. Chip mills have become a symbol of forest resource exploitation in the southern Appalachians, and many studies and commissions have been established for analysis of the conflict. In this paper I describe the tensions that have arisen between new public views of appropriate property use and more traditional views of natural resource use. Based on the results of a social impact assessment conducted in the summer of 1999 as part of a broader study on the economic and ecological impacts of wood chip processing facilities in North Carolina, I first review the context of chip mills in the Southeast and North Carolina, focusing on the polarization of opinions that has developed since the early 1990s. I then present ten common perceptions of chip mills used in the arguments for and against them. These reflect the tendency to personify chip mills as agents. Following a discussion of the allocation of social costs to corporate entities rather than to forest landowners, I suggest that change in attitudes, policies, and regulations regarding chip mills will be influenced not only by increasing public interests in private property, but also by worldwide demand for wood products.

Over the past several decades, the southern United States has emerged as the nation's "woodbasket"; nearly half of the nation's forest products now originate here (Burkett et al. 2000/2001). Most

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southern states east of the Mississippi River contain relatively small amounts of harvestable public land. Rather, timber supplies grow on private lands owned by nonindustrial private forest landowners (individuals, families, and corporations) and forest industries. In North Carolina, more than 75 percent of forest lands are owned by nonindustrial private forest landowners¹. Public interests in such rural private property have been expressed for generations, particularly regarding spillover or third party effects such as strip mines, pollution, or factory smoke, where a common resource base is subject to conflicting demands (Sax 1971). Recently, however, public concerns have shifted toward forest harvesting, particularly in the mountain and Piedmont hardwood and mixed conifer-hardwood regions of the southern Appalachians, Ozarks and Ouachitas.

Southerners have long been accustomed to monoculture pine forestry in the coastal plains but they are beginning to balk at expanded cutting of second-, third- and fourth-growth hardwoods in the hills and mountains. Many of these hills were stripped of timber in the early twentieth century, high-graded during the war years, and now form part of the south's "fourth forest" (USDA Forest Service 1988; Williams 1989). Hardwood sawmills have traditionally been family-run and are a familiar and respected part of the forest products sector. However, new and highly-mechanized satellite hardwood chip processing facilities ("chip mills"²) located at some distance from pulp and chipboard factories, have become the targets of citizens and advocacy groups.

¹ Based on recent US Forest Service Forest Inventory Analysis data available in 1998, NIPFLOs (nonindustrial private forest landowners) managed about 76 percent of North Carolina forests, 80 percent of Tennessee forests, 77 percent of Virginia forests, and 58 percent of Arkansas forests (USDA Forest Service 2001).

² Many forest products require that roundwood be ground into "chips" prior to manufacture. In the 1970s, whole tree chipping in the woods became an important process of timber harvest. In the 1980s, mills were established whose sole purpose was to provide chips to forest product manufacturers. With the advance of technology to utilize the entire tree for chips and with the expected increase in demand for forest products, the wood chipping operations have moved out toward their suppliers (Schaberg, Cabbage, and Richter. 2000).

The first major controversy over chip mills and allied businesses occurred in eastern Tennessee in the early 1980s. Through a public environmental impact assessment process, the Tennessee Valley Authority partially resolved the controversy by denying requests for chip mill barge terminals on the Tennessee River (Tennessee Valley Authority 1993). During the late 1980s and 1990s, however, continued conflict over chip mills resulted in many public meetings, hearings, commissions, and academic studies – for example, in Tennessee, Arkansas, North Carolina, Missouri, and Virginia (Cabbage and Richter 1998; Governor's Advisory Committee on Chip Mills 2000; Gray and Guldin 2001; Virginia House of Delegates 1999). This essay, on the intersection of chip mills and public and private rights and responsibilities in forested land, focuses on North Carolina.

