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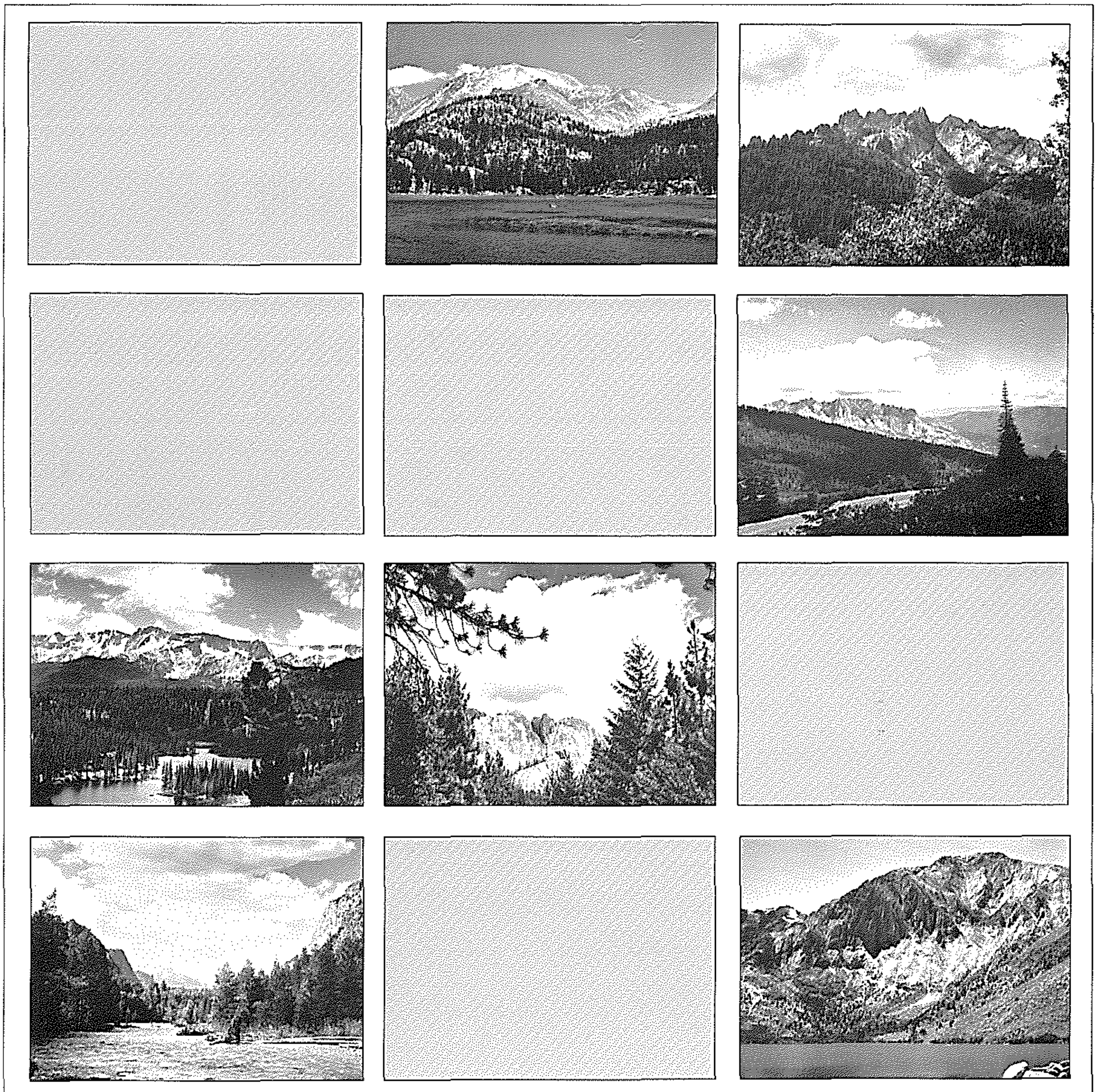
Searching for the Value of a View

Arthur W. Magill **Charles F. Schwarz**



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Assessing the trade-offs between market and nonmarket products of wildlands poses a major problem for natural resource planners and managers. Scenic quality is a resource that is not quantifiable in monetary terms. To determine if market values of real estate offering views could define relative dollar values for physical dimensions and objects in views, they were correlated to real estate prices for 13 recreation subdivisions in California wildlands. View variables were related to lot values in each subdivision, but the specific view variables related to value varied greatly among subdivisions. Field experience and discussions with realtors and land appraisers suggested a strong relation between views and property values. To help identify more widely applicable means for relating views to lot values, natural resource professionals rated views for scenic quality using a five point scale. View ratings showed little agreement, however, with market value rankings established by realtors. Future research could consider having the public and realtors sample rate landscape views, and having realtors assign market values to the views. These views and values might then serve as benchmarks to guide assessment of view values.

Retrieval Terms: esthetic values, view values, real estate, scenic quality, nonmarket value, trade-offs, view assessment, dollar values, landscape views

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Assessing trade-offs between market and nonmarket products of wildlands poses a major problem for natural resource planners. For example, timber and mineral production can be appraised readily in dollars, but scenic quality is not quantifiable in monetary terms. Regardless, a standard that compares the value of economic products and scenic resources is needed.

Situations do exist where scenery has market value. An example is real estate, where prices for lots are commonly influenced by the presence of a view. With that in mind, we posed the following question: Can the market values of real estate offering views define relative dollar values attributable to the physical dimensions and objects in views?

