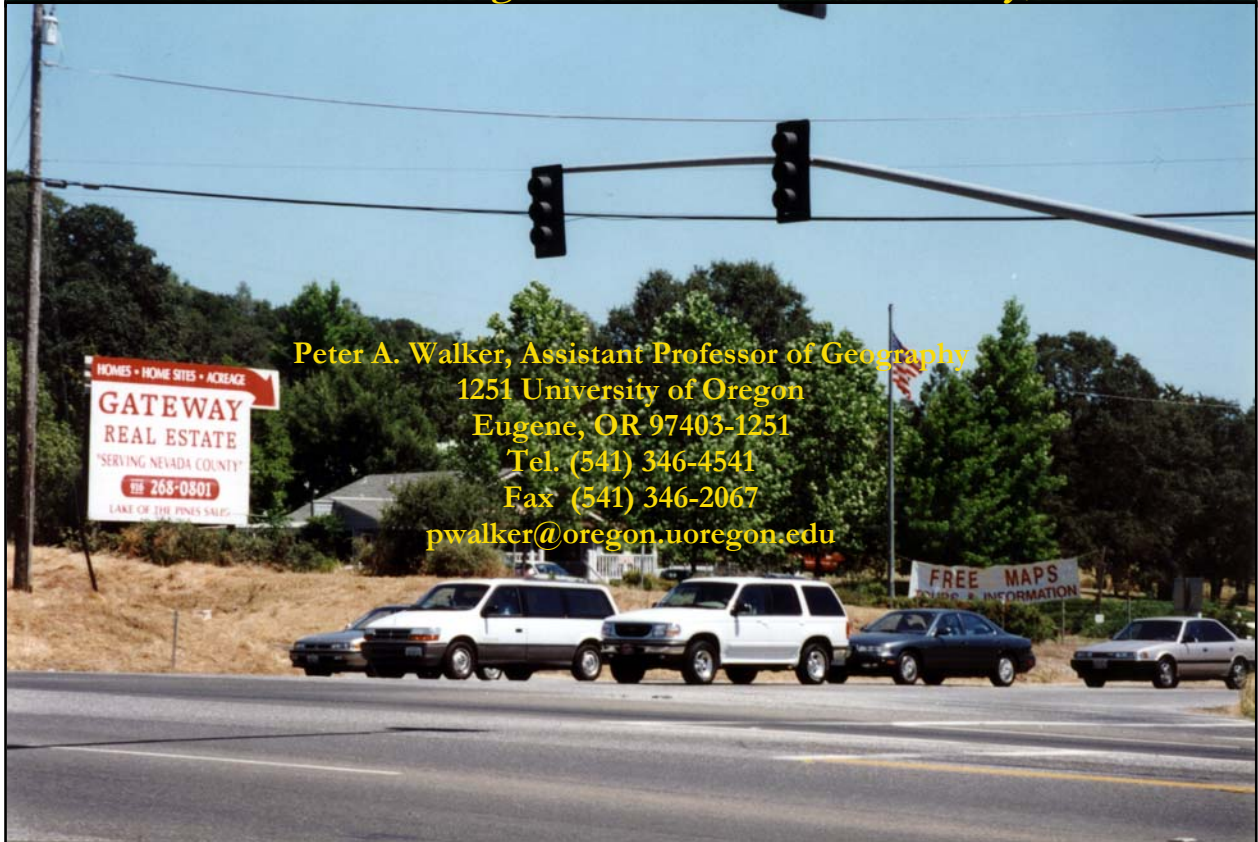


A Sierra Landscape in Transition

Land use and social change in western Nevada County, California



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I. Introduction

a. Purpose of this report

The purpose of this report is to provide information about patterns of change in land ownership and land use in western Nevada County over the last four decades, as well as information about opinions among rural landowners about related land use issues. It will come as no surprise to anyone who has been in Nevada County for at least a few years that the county has changed dramatically in terms of who lives in the area and how they use the land; it may be even less surprising that Nevada County landowners tend to have strong opinions about these changes. However, the lively debates about land use issues in Nevada County are too often conducted without the benefit of detailed and objective information about the types of changes that have occurred and about the desires that county residents have for the future of the county's community and landscape. This report provides information that may be of value as the county wrestles with these issues in the future.

b. Who is doing this study, and why?

This report was created from research conducted by Peter Walker, Assistant Professor of Geography at the University of Oregon. I do not live in Nevada County. I have no economic, political, or any other vested interest in the land use debates that have recently consumed the county. I have been conducting research in Nevada County periodically since 1996. I became interested in Nevada County because it is an excellent example of changes occurring throughout the American West. For several decades, Nevada County has been at the leading edge of a transition occurring all over the rural West—namely, the transition from a predominantly resource-based economy (ranching, farming, timber, and mining) to a mixed economy that includes a very large amount of rural-residential land, largely owned by people who migrated from urban areas. Nevada County makes a good 'case study' of the kinds of economic, social, and environmental changes happening in rural communities throughout the West. It was for this reason that my research was funded by the National Science Foundation (grant# 0001964), a federal agency that supports basic scientific research into issues that are considered to have scientific and social importance, and I have also received support from colleagues at the University of California under the Integrated Hardwood Range Management Program. My research is being conducted in collaboration with a multi-county study conducted by the University of California that began in 1995. The purpose of this research is strictly scientific. I emphasize that while the National Science Foundation and the University of California have provided support, the research questions addressed in this report were initiated by me, and my research is not guided by any agency. And I have no political or commercial agenda. I also emphasize that my research was initiated in 1996, four years before the Natural Heritage 2020 program began. My research has no relationship with that program, and I take no position on the controversy surrounding it.

c. How is information collected, and where does it go?

All information in this report was collected through the voluntary participation of the citizens of Nevada County. (Where other supplemental sources of information have been used, these are noted in the text). I conducted hundreds of personal interviews, mail-in surveys, and telephone interviews with Nevada County landowners who reside inside or outside the county. More detailed descriptions of research methods are reported in the text. The data presented here represent only some of the highlights of a larger set of data. All information collected (except personal names or any other identifying information) is available to the public at the request of any interested persons. Note that *all information collected is absolutely confidential*, and no data will be reported or released that could identify any particular individuals. This document is available on-line at: <http://geography.uoregon.edu/walker/sierra-report.htm>

d. History of the project

One of the reasons I chose to conduct this study in Nevada County is that I have access to data collected in a similar study conducted in Nevada County in 1957 by the University of California at Berkeley. In collaboration with Professor Louise Fortmann at the University of California at Berkeley, I used the 1957 data as a ‘baseline’ to compare the situation in 1957 with the situation in Nevada County today. The 1957 study used a ‘transect’ sampling method—basically, drawing lines on a map of the county and recording every parcel of rural land that happened to fall on these lines. This method provided researchers in 1957 with a scientifically valid sample of rural land in the county. The earlier study included transects from the border of Yuba County in the west but extended eastward only to the Sierra crest—therefore, this ‘re-study’ concentrates on the areas in Nevada County west of Donner Summit (and thus regrettably excludes, for example, the fast-growing areas near Truckee). From the 1957 study, information is available about how the parcels on the transects were used back then. I used the same 1957 transects to find out how the land is being used today. This provided a way to scientifically document changes in land ownership and land use over the past 45 years.

II. Methods

a. Changes in land ownership and land use

For this study my colleagues and I created a computer database from public records of all private rural parcels that intersected the sampling transects in 1957 (see ‘History of the Project’, Sect. I.d.) and in 2001, and recorded the type of land use for each parcel. Land use information was collected from interviews and surveys of landowners, public records, and other data such as a list of active agricultural producers in Nevada County provided by the Farm Bureau, as well as other groups. In doing this I was able to track how much private rural land in western Nevada County was devoted to each type of land use in 1957 and in 2001.

b. Who is represented in this study? (and who *isn't*?)

It is very important to understand who the information presented in this report represents and who it does *not* represent. This is *not* a random sample of all people in Nevada County. This report is different from public opinion surveys that report on the views of a cross-section of all members of the community. *The data presented here were collected from private rural landowners only.* Therefore, this report does not include any information about the large number of county residents who live within the urban boundaries of Grass Valley and Nevada City; it also does not include those who live in rural areas but do not own land. Therefore, *nothing in this report should be interpreted as necessarily reflecting the community in Nevada County as a whole.* This report focuses *exclusively* on owners of private rural land in western Nevada County. I believe that focusing on these rural landowners is worthwhile because these landowners control a very large proportion of the land in Nevada County, and will therefore play a critical role in shaping the county's landscape in the future. More than 95 percent of the area of the county is rural, and 60 percent of rural land in the county is held by private owners. The single largest private landowner, Sierra Pacific Industries, owns only 14 percent (49,620 acres) of all private rural land in the county (364,329 acres). Our transect sample for 2001, with 1,464 parcels, indicates that 55 percent of Nevada County's private rural land is in the hands of owners with less than 100 acres (compared to only 3 percent of private rural land held by those with less than 100 acres in 1957). Therefore the land use practices of these relatively small landowners today will play a central role in shaping Nevada County's landscape in the future. Remarkably little research has focused on these small private rural landowners; this research is thus intended to provide a better understanding of the practices, ideas, and concerns of this increasingly important type of landowner in Nevada County.

c. Did NH 2020 influence this study?