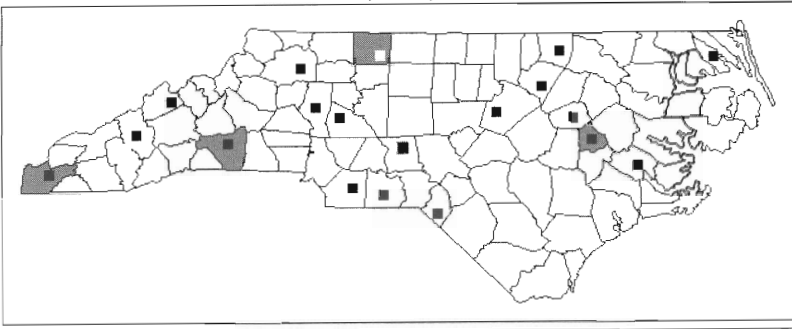
Chips, Public Input, and the Chip Mill Study in North Carolina

Unrest over the addition of new satellite chip mills in North Carolina began to rise in the early 1990s, concurrently with a marked increase in number of new chip mill facilities. In 1998 there were 18 chip mills with an aggregate capacity of 4.1 million tons per year (Schaberg et al. 2000) scattered across North Carolina (Figure 1). Half of these began operations in or after 1990. Some chips are used in pulp and paper production or for chip-based products manufactured within the state. Large amounts are also shipped out to other states by rail and truck, and internationally through the Port of Wilmington (Schaberg et al. 2000).

Following a series of public meetings and hearings held at the request of advocacy organizations such as Dogwood Alliance and its member groups (Dogwood Alliance 2001), then-governor James Hunt directed the North Carolina Department of Environment and Natural Resources (DENR) to conduct an environmental and economic study of wood chip production in North Carolina. DENR sponsored a collaboration with the Southern Center for Sustainable Forests to conduct a multidisciplinary study, initiated in May 1998³.

³ The final report, summaries of public meetings, and other related documents can be found at the Southern Center for Sustainable Forests' homepage: <http://taxodium.env.duke.edu/scsf/>.

Figure 1: Location of Study Counties and Sattelite Chip Mill Locations in North Carolina (2000).



One portion of the study, an assessment of the social impacts of chip mills on community and community infrastructure, family, and individual quality of life, identified the many impacts and concerns expressed in three chip mill case study sites and in one other site where construction of a chip mill had been initiated but subsequently halted (Warren 2000).

The purposes and structures of social impact assessments are well described for natural resource applications (Barrow 1997; Burdge 1994; Burdge 1999; Finsterbusch and Wolf 1981; Soderstrom 1981). For this North Carolina study, rural county sites were selected in each of the major physiographic regions: Mountain (Cherokee County), Piedmont (Rutherford County), and Coastal Plain (Greene County) (Figure 1). Each of these counties contained an operating chip mill. Additionally, Stokes County, where construction of the fencing and platform for a new chip mill had been started, served as a fourth site where additional concerns and opinions were voiced.

In the mountain region, the Valwood satellite chip mill with a capacity of about 100,000 tons per year had been converted from a family-owned sawmill in 1986; a low but steady volume of chips was shipped by truck primarily to North Carolina's oldest paper mill in Canton. In the coastal plain a satellite chip mill owned by International Paper had been in operation since 1990. This mill had a capacity of about 300,000 tons per year; chips were moved by truck to the Port of Wilmington. In the Piedmont, the Broad River Forest Products satellite chip mill had been in operation since early 1998,

with a capacity of about 362,000 tons per year; its chips were shipped by rail to a Willamette Corporation mill in Kentucky. It was in the Piedmont (Rutherford and Stokes counties) that the chip mill controversy had particularly divided communities.

More than 75 formal semi-structured open-ended interviews and an equal number of informal interviews were conducted in the summer of 1999 in the four sites. Respondents were perceived as stakeholders who wished to express their views. They consisted of: people identified by members of the Study Advisory Committee and by members of stakeholder advocacy organizations; employees, owners, and vendors in the forest products industry, such as chip mill employees, saw mill managers, procurement foresters, loggers, crafts workers, etc.; local political leaders (appointed and elected); local service providers; federal, state, and county employees; neighbors of the mills or local residents; and self-identified respondents. Each respondent was asked to identify chip mill impacts and their concerns about them, and then, in an iterative manner to: (1) locate the impacts spatially, (2) locate the impacts temporally, (3) determine if the impacts affected the respondent directly or indirectly, (4) define the strengths of the impacts along a Likert scale, (5) define the strengths of the impacts spatially and temporally, and (6) determine the types of impacts, choosing among economic, financial, political, health and safety, cultural, historical, religious/spiritual, physical/infrastructural, overall quality-of-life, and other types of impact categories.