To answer that question, properties of landscape views were correlated to real estate prices for 13 widely separated recreation subdivisions in California wildlands. The view properties were described in terms of physical landscape features (such as mountains, valleys, and lakes), vegetative types (such as conifer or hardwood forests and meadows), and various constructed features (such as roads, powerlines, and buildings) that might influence view quality. These view variables were related to lot values in each subdivision.

Each subdivision had a different set of view variables most strongly related to lot prices. Consequently, no consistent pattern was revealed to universally define relative dollar values for all subdivisions. Therefore we could not identify a set of view variables useful for defining relative dollar values for views in general.

Widely varying prices of lots with about the same view were predominantly responsible for the failure of the regressions to find consistent patterns. Also contributing to variability were sample sizes too small for most subdivisions, total variables too large for the sample size, failure to consider variables that confound the analysis (such as golf courses, beaches, highways), numerous indicator variables (either present or absent, but not quantitatively measured), variables that described conditions other than views (such as blocked or filtered view, near or far view), and the inability to compare subdivisions even when they were relatively near each other (geographic variability).

The results suggest that landscape components cannot be used as indicators of the value of views. That is, the value of a view cannot be predicted from the relation between asking or selling prices of view lots and the land, water, and vegetative elements that define landscape character. However, a strong relation between views and property values were suggested by opinions of realtors and land appraisers, by the distribution of calculated view value ranges derived from subdivision lot prices, and by our opinion of the relative quality of views at each area.

To help identify more widely applicable means for relating views to lot values, natural resource professionals rated views for scenic quality based on a five point scale. View ratings showed little agreement, however, with market value rankings established by realtors. The lack of agreement was thought to be related to their differing perspectives: resource professionals evaluated views solely for scenic quality, but realtors were also influenced by other values. Realtors establish prices in relation to poor winter access or proximity to a golf course, shopping center, ski area, boat launching ramp, beach, lake shore, or open space.

A different approach is suggested for future research to establish relative values for landscape views. People generally agree on the ordering of the scenic quality of natural scenes. Therefore, public and realtor samples could rate photographs of landscape views that are typical of landscapes surrounding subdivisions, according to their preference for the quality of the views. Next a panel of realtors could establish a price premium range for each photographed view for each subdivision. The resulting views and values could then serve as indicator or "marker" scenes for use in identifying and setting values for "like" scenes at other locations. This approach might provide the foundation for relative dollar values of landscape views, for use in evaluating trade-offs between market and nonmarket uses of wildland resources.

INTRODUCTION

Maintaining or improving renewable resource productivity and permitting cost-effective extraction of resources without significantly damaging scenery are basic resource management goals on federal lands. Meeting those goals is seriously hampered by the lack of a basis for assessing and comparing market and nonmarket natural resource products: generally accepted dollar values are not available for intangible benefits such as scenic quality. Adding some urgency to the perplexing problem, Congress has directed federal resource agencies to plan and manage natural resources in a cost-comparative manner by making full use of real-dollar values or, alternatively, by developing and using relative indices (88 Stat. 476, as amended, Sec. 4(2); 16 USC 1602(2); 36 CFR 219.5(g)(9)(ii)) (U.S. Dep. Agric., Forest Serv. 1983).

But, how can you assess trade-offs between timber or mineral production and the protection of scenery? Timber and mineral production can be appraised readily in dollars. But can comparable units of value be attributed to the powerful beauty of Yellowstone Falls in Wyoming or the pastoral treasure of the meadow surrounding Grass Lake at Luther Pass in California?

Initially, the task may seem inherently impossible. Theoretical economic approaches for relating the market and nonmarket values of natural resources have not been effective, have produced conflicting results, or have been too complex for practical application (Arthur and others 1977).

Situations do exist where scenery has market value. For example, prices for subdivision lots are commonly thought to be influenced by the presence of a view. However, some values are associated with the appearance or condition of lots, not necessarily the view seen from them. Several studies have shown that people prize land for its amenity value (Hammer and others 1974, Gold 1977, Payne and Strom 1975). In Massachusetts, for example, homes on lots with trees were valued from $3,000 to $7,000 more than those on lots without trees (U.S. Dep. Agric., Forest Serv. 1975). In a study that did consider the view from a location (Yuill and Joyner 1979), assessment of visual attractiveness differentiated extensive, moderate, and limited views; the preferred value in relation to obstructability of views from various observer positions; and view limitations attributable to vegetation. Values ranged as follows:

- $5,600 to $7,600 per acre for long panoramas atop moderately wooded slopes
- $2,000 to $5,000 for "impressive but less significant" views
- Less than $2,000 for no view to moderately attractive views.

These values, however, were associated with the *extent*—not *content*—of views.

Realtors regularly sell view property for a higher price than equivalent lots without views. For example, the *San Francisco Examiner* (1983) reported that in Belmont, California, views of hillsides increase price by $25,000 while views of San Francisco Bay can add $50,000! Clearly, people pay large premiums for better views; therefore, scenery possesses monetary as well as intangible values. We concluded that the sale price of real estate with views of varying quality might be related to the landscape components comprising views. We anticipated that the relationship might contribute to establishing monetary values for scenery—a resource traditionally considered an intangible commodity.

This paper reports a study we began in 1982, to estimate relative dollar values for landscape views. We had four goals: to isolate that portion of asking or selling prices for lots that were attributable solely to the quality of views, to identify the relative market value for different types and qualities of landscape views, to correlate landscape views of established market values with similar scenes on public wildlands, and to establish relative monetary values along the scenic quality gradient of wildland landscapes.