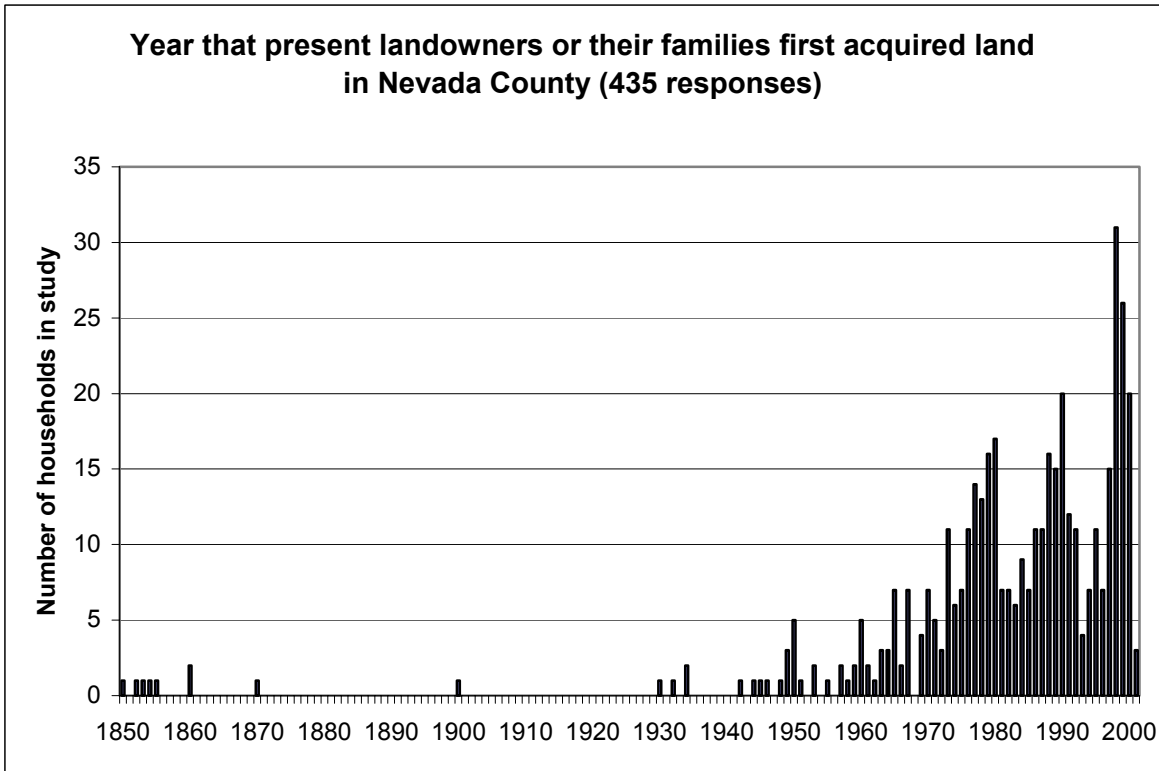
It is important to note that most of the research presented in this report was conducted between 1999 and 2002 and thus coincided with the political conflict over Nevada County's Natural Heritage 2020 program. In interviews it was clear that the debate over NH 2020 was very much on people's minds and to some degree influenced certain types of information collected (in particular, landowner opinion data). The research design of this project follows a standard, widely-accepted and statistically valid sampling method. Under normal circumstances, the results of this study would be considered 'robust'. It appears, however, that responses to some questions were influenced by the controversy over NH 2020, although the type and degree of influence are impossible to accurately measure. At the same time, the conflict over NH 2020 to a large degree reflected long-standing tensions and real concerns and issues in the county that existed long before NH 2020. Thus, it is likely that even if people's views on certain issues were inflamed by the fight over NH 2020, the research presented reflects real underlying, long-term issues that will remain important well into the future when NH 2020 has become a fading memory.

III. Results

a. A county of migrants

Ever since the Gold Rush of 1849, Nevada County has been a destination for those seeking their dreams in the Sierra. Much of the county’s population has always been composed of migrants from other places. However, this pattern has accelerated. As most Nevada County residents are aware, very large numbers of migrants from other parts of California and elsewhere have settled in Nevada County over the last several decades. In a series of surveys and interviews conducted between 1999 and 2002, 435 landowners identified when they or their families first acquired land in Nevada County. As shown in **Figure 1**, this research indicates that the vast majority—85 percent—of today’s rural landowners first acquired land in the county since 1968 (at the beginning of the first large waves of ‘exurban’ migration in to the county).

Figure 1:

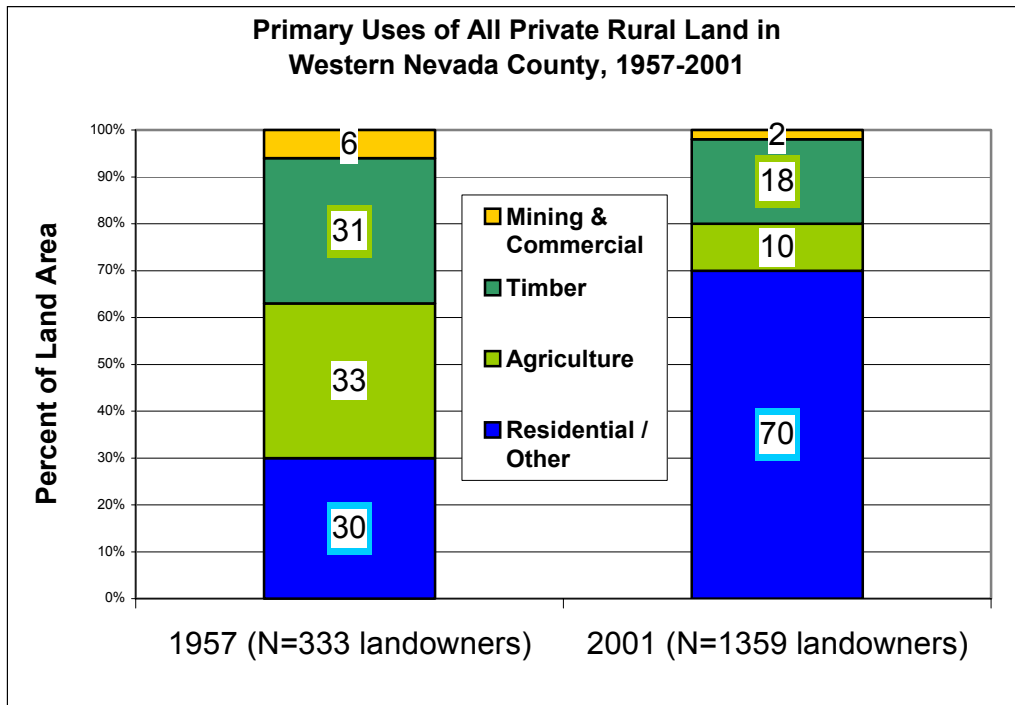


Overwhelmingly, today’s rural landowners in Nevada County came from someplace else. In a survey of 358 households with a total of 736 adults, only just over 3 percent of adults were born in Nevada County. Fifty percent of respondents reported that they were born elsewhere in the state, and 47 percent reported that they were born outside California (similarly, Nevada County voter registration data indicate that in 2002, 44 percent of registered voters were born outside the state). Just prior to settling in Nevada County (with 356 households responding), 40 percent in our study were living in the San Francisco Bay Area, 16 percent were living in Southern California, 12 percent resided in the greater Sacramento area, and 33 percent were living in other areas in and out of California.

b. A predominantly rural-residential landscape

The large in-migration of predominantly urban people into Nevada County in the last few decades brought dramatic changes in the ways that land in the county is used. As shown in **Figure 2**, our transect study (see sections I.d. and II.a.) reveals that in 1957 private rural land use in Nevada County was roughly evenly divided between agriculture, timber, and residential or recreational use—with a small amount of mining and other commercial uses. By 2001, the relative proportions among these categories had changed dramatically. The most notable change was a large increase in the area devoted to rural-residential and recreational use (from 30 to 70 percent of all private rural land), with a corresponding decrease in agriculture¹ (from 33 to 10 percent) and timber (from 31 to 18 percent). By 2001, mining and other commercial uses dropped to only 2 percent of private rural land use.

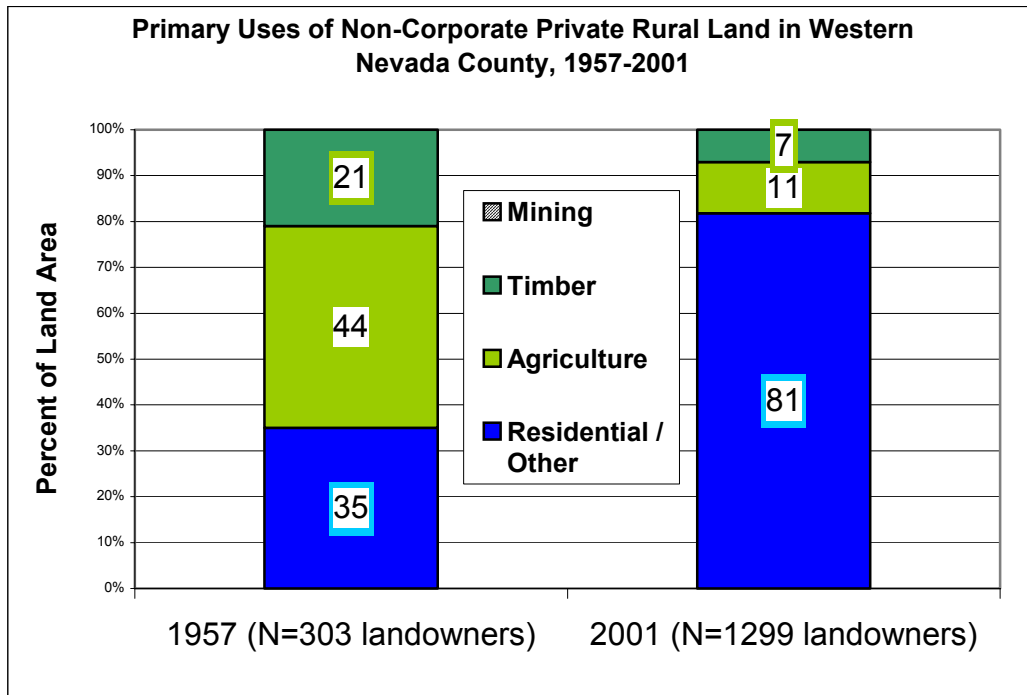
Figure 2:



As shown in **Figure 3** (next page), if corporate landowners (such as Sierra Pacific Industries) are excluded and only land held by small, non-corporate owners is considered, this transition appears even more striking. This is particularly relevant in the far western end of the county where corporate timber ownership is very limited.

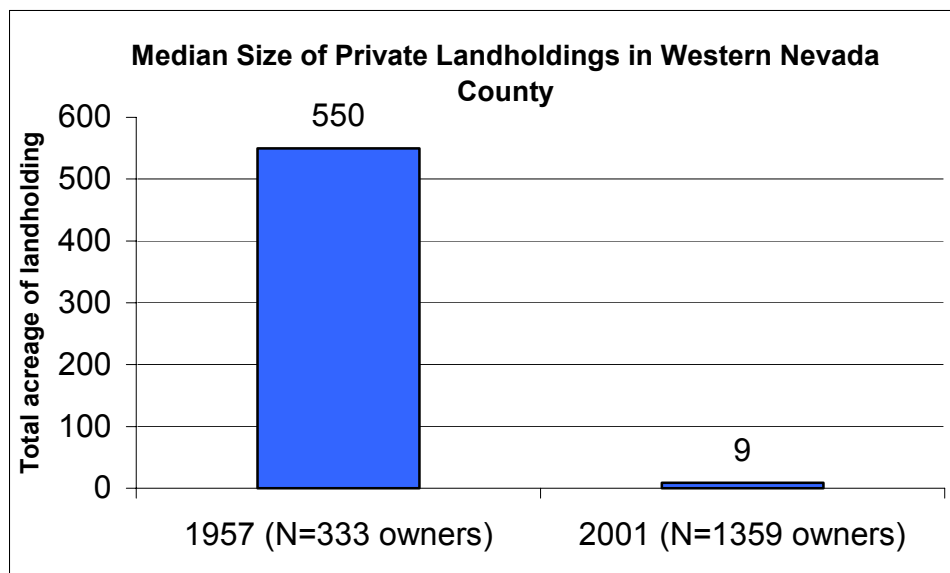
¹ The decline in agricultural land noted here refers to agriculture by owners for whom farming is a full or nearly-full time occupation. In this study, land used for part-time, small-scale agricultural activities (“hobby farming”) is defined as primarily residential. Other studies indicate that if such “hobby” farming is included in the definition of agricultural land, the amount in Nevada County has actually increased slightly in recent years, although this shift does not reverse the longer-term downward trend. See California Department of Conservation, *Farmland Conversion Report 1996-1998*: http://www.consrv.ca.gov/DLRP/fmmp/pubs/1996_1998/FCR/AppendixA.pdf

Figure 3:



With this large increase in rural-residential land use, there has been a corresponding decrease in the size of landholdings (a landholding is defined as the sum of acres in all parcels held by a single owner). As shown in **Figure 4**, the median size (the midpoint where half of landholdings are bigger and half smaller) of landholdings represented in our transect study has decreased from 550 acres in 1957 to 9 acres in 2001, reflecting a shift from large ranches and timber operations to a dominant pattern of single-family residential units on parcels typically ranging from 3 acres to 15, 20, or occasionally 40 acres or more.

