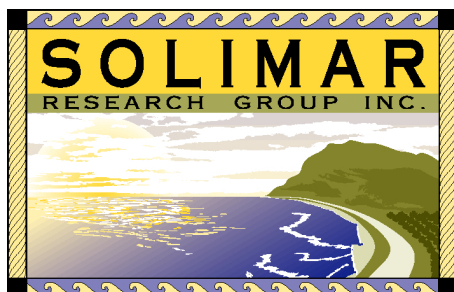


TAHOE BASIN MARKETABLE RIGHTS TRANSFER PROGRAM ASSESSMENT

Solimar Research Group



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Prepared For The League To Save Lake Tahoe

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Although many research and consulting efforts focus on land-use policy, few focus on the implementation of that policy. And fewer still focus on implementation in an environment that has been as traditionally contentious as the Lake Tahoe Basin. In that regard, this project has been more difficult than most. However, the comprehensive report that has resulted from this effort is due in large part to the participation and involvement of a wide variety of people, agencies, and institutions in the Lake Tahoe Basin and throughout Nevada and California.

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TABLE OF CONTENTS

Executive Summary	vii
Chapter 1. Introduction	1
1A. Purpose of the Study	1
1B. Assessment Format	3
1C. History and Geography of the Lake Tahoe Basin	4
1D. Other Agencies and Organizations.....	8
Chapter 2. Background on Marketable Rights Tools: Transferable Development Rights Programs and Mitigation Banking Programs	11
2A. Introduction.....	11
2B. TDRs as Market-Based Instruments	12
2C. National Policy Context and Experience.....	16
2D. Legal Context for TDRs.....	19
2E. Mitigation Banking and Other “Tradable Development Obligations”	20
2F. Wetlands Mitigation Banking Under the Federal Program	22
2G. Endangered Species Habitat Conservation Banking Under California Law	24
2H. Design and Operational Issues Associated With Mitigation and Conservation Banking	24
Chapter 3. Case Studies of Marketable Rights Tools: Transferable Development Rights Programs and Mitigation Banking Programs Outside the Tahoe Basin.....	27
3A. Introduction.....	27
3B. Eastern Case Studies: Montgomery County and the New Jersey Pinelands.....	27
3C. Western Case Studies: Boulder, Colorado; King County, Washington; Malibu and Cambria, California; and Pima County, Arizona	32

3D. Case Studies Of Mitigation Trading Systems In California	67
3E. Lessons From Case Studies	71
Chapter 4. The Tahoe Basin Marketable Rights Programs: Overview and Description	73
4A. Overview	73
4B. History and Background of the Regional Plan	74
4C. TRPA's Land Classification Systems	81
4D. Status of Land Use and Development In The Tahoe Basin	83
4E. Description of Marketable Rights Transfer Programs.....	95
4F. The Role of the California Tahoe Conservancy's Land Coverage Bank	101
Chapter 5. Tahoe Basin Marketable Rights Program Assessment	105
5A. Research Approach, Methodology, Data Sources	105
5B. Assessment Criteria.....	108
5C. Assessment Results	109
Chapter 6. Marketable Rights in Action: Case Studies of Transfers in the Tahoe Basin	135
Safeway, South Lake Tahoe	135
Embassy Suites Hotel, South Lake Tahoe	139
Bitterbrush and Country Club Estates.....	144
Chapter 7. Conclusions and Recommendations.....	149
7A. Overview	149
7B. Goals/Criteria	150
7C. The Marketable Rights Trading "System"	152
7D. Market Trends	153
7E. Impact on Environmental Protection.....	154
7F. The Role of Bankers	155
7G. Recommendations for Improving the Marketable Rights Trading Programs.	156
Glossary	163

References.....	167
Appendix A. Document and Data List.....	171
Appendix B. Advisory Committee Listing.....	173
Appendix C. Regional Plan Elements.....	177
Appendix D. How the TRPA Project Case Study Sample was Created.....	185
Appendix E. TRPA Code of Ordinances	187

EXECUTIVE SUMMARY

The Lake Tahoe Basin – located in the Sierra Nevada Mountains between Sacramento, California, and Reno, Nevada – is at the forefront of the continuing dialogue between environmental and economic interests. This intense level of human use combined with a sensitive natural ecosystem has set the stage for regulatory policies and programs that attempt to balance economic interests with environmental protection. One of the most important aspects of this regulatory system is the *marketable rights transfer programs*, a set of programs permitting landowners to buy and sell certain rights and obligations associated with development. This report represents the first comprehensive attempt to assess the activity and effectiveness of these programs.