METHODS

Our first task was to determine the criteria that realtors and land appraisers use to establish real estate prices in relation to view quality. However, information from the Alameda County Assessor's Office, the California Real Estate Department, and conversations with private realtors and appraisers, made it clear that such criteria did not exist. Premiums charged for views are, quite simply, subjective judgments. The portion of value attributed to view is intermingled with other factors that influence market value rather than treated as a discrete variable.

Study Areas

California has many recreational, or second-home, subdivisions scattered throughout wildland areas. Generally, these subdivisions were established and most lots sold about 20 years ago. However, home construction has been quite slow, so many vacant lots are for resale. Typically, lots are sold by local realtors because the developers, with exceptions, completed their sales promotions long ago. These remote subdivisions provided excellent subjects for our research.

To locate subdivision lots with views approximating the scenery on federal lands, we contacted realtors at various locations, examined the subdivisions, and selected 13 areas for a general survey:

- *Sea Ranch*, located on the Pacific Ocean about 110 miles north of San Francisco, provides forest and grassland views as well as spectacular ocean views.
- *Lake Almanor*, the most northerly site, is about 50 miles east of Red Bluff, California. Views are of mixed-conifer forests, some mountains, and the lake.
- *Northstar* and *Tahoe Donner*, north of Lake Tahoe, and east and west, respectively, of Truckee, California, provide forest and mountain views. Grassy plains contribute to some views at Northstar.
- *Incline Village*, on the east shore of Lake Tahoe, in Nevada, has spectacular views of the lake and surrounding mountains.
- *Mammoth Lakes*, located 40 miles northwest of Bishop, California, has magnificent views of the eastern escarpment of the Sierra Nevada and the broad expanse of Round Valley.
- *Pollock Pines*, about 15 miles east of Placerville at Jenkinson Lake; *Big Trees Village*, about 60 miles east of Stockton near Calaveras Big Trees State Park; and *Pine Mountain Lake*, at Groveland, California, about 45 miles east of Modesto, are all located on the west slopes of the Sierras, with views of mixed-conifer forests and the distant Sierra crest.
- *Yosemite Lakes Park*, about 40 miles north of Fresno, has views of the dry Sierra foothills, where digger pine and oak predominate.
- *Pine Mountain Club*, in a small valley about 25 miles west of Gorman, in southern California, is an open meadow that integrates with pinyon pine then ponderosa pine as elevation increases.
- *Lake Arrowhead* and *Big Bear Lake*, nestled on the San Bernardino Mountains about 15 and 30 miles, respectively, north of San Bernardino, have views of a lake and surrounding coniferous forest.

Comparing Views and Prices

Realtors at each study area initially were asked to identify lots with and without views where the only difference in price was that attributed to view. They were asked also to provide selling prices, asking prices, or estimated market values for the lots.

We originally planned to compare views and prices of view and nonview lots. Nonview lots, as interpreted here, have views restricted to the near foreground; for example, in a forest where only nearby, surrounding trees are seen or where structures block the view. View lots, by contrast, could have views that varied considerably. Often, however, only a few nonview lots were available in a subdivision, so similar lots with poor views had to be paired with lots with better views. This pairing on the basis of view/nonview was, we decided, too arbitrary. Price seemed more related to variations in the quality and extent of views, not their presence or absence. Subsequently, we asked realtors to suggest lots ranging from no view to best available view, and we then analyzed the range.

View content was described in terms of physical landscape features such as mountains, valleys, and lakes; vegetative types such as conifer or hardwood forests and meadows; and various constructed features such as roads, powerlines, and buildings that might influence view quality. In addition, observer positions are:

Inferior (observer looks up)
Normal (observer is level with view)
Superior (observer looks down)

View composition types are:

Panoramic (wide, unobstructed views)
Feature (a dominant or distinctive object)
Enclosed (stongly defined, contained spaces; e.g., a meadow surrounded by trees)
Focal (landscape elements focus attention; e.g., trees to the right and left focus attention straight ahead)
Canopied (under a forest canopy)

View distance zones are:

Foreground (1/4 up to 1/2 mile)
Middleground (1/2 to about 5 miles)
Background (over 5 miles).

The horizontal and vertical extent, in degrees, of a view was estimated, and existing or potential view obstructions were noted.

Expected Relationships

Increased components in a landscape view were expected to influence that portion of lot price attributed to view. But, components may become too numerous, chaotic even, and the value may actually decrease. Moreover, view value was expected to increase in proportion to horizontal and vertical degrees of view. Price also may be influenced by observer position as well as by depth of view (viewing distance). We also wanted to know how Litton's (1968) composition types might influence the price assigned to views.

We expected that certain man-made elements (roads, buildings, golf courses, or ski areas) and natural view obstructions (existing trees or trees growing into views) would influence view values. Consequently, variables had to account for potentially negative influences, that is, views blocked, interrupted, filtered, or narrowed by natural or constructed impediments. In an *interrupted view*, trees or buildings destroy the continuity of a relatively wide view. A *filtered view* is seen through tree stems or foliage not dense enough to block the view. A *narrowed view* is greatly limited in width by trees, rocks, or buildings, directing the line of sight down a corridor. *Unobstructed views*, with no potential for becoming blocked, were termed "unblockable." Shoreline and golf course frontage lots were expected to have view values confounded by location value and, therefore, were not included in the samples.