Figure 4:



This tremendous decrease in parcel size has dramatically changed the map of Nevada County. Part of our research involved ‘digitizing’ (putting onto a computer) maps from the 1957 UC Berkeley study and comparing them with modern maps. By overlaying modern maps on top of the 1957 maps, a dramatic shift was revealed: the 1957 landscape consisting of a small number of large parcels has been almost completely replaced by a fragmented landscape consisting of a very large number of small parcels. **Figure 5** illustrates this change in the area around Lake of the Pines and part of the Alta Sierra development. In 1957 most of this area consisted of a handful of ranches. Today, the large ranches have been broken into hundreds of often tiny parcels. Figure 5 shows three large parcels in 1957 of as much as 1,597 acres each (outlined in bold) that were broken into hundreds of small parcels by 2001. While the Lake of the Pines and Alta Sierra region represents a particularly extreme example, our computer map analysis (using a geographic information system) shows that similar processes of fragmentation through ‘parcelization’ have occurred in every area of the county.

Figure 5:



At the same time, it is important to note that the ‘on the ground’ view of the county that residents see today does not reveal the full extent of this transition to a fragmented and parcelized landscape. Much of the land classified as “residential” in this study is land that remains undeveloped

and/or unoccupied even though it is zoned and intended for later residential development. For example, the 7,786 acre Gold Country Ranch (a.k.a. Double Diamond Ranch, near Beale Air Force Base) remains largely undeveloped and could give a perhaps misleading sense of ‘open space’, when in fact it is slated for eventual development. In addition, the present feeling of openness in the landscape does not reveal the precarious financial position of most of the county’s few remaining large-scale farms and ranches that give the county a rural ‘feel’. Ranch owners express doubts that their children or grandchildren will be able to continue to farm the land and keep these remaining open spaces undivided.

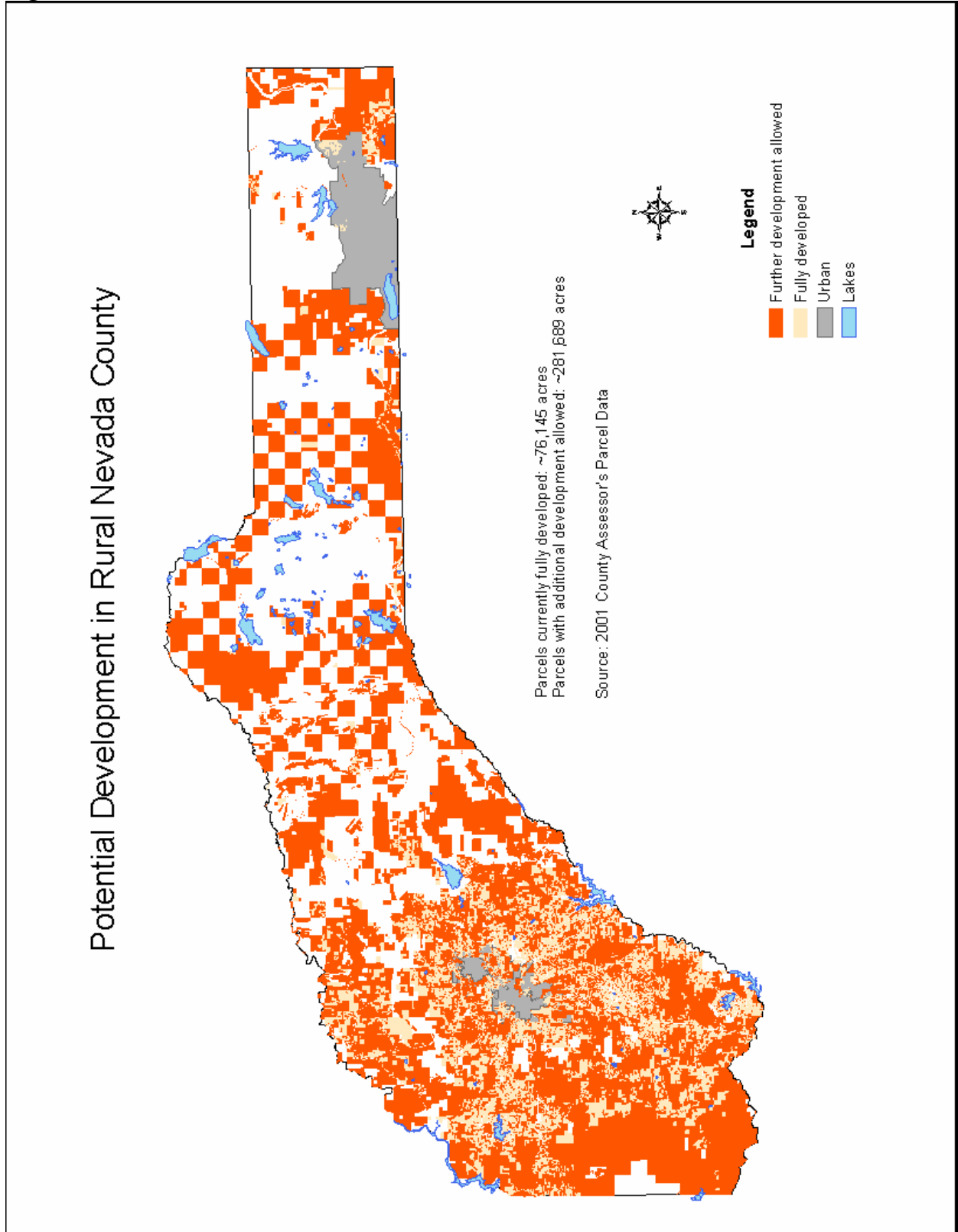
The most important ‘invisible’ part of the transition, however, is the large number of undeveloped parcels that are already planned for development. Much of this land is owned by people living outside the county and is presently used, if at all, primarily for recreational purposes (such as camping or mountain biking on holidays). Our study showed that 24 percent of Nevada County landowners live outside the county. Both absentee and resident owners hold many parcels that remain undeveloped and already zoned for future development.

Public records from the Nevada County Tax Assessor’s office for 2001 indicate that 15,064 (40 percent) of the county’s private rural parcels can be further developed (for both residential and commercial uses) according to existing zoning designations. Because these undeveloped parcels tend to be relatively large in size, the amount of *acreage* available for potential development is even more striking than the number of parcels. *More than three-and-a-half times as much private rural land (281,689 acres) remains available for future development than all the private rural land that is already developed in the county today (76,145 acres).*² Graphically, this potential development is illustrated in **Figure 6**, where parcels illustrated in beige are those that are fully developed; parcels illustrated in red are those available for further development. As this map shows, the landscape that most people see in Nevada County is deceptive in its feeling of ‘openness’: viewed through the lens of parcel maps and zoning rules, we see a landscape that has already been carved into many small and large parcels (indicated in red) owned largely by those who are waiting for the right time to build. In our interviews and surveys with both absentee and resident owners of undeveloped parcels, we found that these owners almost universally indicate that they *do* intend to develop these properties for retirement, or plan to sell to others for development. Translated into human numbers, the outcome of this potential development is dramatic. Today’s population in the county is 94,361.³ By multiplying the number of parcels available for residential development by the number of dwelling units allowed by zoning rules on each parcel, and multiplying again by the average number of persons per dwelling unit (2.47 per unit in Nevada County, according to the U.S. Census), we find that the ‘build-out’ population that can be reached under current zoning rules is 233,522 persons—*two and a half times today’s population in the county*. Thus, the rural-residential development of Nevada County is an *on-going process that is far from complete*, and in a number of ways today’s landscape conceals a future that has already to a large extent been determined: almost certainly, unless policies are put in place that put greater limitations on development, an enormous proportion of the open space that the county enjoys today *will* be developed and occupied in the not-distant future.

² Criteria used to identify parcels that remain available for development in this analysis included: a) the parcel is privately owned; b) current zoning rules for the parcel allow development or subdivision; c) the current ‘improvement’ value on the parcel is less than \$20,000, indicating that no residential unit is currently on the parcel, making it eligible for further development. Note that these figures include ‘TPZ’-zoned parcels and current timber producing parcels that can be developed under existing zoning rules.

³ U.S. Census Bureau, State and County *QuickFacts*, Nevada County, California <http://quickfacts.census.gov/qfd/states/06/06057.html> last accessed 01/19/03.

Figure 6:



c. A diversity of rural-residential land uses

Nevada County’s ongoing transition to a primarily residential landscape does not necessarily pre-determine a future of ‘suburban sprawl’ (although some areas in the county probably already fit that description). Rather, rural-residential landowners in Nevada County use their land in a variety of ways that makes the concept of a ‘residential landscape’ more complex than it might seem. Many owners who use their land primarily for residential purposes also engage in small scale farming, ranching, timber production, or other uses. For this study, landowners were asked to identify and rank their “most important” land uses. **Figure 7** (next page) shows that 297 (83 percent) of the 358 landowners who participated in our survey reported that they primarily use their land for residential purposes. Those who use their land primarily for agriculture, ranching, or timber production together represent 10 percent of landowners. Recreational owners (who typically use the land on weekends and holidays for camping, hiking, etc.) make up 4 percent of landowners. “Other” landowners include many who say they are keeping the land simply to preserve open spaces. While residential ownership overwhelmingly dominates, **Figure 8** (next page) shows that 35 percent of primarily residential landowners in our survey (typically those with larger parcels) combine residential use with small-scale farming, ranching, timber production, and various other small-scale commercial uses such as home-based businesses and crafts workshops. Thus, contrary to the image of sprawling ‘suburbanization’, much of the land that has been converted from large ranches and timber operations to ‘residential’ use retains some degree of ‘rural’ use—albeit under the ownership of a typically wealthier and more educated ‘exurban’ class than previous ‘local’ owners. (In our study 46 percent of households report “investments” or “pension” as their main source of income, and only a handful of those “employed” actually derive a major portion of their income from the land. County data show that 45 percent of income comes from “dividends, interest and rent”.⁴)

⁴ Sierra Economic Development District, *Nevada County economic & fiscal indicator review report* (2001), p. 9. Data source: State of California Employment Development Department and the Bureau of Economic Analysis of the Center for Economic Development, Chico, CA.