Most respondents lived in rural settings within the study counties or surrounding areas (Table 1). Forty-two percent described their jobs as within some type of forest industry. Their concerns about chip mills were hardly unified. Over half the respondents were in their 40s and 50s, and two-thirds were male. Forty-five percent owned forest land and among these current or future financial gain was the most commonly listed forest land use (Table 1). Membership in environmental organizations was high, reflecting not only the state of the controversy but also relatively low membership fees. (Some respondents complained that high fees inhibited joining professional and forest industry groups.)

The social impact assessment was not intended as a statistically valid tool for policy analysis. Rather, its goals were to identify the variety of perceptions among stakeholders, preparing the way

Table 1: Some Characteristics of Respondents (N = 78).

Settlement patterns		
Rural	47	60%
Suburban	10	13%
City/town	7	9%
No response	14	18%
Employment sectors		
Forest products industry	33	42%
Service	24	31%
Government	8	10%
Other	10	13%
Manufacturing	3	4%
Forest land use		
Financial gain	52	67%
Recreation	22	28%
No response	24	31%
Memberships		
None	26	33%
Environmental	21	27%
Forest industry	17	22%
Land conservancy	14	18%
No information	11	14%

for a more rigorous survey. Normally far fewer than the 78 formal interviews and additional background interviews would be sufficient. Saturation was reached quickly, yet the stakeholder population desired the opportunity to be heard. Thus, no numerical conclusions can be drawn because of over sampling. Further details on methods, on respondent demographic and social characteristics, and the impact ranking processes are described in Warren (2000).

Ten Views of Chip Mills in North Carolina

Polarization had developed rapidly, particularly in the Piedmont. The opposing camps were small but extremely vocal, and local and

state media joined the fray. Political leaders at both state and local levels were pressured to take action. Thus, by the time of the interviews, most declared stakeholders were hard-pressed to answer questions dispassionately. Discord was exacerbated by a pervasive tension between “old-timers” and “newcomers,” which resulted in bitterness and emotional stress. This tension reflected some of the major socio-economic and demographic changes resulting from recent immigration from other states and regions (Warren 2000).

The quality of the assessment was thus compromised, but the structure of the controversy became more apparent. The primary issues and concerns could be encapsulated into ten complex, interconnected and sometimes contradictory statements:

- Satellite chip mills are an efficient and natural development for the forest products industry. They replace concentration yards scattered throughout a woodshed, and they enable more efficient long-distance transport of chips rather than roundwood.
- Chip mills contain high-technology machinery with appetites for trees unlike anything previously experienced. They leave the countryside ravaged, chewing not only through the forest estate, but also through the traditional livelihoods of woodworkers.
- Chip mills help to satisfy the global demand for paper and other chip-based products. Thus the slogan, “No chips, no toilet paper.”
- Chip mills symbolize exploitative corporate behavior. They drain a community of its timber and export it. They will move on to another location once the forests are bare. They provide no lasting employment or added value within the community.
- Chip mills help the landowner by providing an outlet for poor quality material that would otherwise have to be burned or buried following harvest. The landowner receives income not only for sawlogs at the sawmill, but also for misshapen material and thinnings at the chip mill.
- Chip mills induce poorly-educated, needy local landowners to sell their immature timber, which, if they could let it grow to maturity, would provide sawtimber for the North Carolina furniture and crafts industries.