Analyzing Data

Field data were analyzed using the regression model in the MINITAB Statistical Computing System (Ryan and others 1982). The general regression equation is

$$Y = b_0 + b_1X_1 + b_2X_2 + ... + b_kX_k$$

where

Y = price of a lot

b_0 = value attributed to a lot without a view

b_kX_k = value contributed by particular view components

The dependent variable "price" represented the selling price, asking price, or estimated market value of lots. Selling price was used over asking price whenever both were available. Estimated market value applied only to Sea Ranch. The independent variables *horizontal view* and *vertical view* were recorded in whole degrees. All other independent variables were nominal measures, analyzed as indicator or dummy variables, i.e., present or not. They define the slope of a regression line by the change between only two points—zero and one.

A screening routine determined which of 66 view variables seemed to influence lot prices the most. Variables for each subdivision were divided into sets of 2 to 5 dissimilar variables, depending on the size of a subdivision sample. Regressions were run against lot value using two sets at a time, until all possible combinations were tested. Variables with statistically significant T-ratios (coefficients for variables divided by their standard deviation) were regrouped and rerun until the best regression equation was found for each subdivision. "Best" equations were determined by the smallest standard deviation about the regression line and the largest R-squared value.

RESULTS AND DISCUSSION

View Variables

Each subdivision had a different set of view variables most strongly related to lot prices (*table 1*). Consequently, no consistent pattern was revealed to universally define relative dollar values for all subdivisions. We even anticipated that variables would be replicated for subdivisions in the same geographical area (similar land, water, and vegetative components), but that was not the case. Given the inconsistent results, we could not identify a set of view variables useful for defining relative dollar values for views in general.

Only half of the independent variables descriptive of landscape views contributed to one or more of the best equations. Of those 33 variables, 30 were statistically significant for at least one subdivision. *Mountain range* had the greatest frequency of significant positive coefficients, occurring in the formulas for Lake Almanor, Big Trees Village, Pine Mountain Lake, and Tahoe Donner. Four other variables were significant for three subdivisions, but not all had positive influences. *Horizontal view*, a quantitative variable, had negative coefficients (they reduced the relative dollar value) for Incline Village and Tahoe Donner; *mountain peak* was negative for Mammoth Lakes; *interrupted view* was negative for Pine Mountain Club and Sea Ranch; and *trees* (a constraint on views due to trees) was negative for Mammoth Lakes. The frequency of occurrence for all other significant variables was two or less.

The variable *conifers* was constant in eight cases; *observer position normal, blue ocean, trees,* and *hardwoods* were constant for at least one subdivision. Variables that are essentially constant cannot be evaluated by regression analysis and were automatically removed from the equation; however, such variables may still be important components of a view. Also, *valley* and *reservoir* were highly correlated with other variables for three subdivisions and therefore were omitted by the regression process.

We expected that the four indicator variables *mountain peak, meadow, hardwoods,* and *conifers/hardwoods*, and the interval variable *horizontal view* would have a positive influence on view value. But their influence was, for the most part, negative. One logically expects a panorama of snowy mountains to contribute value to the view, not detract from it! It seems equally logical for powerlines and other functional objects (the variable *industry*), discontinuous or interrupted views (*interrupted*), and *trees* that interfere with views to have negative influence because they do not contribute to view quality. Yet, these variables had a positive influence in several cases. These unexpected results may have been caused by interactions with other variables in the equations. Sometimes when regression variables are correlated, their signs may seem illogical. Such results may be mathematically reasonable, but they are difficult to interpret (Weisberg 1980). Further analysis of landscape view components was not deemed necessary, or potentially fruitful.

Lot Prices and Sample Sizes

Widely varying prices of lots with about the same view were predominantly responsible for the failure of the regressions to show consistent patterns. Also contributing to variability were sample sizes too small for most subdivisions, total variables too large for the sample size, failure to consider variables that confound the analysis (underspecification), numerous indicator variables (discontinuous measures), variables that described conditions other than views, and the inability to compare subdivisions even when they were relatively near each other.

We thought that samples from the 13 subdivisions could be combined and that the resulting sample size of 336 would be sufficient for the analysis. The first samples were 6 lots at Yosemite Lakes. Samples at other subdivisions ranged from 8 at Big Bear Lake to 40 at Incline Village, and escalated to 129 lots at Sea Ranch. However, the considerable geographic and market diversity between subdivisions eliminated the possibility of combining samples. Land forms, vegetation, and climate varies greatly, even between proximate subdivisions. For example, the dry, flat, sagebrush plain backed by distant mountains, seen from some lots at Northstar, commands different view variables than the lake-dominated, mountainous scenery at Incline Village, only 30 minutes away. Moreover, lake views of

Table 1—*Significant variables in "best" regression equation for each subdivision*