Figure 7:

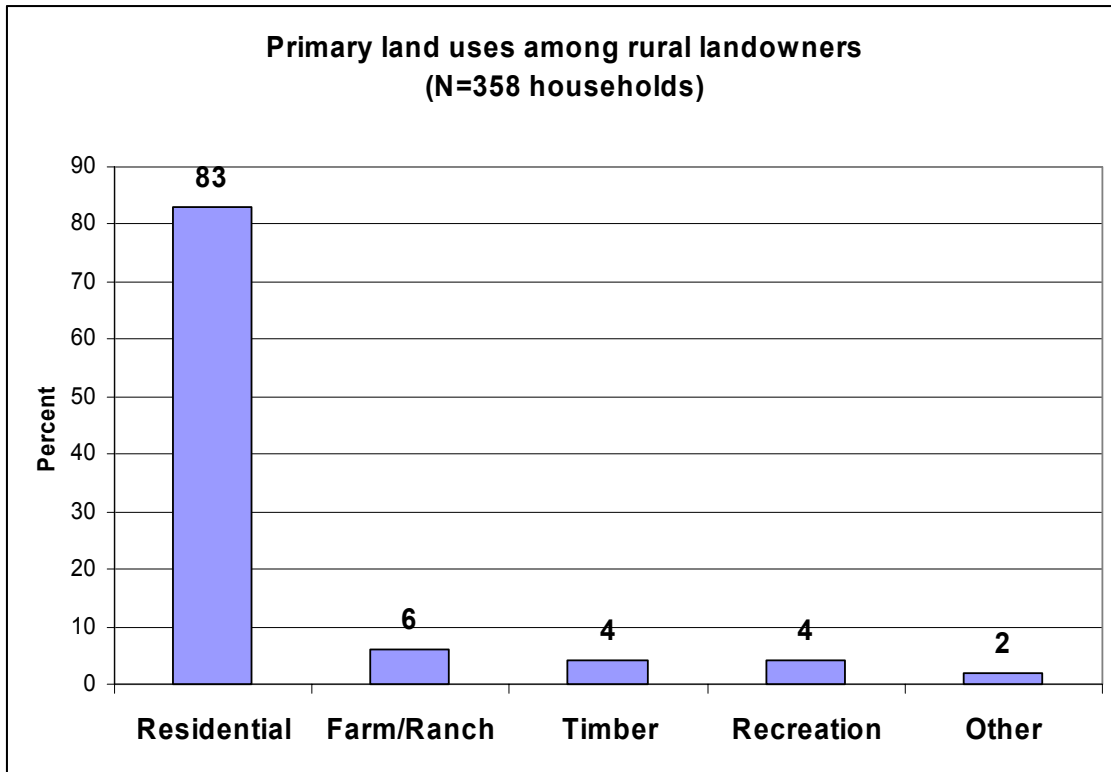
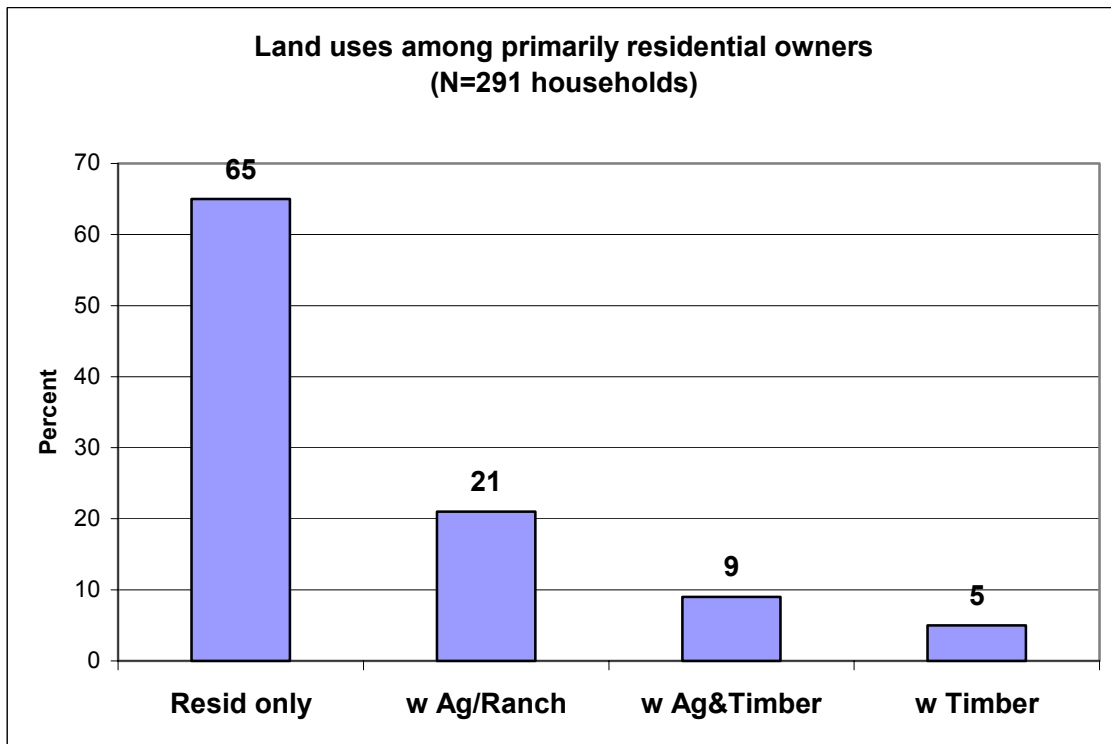


Figure 8:



c. Changes on the land

With this diversity of residential land uses, we know surprisingly little about the overall effects of the rural-residential transition on the landscape of Nevada County. While the impacts of high-density, suburban-style developments such as Lake of the Pines or Lake Wildwood are obvious, the small size of parcels in these developments (typically less than 0.5 acres) makes their overall impact on the landscape relatively small (but by no means insignificant). Data from the Nevada County Tax assessor's Office for 2001 show that while 'suburban'-style parcels of 1 acre or less account for 31 percent of all private rural parcels in the county, they represent only 1.5 percent of the county's total private rural acreage, or 0.9 percent of the total area of the county. The great majority of the rural landscape is dominated by low-density rural-residential development on parcels that typically range from 5 to 40 acres or more. In these areas, the impacts of the rural-residential transition on the landscape are poorly understood. Most research on the Sierra landscape has been conducted using satellite imagery at a geographic scale of analysis of 40 acres or more (considerably larger than the majority of parcels) which is unable to reveal the complexity of changes in areas composed of a diverse range of residential uses.

In a not-yet-complete part of this study, my colleagues and I are examining a series of sample parcels using finely-detailed aerial photographs from 1952, 1962, 1971, 1981, 1993, 1997 and 2000 to track how the landscape has changed on individual parcels during the period of the rural-residential transition (sample parcels were selected with the full knowledge and consent of the owners). Preliminary analysis suggests a wide range of changes. Much of the scientific literature treats rural-residential development in areas formerly dominated by ranching and timber production as an unmitigated environmental bad. Preliminary analysis from our study of Nevada County suggests a more complex story in which the overall impact of the residential transition is mixed, and should not necessarily be considered in all ways ecologically harmful.

The most notable vegetation transition revealed in our sample parcels is increased tree cover of all types—conifer forest, hardwood forest, and mixed forest. This pattern is consistent across almost all our sample parcels, and is strongly consistent with the results of other recent research that shows a similar pattern of increasing tree cover in neighboring Placer and El Dorado Counties.⁵ In part, this reflects the county's history, in which almost all forests in the western county were cleared during and after the Gold Rush. When the economic and demographic boom of the Gold Rush went 'bust', the landscape began a recovery toward a more forested landscape. Fire suppression combined with the selective preference of landowners to preserve and encourage the reforestation of their properties has facilitated the change toward more tree cover. The biggest change observed in the period from early 1950's to the late 1990's (using a sample of 548 parcels) was the transition from small woody growth (either shrubs or small hardwoods) to dense hardwood forest. In the early 1950's, this 'shrub-statured' growth was the most common vegetation type on all parcels in our study area. The second biggest change was from sparse conifer forest with 'shrub-statured' vegetation to mixed hardwood-conifer forest, also reflecting the change from small to mature hardwoods. Many researchers believe there is more forest cover today than before the Gold Rush.

This forest re-growth appears to have been accelerated by the choice of many residential owners to not engage in timber harvesting, cattle grazing, or other tree-clearing activities. The