The 1987 Regional Plan's Implementation Element created several classes of transferable rights and entitlements related to existing and new development. In this study, we assess five programs in detail, including programs to transfer:

- 1) Coverage (impervious surface),
- 2) Residential Development Right,
- 3) Residential Allocations,
- 4) Commercial Floor Area,
- 5) Tourist Accommodation Units.

The assessment also deals in less detail with a somewhat similar program, the SEZ/Low Capability Restoration Credit.

Background on Tahoe Basin Land Development And the Marketable Rights Programs

Land development in the Tahoe Basin is governed by the Tahoe Regional Planning Agency, a regional entity created by a bi-state compact between California and Nevada. TRPA regulates land development through the 1987 Regional Plan and implementing codes and ordinances.

Currently, approximately 89% of the Tahoe Basin's land is in public ownership (180,000 acres out of 207,000 acres), while 7% (14,000 acres) is developed and 4% (8,500 acres) is privately owned but undeveloped.

Of the publicly owned land, 86% (154,000 acres) is considered "low capability" (land not suitable for development) under the Tahoe Regional Planning Agency's land classification system. Of the remaining privately owned undeveloped land, about 4,500 acres, or 53%, is low capability land.

The 1987 Regional Plan creates basinwide limits on the amount of "coverage" (impervious surface) permitted in the basin and also on the amount of development (residential, commercial, tourist) that are permitted. These limitations form the basis of the marketable rights program.

Landowners are permitted to cover between 1% and 30% of their property with impervious surface, depending on its environmental sensitivity. Property owners who have created less than their allotted amount of coverage (or none at all) may sell that coverage to other property owners. Property owners who have already exceeded their allocated amount and seek new permits from the TRPA are said to have "excess coverage" and are required to pay an "excess coverage mitigation fee".

Landowners seeking to build actual structures must secure additional rights that are restricted in quantity, including residential development rights and residential allocations (for housing); commercial floor area (for commercial development), and tourist accommodation units (for hotel and motel construction). In each case, TRPA is permitted to release additional quantities of these rights, subject to certain conditions. But these rights can also be bought and sold.

Although private buyers and sellers participate in the market, often with the assistance of consultants and real estate brokers, one of the most important market players is the California Tahoe Conservancy, a state agency that often purchases land for preservation and then resells the rights from that land through its Land Coverage Bank. In the case of commercial and tourist rights, the South Lake Tahoe Redevelopment Agency has also played a major role as a market player.

National Context

As a tool designed to implement land use policy, the Tahoe marketable rights transfer programs are similar to "transferable development rights" programs that are in place elsewhere in the country. Common components of successful TDR programs are:

- Viable receiving areas,
- Market study and supply and demand balance,
- Clearinghouses or banks to match buyers and sellers,
- Community support,
- Low transactions or administrative costs, and
- Low risk of successful gaming.

Some aspects of the Tahoe marketable rights transfer programs bear a stronger similarity to mitigation banking because they involve the transfer of development obligations rather than development rights.

Compared to other programs around the nation, the Tahoe program differ in many ways. These differences include:

- Rather than simply transferring "development rights," the Tahoe programs involve trading several different types of marketable rights, none of which, by itself, confers the right to develop.
- TRPA transfer programs seek to use a trading system not just to preserve vacant land, but in some cases to actually remove existing development that is considered environmentally undesirable. TRPA transfer programs function in combination with an aggressive and well-funded program to acquire conservation lands using public funds.
- The primary purposes of conserving land under the TRPA system are related to water runoff and water quality in Lake Tahoe, and other environmental issues such as air quality and wildlife habitat, whereas most rural TDR programs seek to preserve agricultural land, which is not primarily an environmental goal.
- The TRPA transfer programs were not created with rigorous outcomes in mind. The transfer programs were created, in part, to provide relief to property owners who might be harmed by strict implementation of the Regional Plan.

Findings

Based on our analyses, we make the following findings about the Marketable Rights Transfer Programs in the Tahoe Basin.