Subdivisions	Coeff.	SD Coeff.	SD Regres.	Relative value contributed to the view value by each variable — *Dollars*							
Almanor n = 21 R-sq = 61.7 pct	24,367	2,097	8,200	Horizontal degrees 58	Mountain range 8,581	Reservoir 10,533	Background -7,596				
Arrowhead n = 16 R-sq = 97.1 pct	69,500	5,524	11,000	Mountain 50,355	Barren 55,500	Trees -32,605					
Big Bear n = 8 R-sq = 77.5 pct	25,715	4,176	13,100	Lake 15,095	Foreground 17,095						
Big Trees n = 10 R-sq = 52.3 pct	15,250	1,988	5,600	Mountain range 6,417	Narrowed view -8,667						
Incline Village n = 40 R-sq = 61.0 pct	58,090	2,785	21,800	Horizontal degrees -397	Vertical degrees 597	Panoramic view 26,356	Interrupted view 16,612	Unblocked view 25,377			
Mammoth Lakes n = 21 R-sq = 62.2 pct	422,074	30,931	67,100	Mountain peak -81,791	Structure -75,185	Industry 130,338	Blocked view -87,469	Trees -64,758			
Northstar n = 16 R-sq = 62.9 pct	68,172	807	3,900	Panoramic view 3,817	Reservoir 2,351						
Pine Mtn. Club n = 11 R-sq = 72.2 pct	10,860	2,268	7,300	Inferior position 14,200	Grass 9,860	Interrupted view -6,580					
Pine Mtn. Lake n = 15 R-sq = 73.8 pct	10,164	1,137	5,600	Hills 3,923	Mountain range 7,528	Hardwoods -9,087					
Pollock Pines n = 15 R-sq = 73.6 pct	24,167	5,728	19,800	Feature view 43,333							
Sea Ranch n = 129 R-sq = 48.7 pct	30,000	7,503	26,000	Superior position 20,387	Hills 21,811	Surf 10,879	Conifer/ hardwoods -39,641	Middle-ground-2 -12,833	Interrupted view -10,105	Interrupted view two 18,703	Unblocked view 24,267
Tahoe Donner n = 28 R-sq = 96.1 pct	10,725	2,955	4,900	Horizontal degrees -47	Mountain peak 7,184	Mountain range 6,911	Lake 51,199	Meadow -55,078	Brush 12,411	Trees 12,794	
Yosemite Lakes n = 6 R-sq = 99.7 pct	13,250	250	710	Conifers 14,500	Industry 7,450	Narrowed view 7,750					

similar quality exist at Lake Almanor and Lake Tahoe, but Lake Almanor is more remote from cities, that is, sources of buyers. Less demand, therefore, leads to lower prices at Lake Almanor, though other factors also contribute. As a consequence of geographic and market variability, lots for each subdivision could not be combined for analysis. Variability of results would have increased even more had the samples been combined.

Generally, the sample size should be at least three times the number of variables plus 20. If all 66 view variables had been represented in any subdivision, then the sample size should have been 218 lots. Thus, the sample size indicated by the 23 view variables recorded for Yosemite Lakes Park should have been 89 lots (not 6), and the 45 variables for Sea Ranch indicate it should have had 155 lots (not 129). More lots and fewer variables may have improved our results. However, increasing the sample size could also introduce more view components which, in turn, could introduce greater variability.

Problem Variables

Variability is also increased by underspecification, that is, the failure to consider variables that tend to confound the problem. Three groups of variables can be identified with our study: personal, view, and extraneous. Personal variables are the differences between more than one definition or understanding of landscape components. For example, two people may differ over what constitutes hills or a mountain range. Such fine differences and the resulting influence exerted on variability were not considered in the study design. View variables are those elements sampled in the study. Extraneous variables are not used in the study, but may influence lot price and view value. Examples of extraneous variables include proximity to a golf course, ski area, school, or market; highway or industrial noise; high winds, seasonal access, controlled entry, or difficult construction; and lot marketing influences. Such were considered extraneous to off-lot views and were not included in the analysis.

Included were several variables that probably were inappropriate because they were either not a component of (not *in*) the scenes examined or were more precisely described by other variables. Variables that described the status of a view (blocked, unblocked, filtered, or interrupted) and the components of that status (buildings, future building, trees, or tree growth) did not describe the contents of a view. These variables described view extent and continuity (existing or future) but did not contribute to a scene; that is, how a view was seen, not what was seen. Our intent was to identify variables that contributed, rather than detracted, view value. Although such variables may influence a prudent buyer's assessment of a lot's worth, they necessarily complicate analysis.

Panorama, feature, enclosed, focal, and *canopied* were the variables used by Litton (1968) to provide a visual framework for landscape descriptions and analysis. While they indeed describe the spatial composition and organization of landscape components, we should have perhaps excluded them since they duplicate other more precisely measurable variables. *Panorama* and *focal* view may in large part be described by our *horizontal view* variable. The variable *feature* does not identify a specific object in a landscape, whereas features are specified by variables such as *lake, mountain peak*, and *meadow*. In addition, the compositional framework variables do not necessarily describe the same landscape condition. For example, *panorama* and *focal* broadly describe viewing situations, while *feature* is descriptive of unspecified objects. And *enclosed* and *canopied* describe conditions of a lot rather than an off-lot view; they are more descriptive of nonview lots. Including vaguely defined variables may increase variability to an unknown extent.

In some subdivisions, powerlines and poles interfere with the view. Technically, they are not part of the view. Yet, they tend to depreciate lot price or, more specifically, the value of the view. Countering that argument, objects such as utility lines may serve as visual cues. In that event, they may be regarded as "necessary" for the services people need and become acceptable intrusions. Then, a new owner of a lot may, through psychological screening, grow accustomed to the objects which subsequently exert less influence on the value of the view.

ALTERNATIVE APPROACH

The results suggest that landscape components cannot be used as indicators of the value of views. That is, the value of a view cannot be predicted from the relation between asking or selling prices of view lots and the land, water, and vegetative elements that define landscape character. However, opinions of realtors, the distribution of calculated view value ranges derived from subdivision lot prices (*fig. 1*), and our opinion of the relative quality of views at each area seem to justify our belief that real estate prices may be used for determining view value.