- Chip mills provide a wood market for forest land being cleared in conversion to second homes and other housing and industrial sites. They also provide a market when land is being cleared for pasture.
- Chip mills provide a market for poor quality and scrub timber woodlands that could be cleared and replanted with more productive and better managed forest species, thus allowing landowners to pay taxes on land that should provide future returns.
- Chip mills are dusty and polluting industries that cause truck drivers to concentrate in rural areas where they can ruin roads, and run over children and the elderly. Noises from the trucks and the mills, and dust and other particulates disrupt the daily lives of the communities in which they are located.
- Chip mills cause clearcutting. They accelerate conversion from mixed hardwoods to pine monocultures, which is particularly harmful for a state increasingly dependent on tourism as a replacement for lost agricultural and industrial production. Clearcutting is harmful to the environment because it results in sedimentation and loss of wildlife habitat.

Property Aspects of the Chip Mill Controversy in North Carolina

Such viewpoints and the controversy in general mirror several aspects in the evolution of public interests in private forested land in the United States. Changes in attitudes toward private property have historically been driven by demographic, social, and cultural factors, and recently by increasing discontinuities between traditional rural lifestyles and more urbanized and wealthier lifestyles. What is most interesting in North Carolina, however, is that the private property law issue of ‘takings’ has been narrowly avoided to date. Rather, opponents of chip mills have personified the physical and corporate structure – the machine – rather than focus on the behaviors of individual landowners. Demands for regulation have

targeted forest industry conglomerates rather than the private forest landowner⁴.

Property in North Carolina Rural Culture. That property rights and responsibilities are social institutions and therefore subject to changes in society's values has been exhaustively reviewed (see, e.g., Ciriacy-Wantrup and Bishop, 1975; Dasgupta 1982; Warren 1998). Equally thorough are analyses of the responsibilities coupled with every property right (Bromley 1989; Bromley 1991; Feeny et al. 1990; Field 1989; Warren 1998). More recently, Geisler has suggested that "abiding cultural conflicts" can result in controversies over land (Geisler 2000:51). And indeed, in postwar rural North Carolina, cultural gaps resulting from demographic change have widened drastically, particularly between rural and urban lifestyle choices (see, e.g., Bowles 2000). Industrialization and corresponding pollution of the eastern Piedmont corridors along Interstates 85 and 40 have led to horizontal growth (suburbanization) rather than vertical growth (urbanization). Consequently, the supply of natural areas and amenities has declined (see USDA NRCS 2000). As land development proceeds, the "stock of benefits" (Sax 1983:489) provided from the natural landscape has become smaller, and anxieties over eventual supply have increased.

In the western Piedmont and the mountains, development of retirement and recreational communities has helped to change the view of land from that of a productive resource to that of an amenity resource. Private landowners who once were perceived as adding to individual and community wealth by harvesting timber are now often perceived as people who add to the burden of social costs. Equally important is the perception that farm land ownership no longer provides the political, economic, and social status it once did, either in North Carolina or the United States (see, e.g., Bromley 1998). The resultant tensions have been exacerbated by the growth of the tourism sector and concomitant growth of a new landscape consciousness. Different and larger populations are demanding different goods and services from forest land (Lewis 1995). The remaining private forest land is becoming "shared wealth" (Sax 1983:493) rather than individual wealth. Indeed, as one public

⁴ This is also reflected in the North Carolina government's guidelines on Best Management Practices, which at the time of the study were only voluntary.

agency respondent suggested, “people who do not own land see all forest land as public land.” This gap between those who work the land for commodity production and those who view the land as an amenity is a root cause of the chip mill controversy, but it has been clouded by a focus on corporate structures.

The allocation of social costs to corporations. Opponents of chip mills have reviled the industry itself rather than the individual landowner. This is logical in a state where private property rights are highly regarded, and where small local wood product industries are perceived in opposition to corporate giants. According to a leading advocate, “chip mills, not timber regulations, threaten the sanctity of private land ownership” (Smith 1997:43) because it is the proximity of the market (the satellite chip mill) that induces the landowner to sell wood. Consequently, it has been suggested that chip mills may lead to decreased supplies for sawmills by depleting the hardwood resource (McCall 1992; Smith 1997). Smith also suggests that strong industry and landowner associations are pitted against individual landowners who, it has been determined, have considerable respect for the environment and its goods and services (Bliss 1997, cited in Smith 1997).