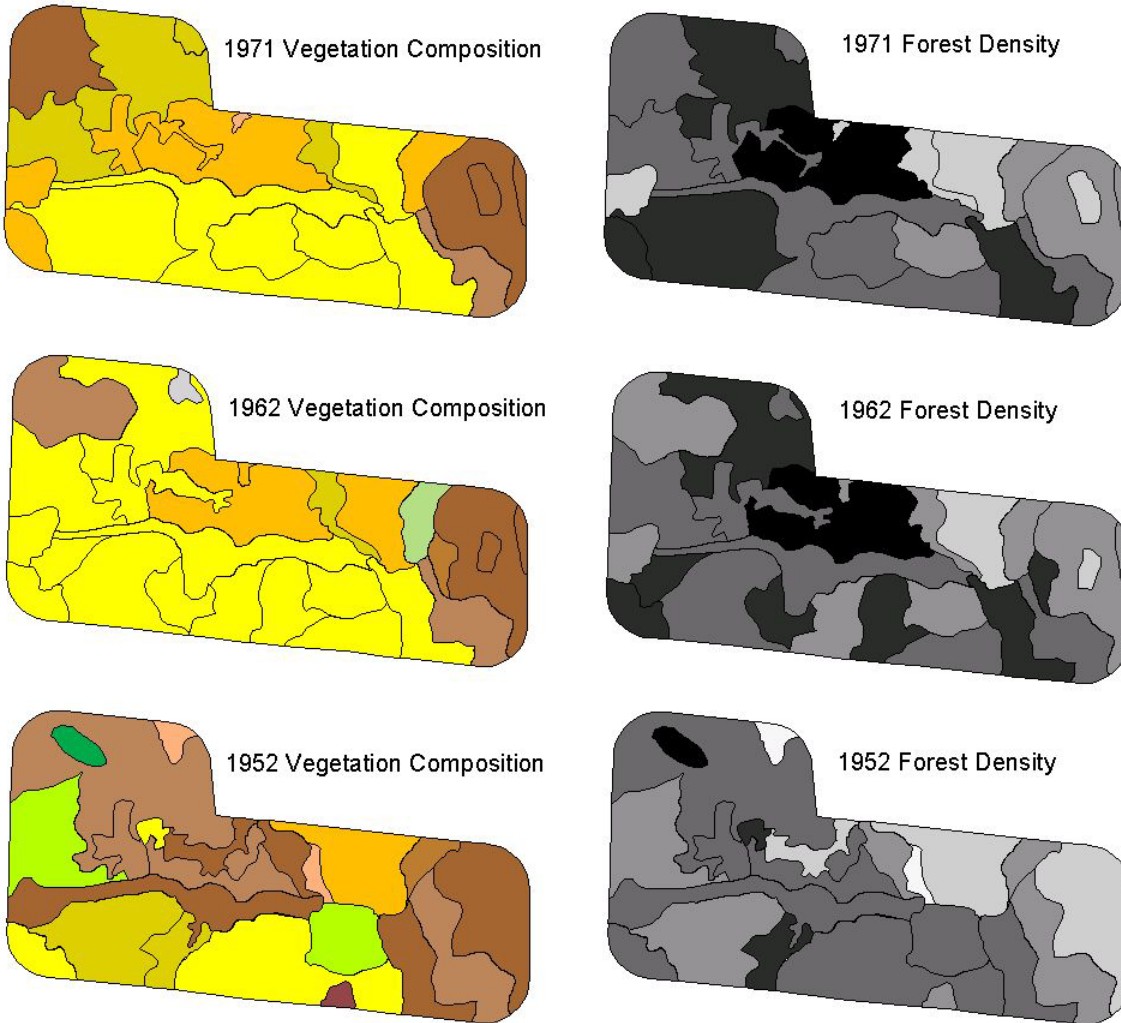
⁵ See Matthew Wacker, *Land Use and Vegetation Change on El Dorado County Rangelands: Implications for Rangeland Management*. M.S. thesis, Department of Environmental Science, Policy, and Management, UC Berkeley, 2002; available on-line at <http://www.cnr.berkeley.edu/~mwacker/docs/thesis.pdf>; see also David Saah, *Social and Environmental Change in the Sierra Nevada*. M.S. thesis, Department of Environmental Science, Policy, and Management, UC Berkeley

exceptions to this pattern are areas of recent wildfires, and areas where residential owners have logged portions of their land (often through selective logging), as well as areas immediately surrounding residential structures that are typically cleared of conifers. However, with the regrowth of conifer and hardwood forests, we also observe a decreasing diversity of other vegetation types. Other important observed changes include the expansion of improved road networks that fragment the landscape ecologically; however, our analysis also shows a simultaneous disappearance of older networks of logging and ranching roads. Similarly, the obvious addition of residential structures must also be viewed in light of evidence that many previous agricultural structures have been removed. Moreover, the *type of land use* associated with the presence of human-made structures is generally more ecologically important than the structures themselves. The types of land use associated with residential homes today is very different from the types of land use associated with the agricultural structures and farm houses that dominated in the 1950's. Thus, the appearance of new houses on large rural residential parcels may be less significant than the fact that these houses signal a new regime of land use.

Research has shown that more houses typically are associated with more disturbance of wildlife (for example, by the construction of fences; harassment and predation by domestic cats and dogs, and so on) and decreased biodiversity. However, the research generally does not differentiate between types of land use practices by residential owners or the *size* of residential parcels. For example, our study shows that there are many relatively large (10-40 acres) residential parcels where the impact of domestic activities (pets, etc.) may be relatively minor and whose owners practice active management of forests and vegetation to reduce fire hazards. Particularly on such larger parcels, the ecological impacts of residential use in comparison to other types of use (ranching, logging) appear less clear than most of the present scientific literature (which, again, tends to portray all residential development as ecologically harmful) suggests. For example, our study suggests that many rural residential owners allow stream-side ('riparian') vegetation to re-grow, resulting in significantly improved conditions compared to ranching and agricultural use, in which stream conditions are often severely harmed by cattle and erosion and pesticide and fertilizer runoff. However, it is also clear that some rural-residential owners, even on quite large parcels, may to some degree replicate some of the more harmful effects of ranching and agriculture. For example, the proliferation of small-scale vineyards may displace native vegetation and contribute to stream sedimentation and chemical pollution. Other possibly disruptive activities on larger residential parcels include the practice of building recreational ponds, which may alter local stream flow and ground water conditions. In short, the overall ecological impact of the rural-residential transformation in Nevada County is complex and defies simple conclusions. These 'big picture' ecological questions—namely, How do ecological impacts vary according to owner type and practices, or by parcel size?—go beyond the scope of this report. We can conclude with certainty only that the rural residential landscape will certainly expand in the future. What *kinds* of rural residential land uses are most ecologically benign or ecologically harmful, and which of these will predominate in the future thus represents a critically important question that deserves much greater attention.

Figures 9 and 10 illustrate one of the predominant types of change that occurred in the county during the rural residential transition. This 40-acre parcel is occupied by one single-family residence and has been used exclusively for residential purposes for more than 25 years. The black-and-white maps illustrate a dramatic increase in overall tree canopy between 1952 and 2000. The color maps illustrate a more subtle transition, with an overall trend from a landscape of mixed-hardwoods and conifer patches with moderate cover of shrubs or grass to a landscape increasingly dominated by conifer forest.

Figure 9:



Vegetation Classes

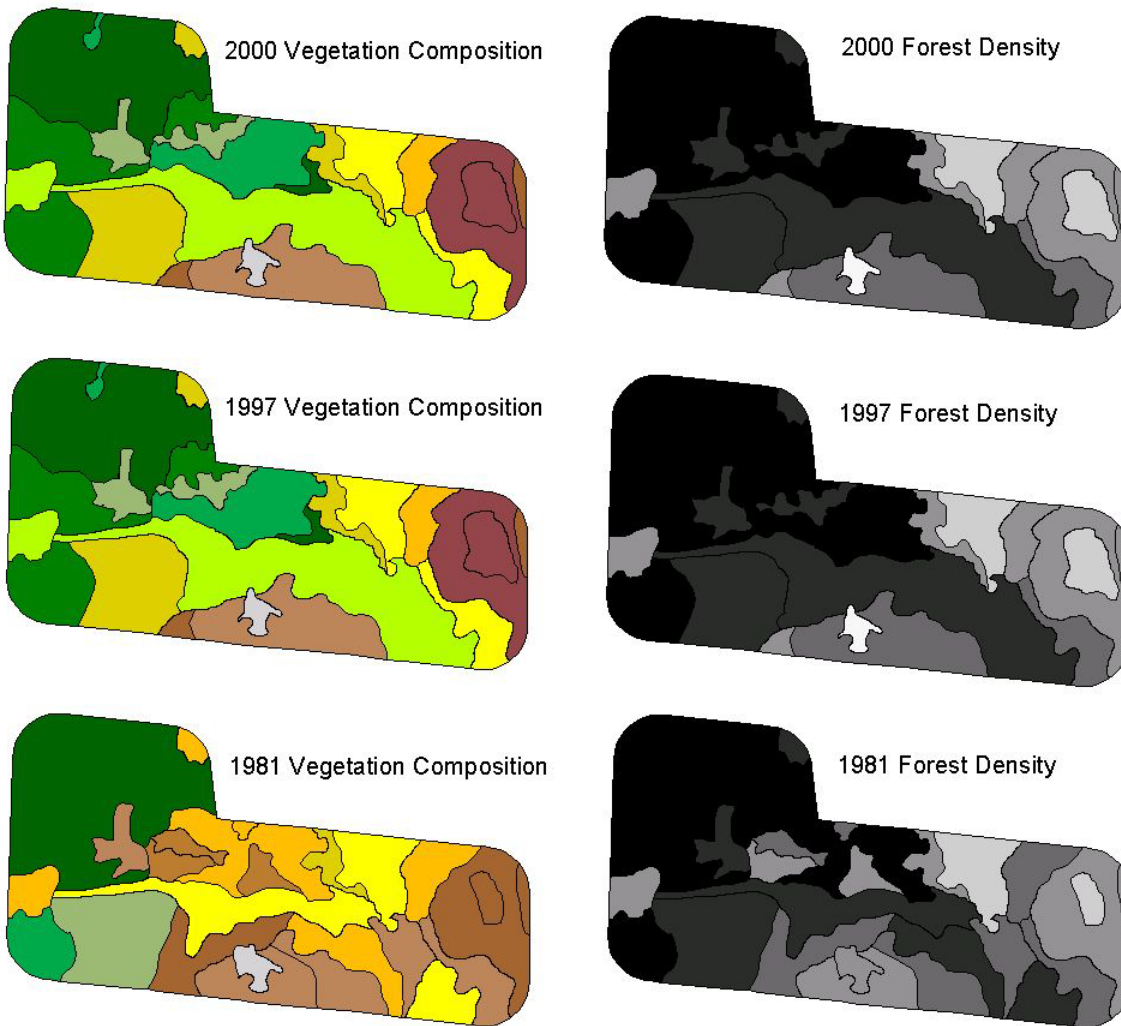
- Conifer canopy with <20% sub-canopy cover
- Conifer canopy with dense shrub
- Conifer canopy with moderate density shrub
- Conifer canopy with herb, sparse-no shrub
- Conifer canopy with herb/bare, sparse-no shrub
- Hardwood-conifer canopy with <20% sub-canopy cover
- Hardwood-conifer canopy with moderate density shrub
- Hardwood-conifer canopy with herb, sparse-no shrub
- Hardwood-conifer canopy with herb/bare, sparse-no shrub

- Hardwood canopy with <20% sub-canopy cover
- Hardwood canopy with moderate density shrub
- Hardwood canopy with herb, sparse-no shrub
- Hardwood canopy with herb/bare, sparse-no shrub
- No canopy, herbaceous, sparse-no shrub
- Developed

Forest Canopy Density

- 0%
- 1-5%
- 5-20%
- 20-50%
- 50-80%
- 80-100%

Figure 10:



Vegetation Classes

- Conifer canopy with <20% sub-canopy cover
- Conifer canopy with dense shrub
- Conifer canopy with moderate density shrub
- Conifer canopy with herb, sparse-no shrub
- Conifer canopy with herb/bare, sparse-no shrub
- Hardwood-conifer canopy with <20% sub-canopy cover
- Hardwood-conifer canopy with moderate density shrub
- Hardwood-conifer canopy with herb, sparse-no shrub
- Hardwood-conifer canopy with herb/bare, sparse-no shrub

- Hardwood canopy with <20% sub-canopy cover
- Hardwood canopy with moderate density shrub
- Hardwood canopy with herb, sparse-no shrub
- Hardwood canopy with herb/bare, sparse-no shrub
- No canopy, herbaceous, sparse-no shrub
- Developed