View values (*fig. 1*) were determined by removing the value attributed to all factors except view from the total price of a lot. The price of a nonview lot was assumed to be the value of all factors except view. It was subtracted from the price of all lots having a view to estimate the relative values attributed to view differences—the calculated view value. Thus, nonview sites assumed a zero value, and view values increased to that for the location with the best view, usually the highest priced lot for each subdivision. We believe the results of this approach are realistic.

If judgments of view quality by non-realtors were related to prices set by realtors, then it may be possible to simply judge views and assign prices, with some adjustment for extreme cases. Consequently, we did a pilot test wherein we and seven other natural resource professionals rated subdivision views using slides. Initially, a set of 20 slides containing views from each subdivision were shown, to orient the respondents and encourage use of the entire evaluation scale. Next, a larger set of slides representing a range of lots from nonview to maximum view were shown in random order. Respondents were then asked to rate them for scenic quality using a seven-point scale.

Scores were tallied for each view and the quality of views was

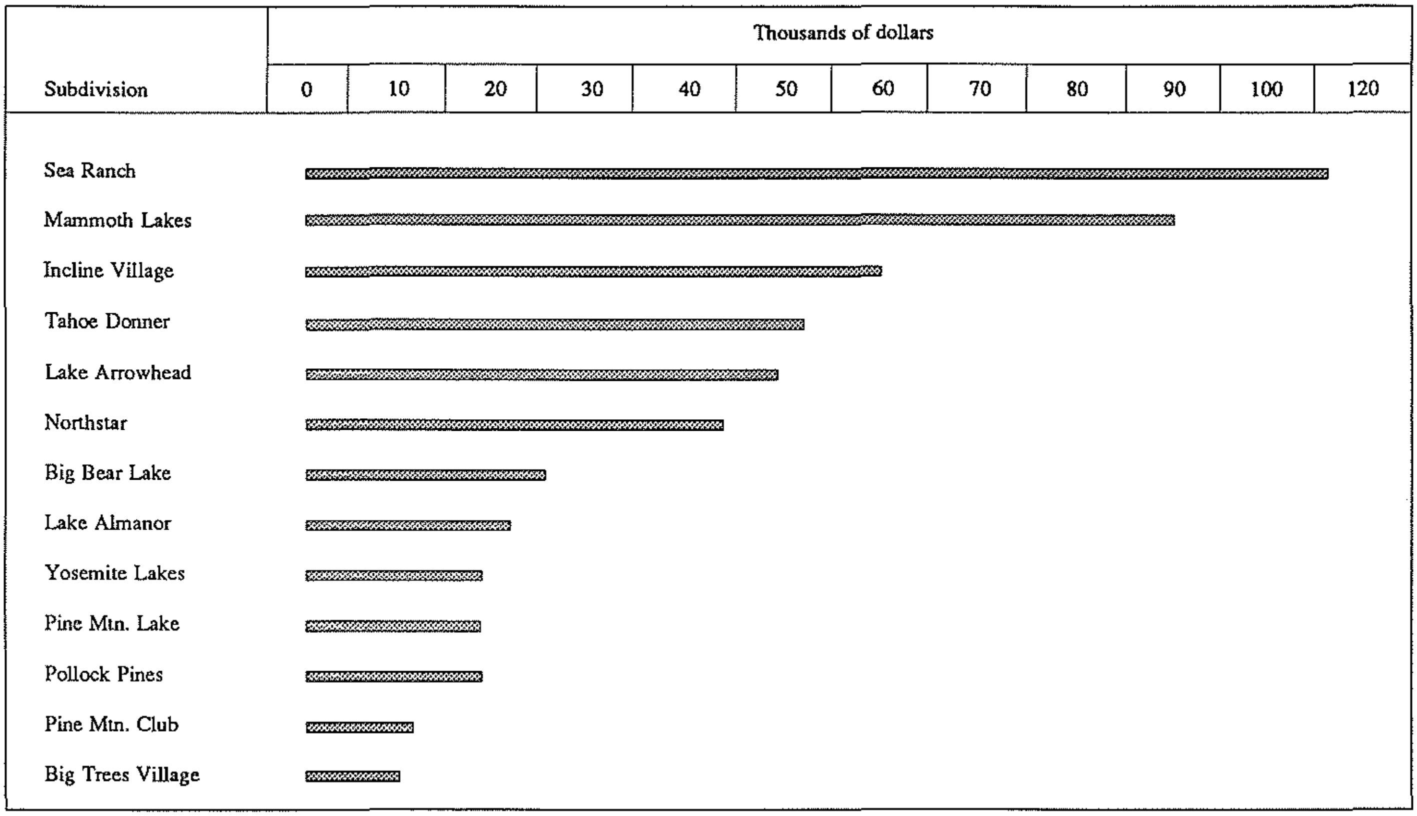

Figure 1—View values estimated for selected recreational subdivisions on wildlands in California.