The changing economic structure of rural North Carolina also necessitates displacement of blame onto large corporations; woodland and forest owners are selling more wood and land more frequently because of agricultural and industrial depression in rural counties. Property theories suggest that security of property rights leads to the conservation of resources and the lessening of social costs. In North Carolina, however, “financial and social insecurity, short-term profit opportunities,” competition in markets, and long-term opportunity costs have led to degradation of the forest estate (see, for example, a similar issue in Maine, Acheson 2000:167). Indeed, informants consistently expressed sympathy with landowners driven by economic stress to sell family forests. However, they were less inclined to sympathize with landowners who allied themselves too strongly with the chip mills or with developers. Most concerns stated by respondents were initiated with the qualifying phrase “I firmly believe landowners have a right to do what they want with their property, but . . .” Only a few informants asserted that individual landowners had no right to sell wood to chip mills. Rather, communities stood behind individual claims to benefit

streams (Bromley 1993). The creation of social costs (i.e., removal of amenity values and ecological services) was more frequently attributed to out-of-state or out-of-county alien corporations.

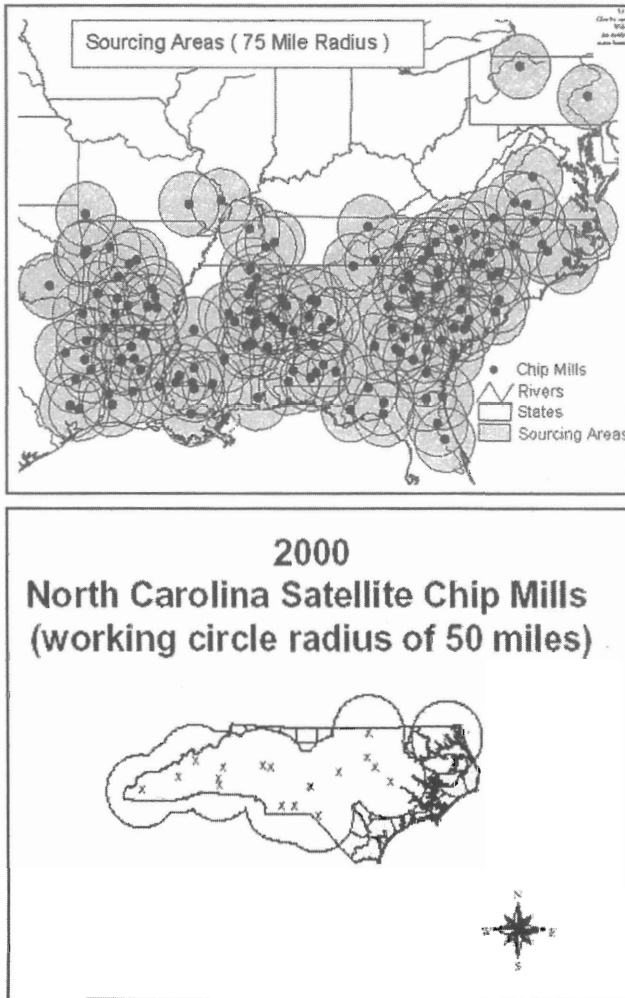
Resentment of outsider corporations. Long before *Field of Dreams* was filmed, foresters said that if you built a mill, the timber would come. Proponents of satellite chip mills have argued that transportation efficiencies benefit landowners within the woodshed of the mills. Opponents, however, have mapped the overlay of chip mills in their southern supply areas to illustrate the short-term drain on timber supplies and the long-term fear of deforestation (Figure 2). Indeed, in some regions of North Carolina, new timber growth is outpaced by harvest (Schaberg, Cabbage and Richter 2000).