Forest Canopy Density

- 0%
- 1-5%
- 5-20%
- 20-50%
- 50-80%
- 80-100%

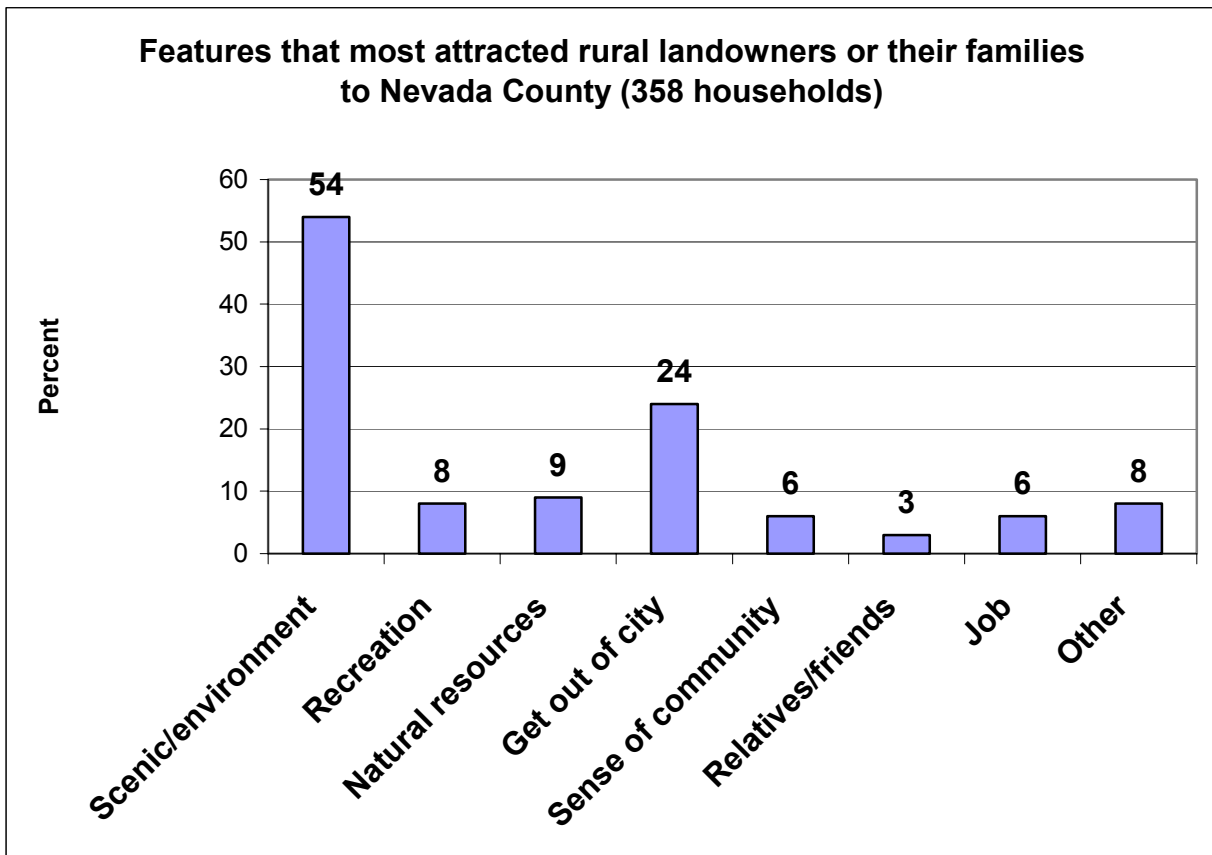
d. Landscape visions: what kind of landscape do rural owners want?

As most people in Nevada County are aware, and as our research confirms, the landscape of Nevada County has changed dramatically over the last few decades—and *it will continue to change*. Much discussion has taken place on the question of what kind of landscape Nevada County should have in the future. Whether passively (through failure to specify a particular vision) or actively (through public deliberation), choices will be made that will shape the future landscape. For that reason, it is important to understand the values that the people of Nevada County place on the landscape. The recent political firestorm surrounding the Natural Heritage 2020 program unfortunately seemed only to cloud our understanding of this important topic: what was intended as a process in which citizens could air their ideas about the future of the county instead became so heated with political rhetoric that little clear understanding on this important topic seemed to emerge.

Our research, however, does shed some light on this issue. In our survey of 358 rural landowners in western Nevada County, we asked people to tell us the most important things that attracted them to the county. First, and most clearly, the great majority of today's rural landowners (or their families in earlier generations) came to Nevada County in part precisely because they were attracted to the county's landscape. What particular aspects of the landscape they found most attractive and important is a more complicated question. As shown in **Figure 11** (next page), in our survey of 358 landowners the majority cited qualities of the landscape—its scenery, environmental qualities, and open spaces—(54 percent), recreational value (8 percent), opportunities for farming and other 'resource uses' (9 percent) as the most important reason they chose to migrate to the area. Together, these features that are directly tied to specific landscape qualities such as open spaces were cited by 71 percent of sample households as a "most important" reason for coming to the county. Another "most important" reason that many households migrated to the county was to "get out of the city" (24 percent). In follow-up interviews it became clear, however, that "getting out of the city" is at least indirectly tied to perceptions of the quality of the landscape (i.e. the 'pull' of the rural landscape is at least partly the flip-side of the 'push' to 'get out of the city'). Thus, together, 95 percent of the most important reasons that people migrated to Nevada County were directly or indirectly tied to the qualities of the landscape. Other important attractions included 'sense of community' (6 percent) and a desire to be near relatives or friends who live in the county (3 percent). Notably, only six percent of households cited a job as their most important reason for migrating to the county (many are retired or do not work: 32.9 percent of Nevada County households receive Social Security income, and 40.8 percent of adults are "not in the labor force"⁶). Thus, unlike many rapidly-growing counties, Nevada County's growth is primarily driven by quality-of-life values rather than economic opportunities. In the category of "other" (8 percent), important attractions included opportunities for investment, affordability, and a pleasant climate. (Note that the total number of 'most important' attractions is equal to 118 percent because many respondents identified more than one "most important" factor that attracted them to Nevada County—indicating that they considered several "most important" features as being of equal value.)

⁶ U.S. Census Bureau *QuickFacts*, Nevada County, California, 'Social Characteristics' <http://censtats.census.gov/data/CA/05006057.pdf#page=2> last accessed 1/20/03.

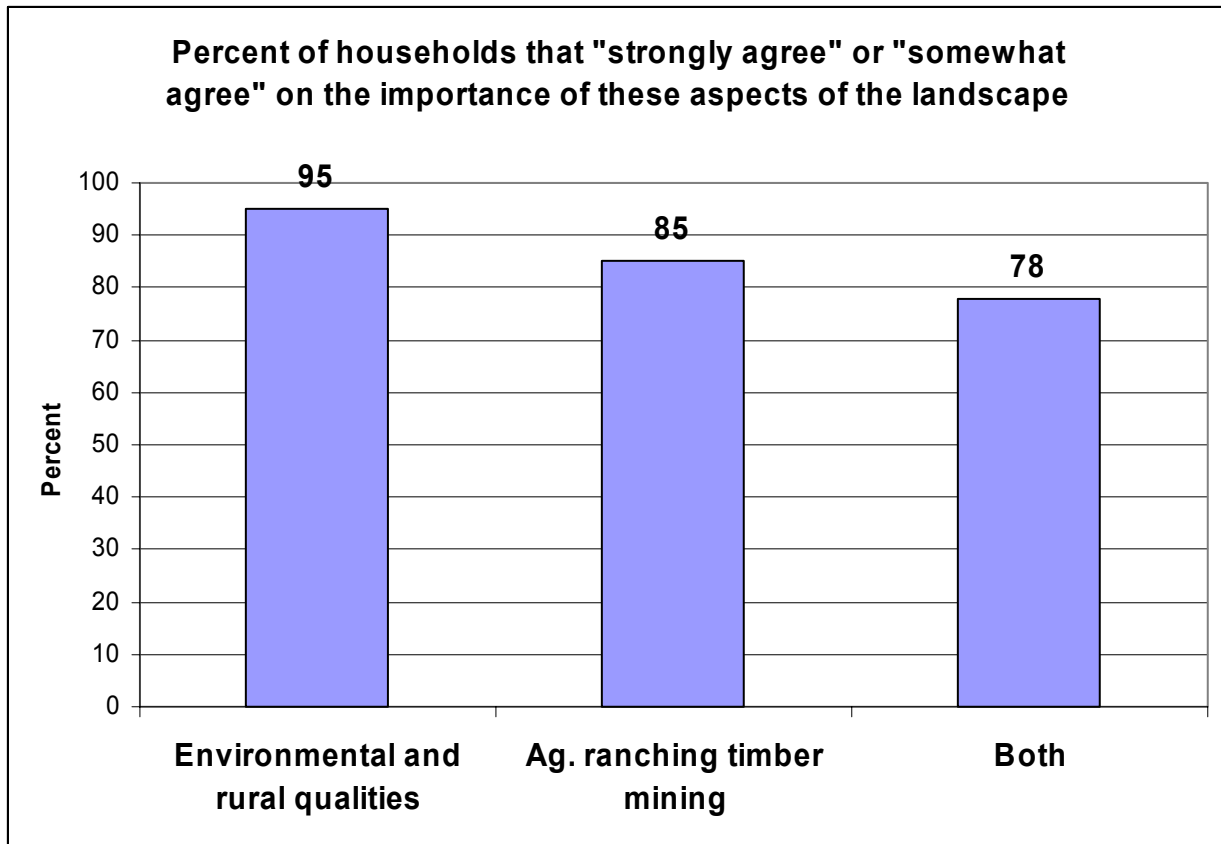
Figure 11:



While data on the factors that attracted people to Nevada County tell us what brought migrants to the county initially, these data do not specifically tell us what people want to see in the county's future. Virtually everyone in Nevada County understands that change will occur. What *kind* of change people want remains an important and inadequately researched question. Our own research on this question was limited. In the same survey of 358 households, we asked whether people value the county's "agricultural, ranching, timber and mining economy and culture" or its "environmental and rural qualities". The resounding answer was that people in Nevada County want *both*. As shown in **Figure 12** (next page), we find that 95 percent of respondents "strongly agree" or "somewhat agree" that the county's environmental and rural qualities are "very important". At the same time, 85 percent "strongly agree" or "somewhat agree" that the county's "agricultural, ranching, timber, and mining economy and culture" are "very important".