Table 2—*Judgments by natural resource professionals of a range of views from lots at Incline Village, Nevada*

Rank	View lacking ⟺ Best view							Dollars	Lot
	A	B	C	D	E	F	G		
01					2	2	5	12,000	D-2
02					3	1	5	17,000	D-1
03					2	3	4	62,000	A-2
04				1	3	4	1	37,000	E-13
05				1	3	5		52,000	B-30
06				1		1	1	32,000	G-18
07		1	1	1	4	2		27,000	J-2
08				5	1	3		52,000	H-1
09			1	4	3	1		22,000	F-9
10			2	3	1	3		9,500	D-3
11		1	1	4	3			32,000	E-6
12		1	2	4		2		52,000	H-3
13			3	3	2	1		27,000	J-1
14			5	3	1			27,000	J-1
15		1	5	2		1	1	57,000	H-8
16	1	4	3	1				0	I-5
17	4	4	1					27,000	B-25
18	6	3						7,000	J-3

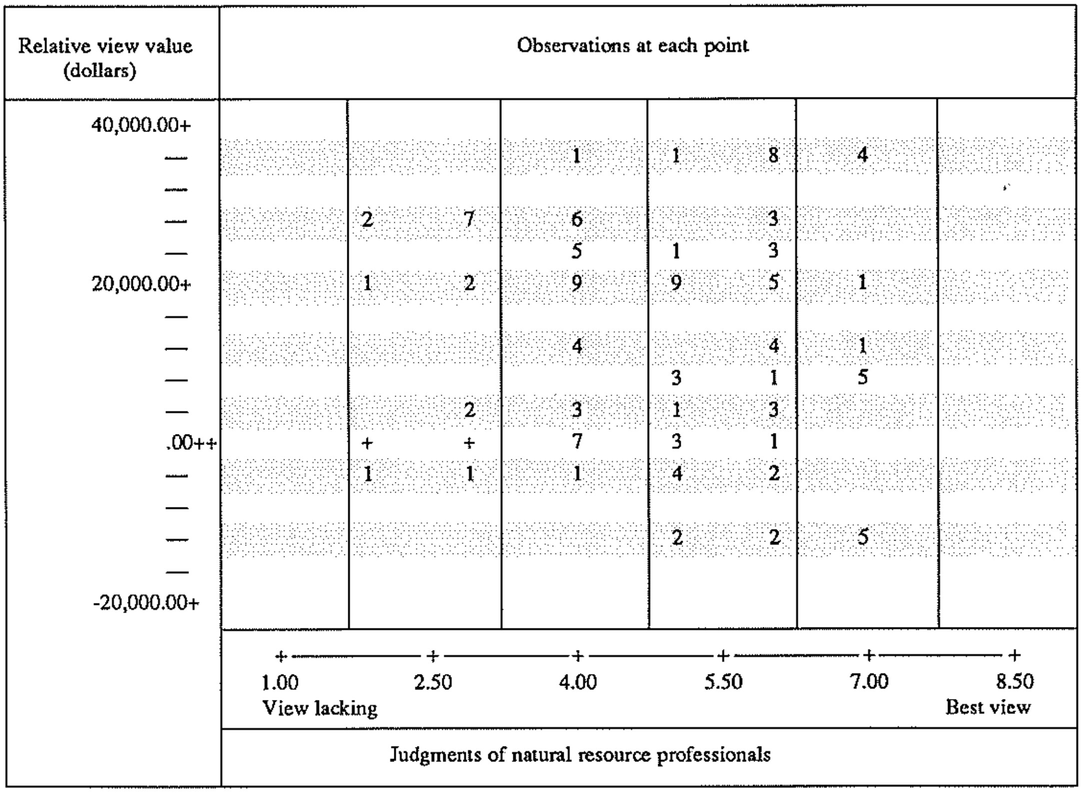

Figure 2—Plot of relative view value versus judgments by natural resource professionals for Incline Village, Nevada. + indicates more than 9 observations.