The image of large “outsider” corporations ravaging the Piedmont is a strong one. North Carolina anti-chip mill advocates have focused particularly on the new Broad River Forest Products satellite mill in Rutherford County, located near a rail line in Union Mills. Although in the early twentieth century Union Mills had been a forest products center, it evolved over time into a nonindustrial village. The new chip mill’s capacity was expected to exceed 300,000 tons per year, all shipped to Oregon-based Willamette Corporation’s paper mill in Kentucky (Schaberg et al. 2000). Local opposition to the mill had been organized by the Concerned Citizens of Rutherford County some years earlier, when Jordan Lumber of Montgomery County had planned the mill and negotiated purchase of the site. When Willamette’s interests took over the site, the opportunity to rail against a large forest products corporation became irresistible. During the summer of 1999, although the mill was running only one shift several days a week, local and regional anger was at its peak. The Broad River Forest Products mill became the symbol of the southern Appalachian movement against satellite chip mills.

Concurrently, when Godfrey Lumber Company (an Iredell County-based forest products firm) began construction of a high-capacity mill in Pine Hall (a settlement in southeastern Stokes County), opposition was organized by the Hickory Alliance and influenced by Rutherford County experiences. Because the owners were from another county, the taint of outsider corporation could be attached to the proposed mill; this was further strengthened by Godfrey’s intention to ship chips north into Virginia.

Figure 2: Overlap of Chip Mill Sourcing Areas in the South (top) and in North Carolina (bottom).

Sources: Top: Appalachian Restoration Campaign N.d..
Bottom: Dodrill and Cabbage 2000.



In complete contrast to the two Piedmont sites, the 100,000 ton capacity Valwood mill in Cherokee County appeared as only a minor irritant in its community, because the owners and the site itself had a long local history. Similarly, International Paper's hardwood chip mill in Greene County, with the second-highest capacity in the state and running two full shifts, caused barely a ripple of attention among a coastal plain population long used to multinational and local forest products industries and industrial ownership of forest land.

In the Piedmont, arguments against new incursions from outsiders were based in part on lack of value added within the community, and in part on perceived damages to community infrastructure and property. However, opponents of chip mills confounded 'appropriate' rights of landowners to dispose of property with the 'inappropriate' rights of external corporations to establish mills in the center of a watershed. The chip mills themselves were perceived as *creating* the drain that would lead to ever-decreasing supplies of forest-based goods and services.

Discussion

Unlike Missouri, which declared a moratorium on construction of new satellite chip mills (Governor's Advisory Committee on Chip Mills 2000), North Carolina postponed addition of new mills by refusing industrial permits based on water quality regulations. And, although the chip mill controversy remains a strong influence in the western and Piedmont portions of the state, in the east interest in regulation of corporate behavior has focused on hog operations. The chip mill controversy seems to be in a period of dormancy. However, the basic conflict between private property use and the public good is equally at issue in hog country.

But the question of how far the public can go in restricting the rights of private forest landowners (Cubbage 1995) remains in flux. One answer can be found in the evolution of public interests in private property. Where production costs extending beyond the physical boundaries of private property generate "far-reaching effects for other property users" (Sax 1971:155), absolute ownership of private property seems transformed into "relative ownership" (Geisler 2000:51). The public perceives a greater impact from

private land use decisions now than in the past. In other words, as the private economic benefits derived from timber sales are converted into public perception of harm resulting from those sales, social pressure to regulate forest harvesting rises with the perceived level of social costs.

Although at present in North Carolina, timber sale Best Management Practices are voluntary, harvesting practices and mill behaviors can be constrained through the proxy of water quality standards. A campaign to require advance notice of timber harvests is under way, presumably so that oversight of harvesting processes can be instituted. (Success of such oversight presumes the availability of agency personnel.) Thus an original focus on the industry rather than the individual may erode because the chip mill controversy has highlighted the transformation of formerly exclusive private benefits into nonexclusive public costs. Soon, perhaps, the economic engineering of forest use may be transferred from corporate to individual owner.

As a result of the public uproar over chip mills, a regional forest assessment study has been initiated⁵. This was one of the original goals of the resistance movement. However, little may be accomplished in influencing the rate of forest loss in North Carolina unless some balance can be reached between public pressures to retain the amenity values of private forests, second-home and retirement community development, and worldwide demand for wood products.

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⁵ See the Southern Forest Resource Assessment status web page at <http://www.srs.fs.fed.us/sustain/>. Non-economic social impacts have not been a component of the study.

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