In the survey, these questions were somewhat vague and open to interpretation by the individual respondent. (This was a matter of necessity, as the greater the level of detail in a survey the fewer people are likely to take the time to respond.) However, a series of follow-up interviews was conducted with 26 households to seek clarification of the meaning of respondents' answers. On the question of environmental and rural quality, the meanings were relatively consistent and clear: most reported affection for 'wild' and 'open' spaces (generally meaning places where few humans are present) and repeatedly emphasized the desire to avoid the 'suburban sprawl' and congestion seen in places such as Auburn in Placer County. A few respondents objected, however, to the grouping of "environmental" and "rural" qualities, noting (correctly) that these should really be considered

Figure 12:

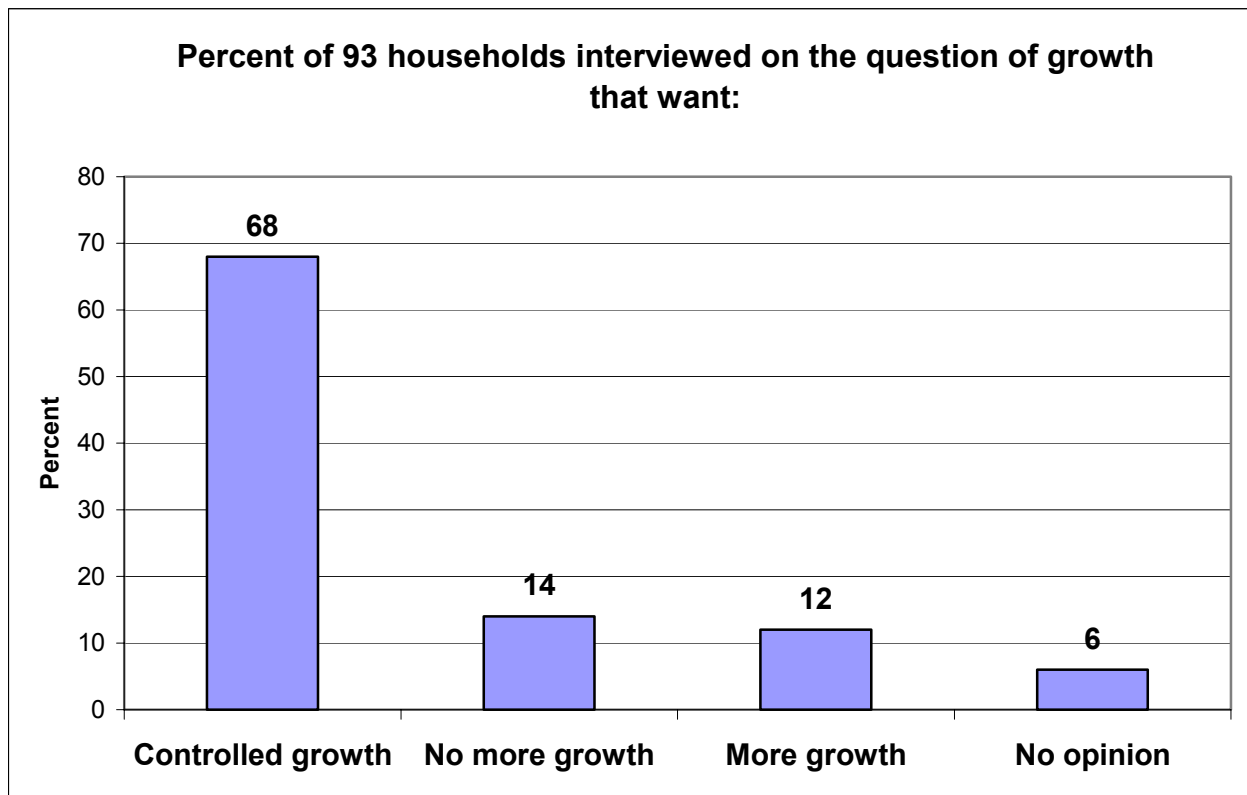


separately (although there was no indication that “environmental quality” and “rural quality” were considered incompatible). On the question of agriculture, ranching, timber and mining, however, respondents had more complex responses. The question was intended to broadly gauge support for the county’s diverse natural-resource based industries. Importantly, however, in follow-up interviews many respondents objected to the wording of the question because it grouped agriculture together with timber and mining. Many expressed strong support for agriculture but not necessarily for timber, and even less for mining. Many participants stated that they support agriculture in the county because it provides open spaces and scenic qualities that might otherwise be lost to development; it helps to preserve a sense of rural community and a ‘slower pace of life’; it is an important part of the history of the county; and many felt it was ‘unfair’ that farmers and ranchers, who generally arrived in the county earlier than most residential owners, should be displaced by residential development. Although the question did not refer to any environmental issues related to the natural resource economy, participants in follow-up interviews also volunteered mixed opinions about the environmental impacts of agriculture, with some viewing agriculture as generally compatible with responsible environmental management, and others expressing concerns. On timber production, many stated that they believe there is a future for timber production in Nevada County, even while expressing concerns about specific timber practices (especially clear-cutting). On mining, even those expressing strongest support for the natural resource-based economy in general expressed serious concerns about the environmental effects of mining.

What seemed most notable about the responses to our questions about support for environmental and rural qualities in comparison to support for the natural resource economy (agriculture, timber, and mining) is that the great majority of respondents see *both* of these aspects of the landscape as important. Unfortunately, much of the rhetoric surrounding land use in Nevada County has been framed in terms of the agricultural and timber economy *vs.* ‘environmentalists’. As shown in Figure 12 (previous page), our data indicate that 78 percent of rural landowners who participated in our survey see both of these as important to the county’s future.

Not only do a majority of those surveyed strongly support both environmental quality and agricultural activities (and to a lesser degree timber and mining), but they also tend to be united in the view that these desirable landscape features are threatened by a common enemy—runaway growth. In a series of in-depth interviews with 93 rural landowners (separate from our larger survey of 358 households), each household was asked whether they were in favor of “more growth”, “controlled growth”, “no growth”, or whether they had no opinion. As shown in **Figure 13**, the great majority (68 percent) reported that they are in favor of “controlled growth”.

Figure 13:



Many respondents observed that growth is ‘inevitable’ but emphasized that that they would hate for the county to end up looking like the urban and suburban places they left behind (this *includes* some long-time farmers and ranchers, many of whose families came to Nevada County early in the 20th century from areas such as the Santa Clara Valley when it became clear that there was no future for agriculture in those urbanizing landscapes). Many also observed that it was ‘unfair’ to ‘close the doors’ behind them, so they generally accept that growth will happen but often feel

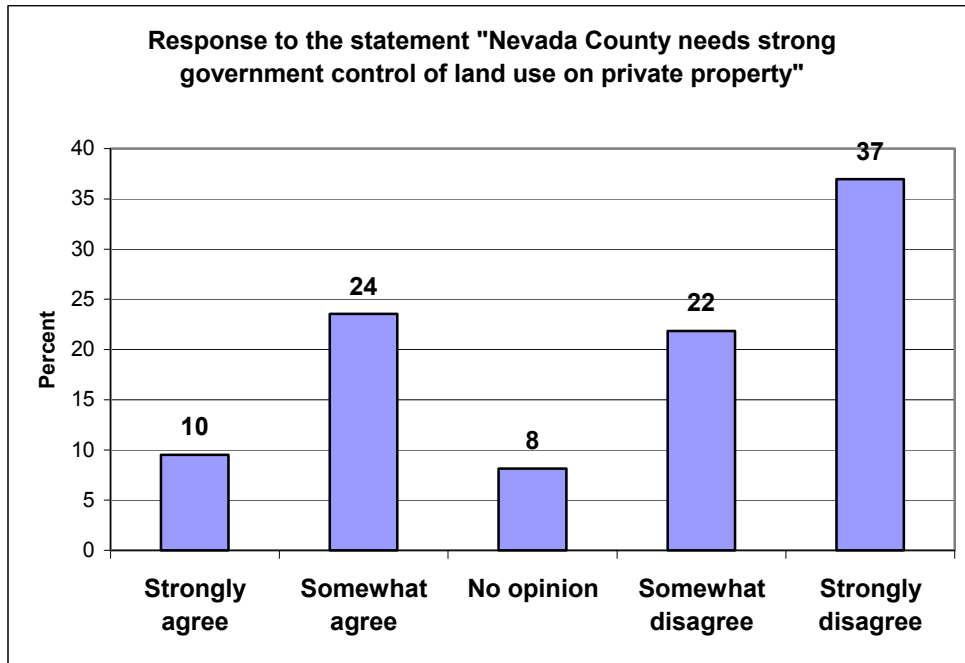
strongly that it should be regulated. However, the reasons for wanting to control growth are diverse. Some see advantages in growth such as easier access to shopping and lower prices, and believe that growth will enhance their property values and therefore increase the value of their ‘investments’ in their homes and property. However, these same landowners tended to express deep reservations about the capacity of the county to handle growth, especially the impacts on local infrastructure, such as excessive traffic on rural highways, and overburdened water supplies. Others advocate controlled growth for quite different reasons, emphasizing that while they perceive growth as inevitable, they want to protect the wild and rural ‘feel’ of the county. Many cite their personal experiences witnessing the ‘overdevelopment’ of their old home towns in what are now major urban areas of California and elsewhere. Others are more emphatic. Some 14 percent declare that they are in favor of stopping all growth in the county. Some declare, for example, that the county is being “destroyed” for the “almighty buck”, and others say they “don’t care what happens to land values... the county needs open spaces, not more ticky-tacky”. A nearly equal number—12 percent—however, see the other side of this issue and declare that growth is good for jobs and generally brings ‘conveniences’ to the county. Those who see a positive side to growth are often among those who are most concerned about possible infringements on property rights under policies of growth control. Supporters of growth also include many native-born or long-time residents of the county who observe, for example, that the county was ‘boring’ and ‘kids had nothing to do’ before the county grew. Finally, it may not surprise anyone in Nevada County to learn that on the topic of growth those who stated they have “no opinion” are by far the smallest category, at 6 percent.