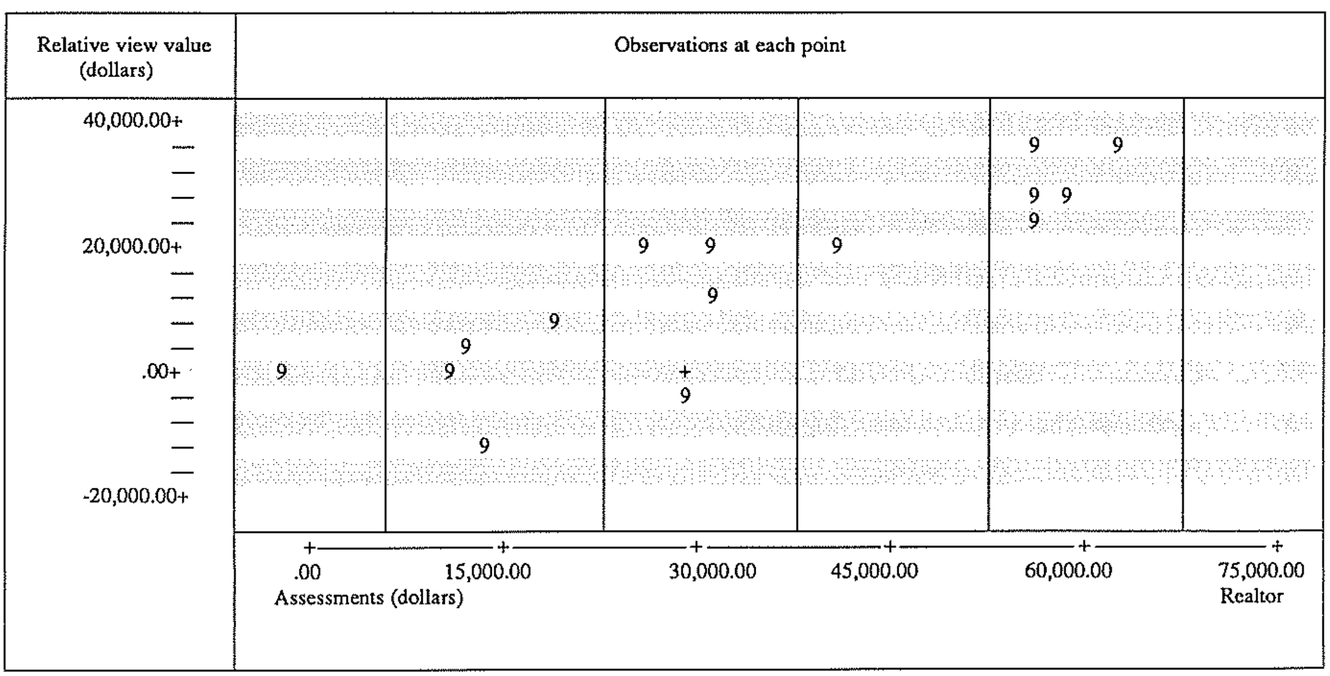

Figure 3—Plot of relative view value versus assessments by realtors for Incline Village, Nevada. + indicates more than 9 observations.

ranked. Since these were ordinal data, a mean rating was not calculated. Rather, the judgments were ranked by inspection, and the choices for each range of view ratings were displayed (*table* 2, columns A through G) using Incline Village as an example.

The resource professionals disagreed, but a trend is apparent with least concurrence on the middle views (*table 2*). The dollars—the realtors' assessment of view value—reveals considerable disagreement between the two groups. For example, views from lots D-2 and D-1 were rated highly scenic by the resource people but of low view value by realtors. Examination of the photographs revealed that both lots had outstanding views of the east side of Lake Tahoe and the adjacent mountain range. Why then were realtor assessments so different for the value of views? Probably because the lots are far from shopping and recreational facilities, and steepness of the access road may make snow removal and winter access difficult.

Even more puzzling, the view from lot D-3 appeared no different than the view from D-2, except for some young pines which filtered the view from D-3. In effect, the trees may have altered the context of the views, making them quite different to the two groups of viewers. The resource professionals apparently saw the trees as obstructions, ranking the view nine positions lower than the unobstructed view. Realtors, on the other hand, assessed both views nearly the same, apparently expecting the trees to be removed and thereby improving the view. The slightly lower price for D-3 was not attributed to view.

At least one reason underscores the different judgments of realtors and resource professionals. Realtors assigned prices based on their knowledge of lot values in the context of specific regional markets. In contrast, resource professionals were unfamiliar with the locales, lacked knowledge of the market value of the scenes, and rated views solely for scenic quality. Relative market value does not appear to correlate with relative scenic quality.

Relation Between Judgments and Values

We examined the apparent differences between market value and scenic quality of views to determine if any relationship existed between either group and the relative view values of lots. Analysis was by the best regression equation for each subdivision. The value attributed to a lot without a view (coefficient b_0) was subtracted from the predicted value of the lot price (predicted Y), for each lot whose view was judged, thereby providing an estimate of the relative view value for each lot. The relative values were then plotted against the realtor values and the view judgments of the resource professionals.

The resulting distributions for all subdivisions were similar to the examples provided for Incline Village (*figs. 2, 3*). The relative value and the resource professionals' judgments were not related, but a moderate positive relationship existed for realtor values. Of course, this could be expected because the realtors set the prices which determined the coefficients. Yet, the relationship diverged so much that it suggested that realtors' valuations were influenced by factors other than view quality. When they established the prices for specific lots, they included the value of nearby features not actually in the view from the lots, such as a golf course, ski area, boat launching ramp, beach, lakeshore, or open space.

SUMMARY AND RECOMMENDATIONS

The regression analysis suggested that the relation between lot prices and components of views can be used only to establish relative view values for specific subdivisions. Since a unique set of important view variables was found for each subdivision and values for the same view variables differed so much between subdivisions, no consistent set was found to describe relative dollar values for all subdivisions. A pilot test indicated that visual quality judgments by natural resource professionals, ranging from no view to best view, are not related to real estate prices. Realtors typically assign lot prices increasing from no view to the best view. Of considerable importance, however, is the fact that prices assigned by realtors usually are influenced by their knowledge of conditions unrelated to scenic quality.

Should anyone pursue studies to establish relative values for landscape views, we advise a different approach to solving this complex problem. Previous research has shown that, within some acceptable variability, people agree on the general ordering of scenic quality of natural scenes (Carls 1974, Driver and Greene 1977). And, the plot of realtor assessments against relative view value (*fig. 3*) demonstrates the ability of realtors to assign increasing dollar values in an order approximating increasing scenic quality. Building on both indicators, people could be asked to sort photographs of landscape views typical of the landscapes surrounding a subdivision, according to their preference for the quality of the views. Next, a panel of realtors could be provided pertinent local market information to use in estimating a premium range for each view in the sets of photographs for each subdivision. The resulting sets of photographs and value ranges could be prepared as indicator or "marker" scenes for use in identifying "like" scenes at other locations.

View quality ratings by the general public, range of view premiums provided by realtors, and a benchmark scene guide might provide the foundation necessary to establish reliable *relative* dollar values for landscape views. These values could be used to evaluate market and nonmarket trade-offs between alternative uses of wildland resources.

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