In sum, the great majority of rural landowners who participated in our study appear to recognize that growth will happen and want its effects to be “controlled”. Minorities of roughly equal size either advocate or oppose growth in any form. Most, however, have mixed feelings. As one respondent poignantly observed, “We bought the land [in the 1980’s] because we liked the wildness and the remoteness. However... every development that brings civilization and population closer also raises the value [of our property], so we consider the investment factor but do not intend to sell—so there goes that argument! Clear as mud? That’s how we feel, too.”

e. Views of land use control

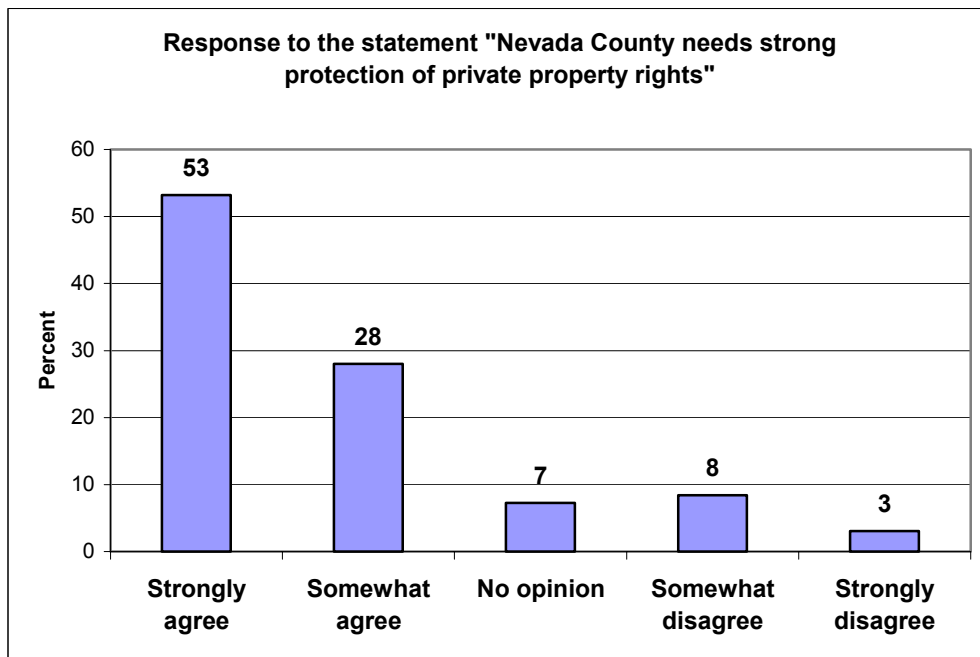
If people’s views about growth in general are as “clear as mud” (see above), the mud becomes thicker still when it comes to the question of how to control growth. Indeed, a remarkable inconsistency emerged in our research: while more than two-thirds of respondents in our sample (68 percent) report that they want to see growth “controlled”, feelings about land use controls in general tend to be highly negative. In our survey of 358 households, we asked whether respondents agree that Nevada County needs strong government control of land use on private property. The results (**Figure 14**, next page) clearly show that there is a great deal of hostility to government control, with a combined 59 percent either somewhat disagreeing or strongly disagreeing with the statement that the county needs strong controls on land use. A combined total of only 34 percent agreed with this statement, and as usual the smallest category was those citizens of Nevada County lacking an opinion.

Figure 14:



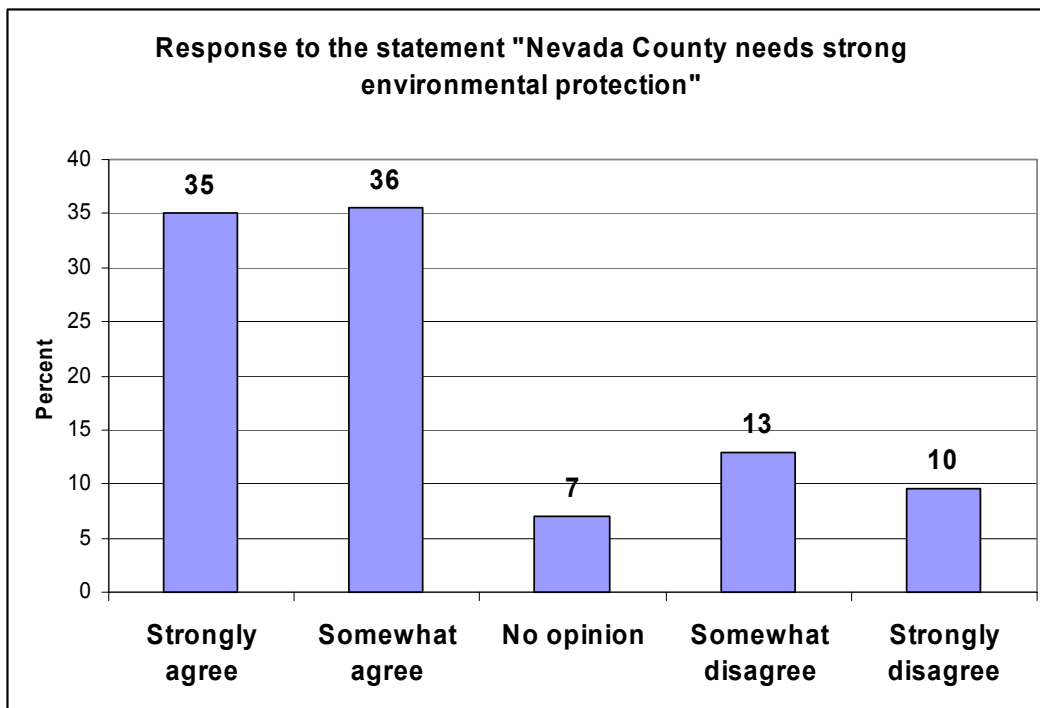
Participants were also asked to respond to the statement that “Nevada County needs strong protection of private property rights”, with results that seemed consistent with the generally negative view of government controls (Figure 15): by an overwhelming 81 percent, citizens of Nevada County agreed with this statement, and only 11 percent disagreed.

Figure 15:



These negative views of government control in general and the strong support for property rights are consistent with the strongly conservative ideological bent of the county. The Nevada County Elections Office, for example, reports that as of November 5, 2002, 46 percent of the county’s 60,451 registered voters were registered as members of the Republican Party, compared to 32 percent registered as members of the Democratic Party. The single other largest “party” (accounting for a far larger share than Independents, Greens, Libertarians, Natural Law, and other parties combined) is the category of voters identified as “decline to state”—at 16 percent. The results of recent elections (as well as our interviews) suggest that these “decline to state” voters tend to share many of the generally conservative views of the dominant Republican Party (for example, in the November 5, 2002 supervisorial election in District 4, 55 percent of voters supported the conservative, anti-NH 2020 candidate—suggesting that if voters from both parties voted in equal numbers, and even assuming that nearly all Republicans voted for the conservative candidate—which is unlikely, at least 9 percent of the winning conservative candidate’s support came from outside the Republican party). In short, Nevada County is overwhelmingly ideologically conservative. So it should come as little surprise that most respondents, when asked *in the abstract* where they stand on government control and property rights, tend to take conservative positions. A notable finding of our study, however, is that when respondents are asked more specific questions pertaining to *specific* types of government controls or *specific* issues relating to property rights, their views take on a much more liberal, or at least *conservationist* (rather than ‘conservative’), bent. **Figure 16**, for example, illustrates responses in our survey group to the statement: “Nevada County needs strong environmental protection”. Considering the strong conservative tilt of the county, it is notable that a combined 71 percent of respondents either somewhat or strongly agreed with the statement that the county needs strong environmental protection, and only 23 percent disagreed.

Figure 16:



Still more remarkable, 62 percent of those respondents who stated that they strongly agree with the statement that Nevada County needs strong protection of property rights *also* agreed (somewhat or strongly) with the statement that Nevada County needs strong environmental protection. Similarly, 46 percent of respondents who stated that they strongly disagree with the need for strong government control of land use on private property *did* agree that Nevada County needs strong environmental protection. To some extent these views can be reconciled: a few, for example, argue that environmental protection can be achieved without government involvement. However, these are a minority. A larger proportion recognize a degree of contradiction in their opinions. In follow-up interviews to our survey, when respondents who indicated strong support of property rights and rejection of government controls *in the abstract* were asked whether they support *specific* forms of government control to protect the landscape and its environmental and rural qualities, many acknowledged strong support for specific government interventions. For example, there tends to be very strong support for minimum parcel sizes and zoning restrictions even among otherwise steadfast conservatives. In short, our study suggests that when it comes to protecting the landscape, conservatives in Nevada County are often *conservationists*; or, perhaps, they are more conservative in ideology than in practice. To some extent this can be seen, for example, in the November 2002 county supervisors elections, in which it is notable (individual personalities aside) that in the Third District a ‘slow-growth’ candidate who had been depicted by opponents as (among many worse things) an ‘environmental extremist’ lost by a razor-thin 19 votes in a district that is 43 percent Republican and 35 percent Democratic. In light of the enormous amount of ideological rhetoric surrounding the election, this suggests that at least some conservatives vote in favor of strong land use controls regardless of their broader ideological views. More broadly, this suggests that rural land owners are in general agreement on the importance of protecting environmental and rural qualities, and that this view transcends party affiliations or ideologies and has become an enduring feature of the cultural and political landscape of the county.

IV. Conclusions

With enormous waves of migrants coming to the county since the 1960’s and 1970’s and continuing (albeit at a slower pace) today, Nevada County has witnessed a ‘second Gold Rush’ (this time based mainly on landscape qualities and residential use) that has the potential to transform the county’s landscape and culture as dramatically as the Gold Rush of 1849. In this study we examined parcel maps of the county from the 1950’s and compared them to parcel maps today, and found a dramatically fragmented landscape. What we did not expect was the *scale* of the transformation—for example, the decline of the median landholding size from 550 to 9 acres. This decline, however, is only one reflection of a more profound change from a landscape dominated by natural resource-based activities (ranching, timber, and mining) to a landscape now overwhelmingly dominated by rural-residential land use. As we have described in this report, the full impact of the transition remains, in important respects, invisible today because much of the ‘parcelization’ will only become visible as absentee and resident landowners gradually develop properties purchased years ago but that remain vacant today. Moreover, the future of the few remaining large-scale farms and ranches and other open spaces that today provide the ‘rural feel’ that most residents cherish is in great jeopardy. These changes pose an enormous challenge to the very landscape qualities that brought the great majority of Nevada County’s rural landowners to the county, and which the majority of today’s residents view as important features of the landscape that must be protected. As indicated in the abundance of parcels marked in red in our ‘potential development’ map (Figure 6), enormous

amounts of land in the county remain available under current zoning rules for further development. While we cannot predict precisely when ‘build-out’ will occur, using zoning data we can fairly precisely estimate the number of new residents who will occupy the county if current trends continue: about two-and-a-half times the number of residents today. In this scenario, much of the ‘rural feel’ that most Nevada County residents cherish will almost certainly be lost.

However, a ‘suburban’ future in Nevada County is not inevitable: our research clearly indicates that political ‘liberals’ and ‘conservatives’ share much more in common than recent politics would suggest: *both* are deeply concerned about conserving the rural and environmental qualities that make the county a special place to live. In a county that clearly cherishes independence and property rights, protecting these qualities will require innovative leadership and probably difficult choices. But our research shows that even the strongest opponents of ‘government control’ *in general* tend to see value in *specific* protections if they are well chosen. Yet at the moment the county is clearly headed toward a future that neither political conservatives nor liberals want. If the county does not alter direction, ‘build-out’ is the future the county will, effectively, have chosen. Our research suggests that this is a choice that is unacceptable to the great majority of rural landowners. The county is at a crossroads, and the future of the landscape is not something that will ‘happen’: it is a choice the county will make today.