THE MARKETABLE RIGHTS TRADING SYSTEM

The marketable rights trading "system" suffers from many flaws in design, especially as compared with TDR programs elsewhere in the nation that have been more successful. These flaws include:

1. *The goals of the Marketable Rights Programs are not always clear.* It took our research team a great deal of effort to find and interpret the goals in the Regional Plan and connect them to the Marketable Rights Programs. These goals are not consistently part of the discussion in the Tahoe Basin about the Marketable Rights Programs.

2. *The Marketable Rights Programs were laid on top of the regulatory system in an incremental fashion.* The Marketable Rights Programs were not designed as a system with specific goals at one point in time. Rather, they were created and implemented incrementally over a long period of time, often without revisiting the underlying regulatory system to see whether the regulations and the markets fit together. The most obvious example can be found in the interplay of regulations and markets for coverage. Landowners are encouraged to buy and sell coverage. But, the owners of the most sensitive land are given very little coverage rights by the regulatory system, so they have little incentive to participate in the transfer programs.
3. *The system is cumbersome and complicated.* Designers of markets often face the stark choice of whether to make the systems simple, which should encourage brisk trading activity, or complicated, which will create a “brake” on the market but could protect certain interests from exploitation. Intentionally or unintentionally, the TRPA programs are complicated rather than simple. Because they were created incrementally over time, the TRPA programs are hard to explain and understand and are subject to many constraints, both formal and informal, that require detailed local knowledge to overcome.
4. *The Marketable Rights Programs are hindered by inadequate routine capture of transfer information.* A recurring theme throughout this report was the difficulty in analyzing digital databases and project files. TRPA’s information system, which is required by code, did not systematically contain the basic information required to truly understand and analyze market activity, even though the record layouts allow for the data. Transfer information is awkwardly captured as part of a parcel-based project-tracking system where the transfer information is not a high priority. Without good information, it remains very difficult to determine whether the program goals are being met. CTC record-keeping is better, but does not reflect all market activity. Poor record-keeping may also harm the market itself by making it difficult for landowners and others to obtain information about the market.

MARKET TRENDS

One undeniable conclusion – even from the incomplete data sources that we relied on – is that the markets for Tahoe Basin rights do function. Clearly, at least 800 different trades have occurred – and perhaps as many as 1,500 or 2,000, though it is hard to be precise.

More specific conclusions about market trends include the following:

1. *The general trend in transactions appears to be from lower-value to higher-value parcels.* Absent a strong incentive to focus on environmentally sensitive parcels (see below), this is not surprising. Landowners with a strong economic incentive

to develop their property are understandably more willing to spend money to acquire the various rights required to do so.

2. *The Coverage market is very active.* There is little question that Coverage is the most frequently traded commodity in the Tahoe Basin. Our small sample of TRPA trades showed that more than half of all transactions involved Coverage, while the CTC deals almost exclusively in Coverage. It is especially encouraging to note that CTC's "Open Market Transactions" have grown in quantity each year. In this regard, the Coverage market does appear to be achieving its objective of providing landowners with alternatives to harsh regulation.
3. *The Development Rights market is also very active and there appears to be sufficient development capacity in receiving areas to encourage more activity.* Again, our small sample suggested that almost 40% of all market activity involved Development Rights. Furthermore, our breakdown of the "buildout capacity" suggested that receiving areas have almost the same capacity (approximately 2,100 units) as sending areas. Whether or not landowners in receiving areas are motivated to actually buy sending-area Development Rights, however, depends on whether they think higher-density projects on their property will actually be approved. This concern about "receiving-area receptivity" to transfer-facilitated higher density facilitated is a common, sometimes controversial, issue in many TDR programs. Overall, however, the transfer programs do appear to be achieving their objectives of providing landowners with alternatives to harsh regulation.
4. *The CFA and TAU markets are functioning well, thanks in large part to the efforts of the South Lake Tahoe Redevelopment Agency.* As will be discussed in more detail below, the Redevelopment Agency has done a good job of using redevelopment powers to buy, bank, and re-allocate CFA and TAUs. Other CFA/TAU transactions would likely not have occurred without the Redevelopment Agency's involvement. This new robustness has allowed these programs too to achieve their objectives of providing landowners with alternatives to harsh regulation.
5. *Jurisdictional veto power may be a brake on the market.* Though the impact of jurisdictional veto power is hard to quantify, it appears likely that more transactions would occur if landowners could trade across jurisdictional lines without this concern.

ENVIRONMENTAL PROTECTION

The fundamental purpose of the Marketable Rights Programs is to help implement the Regional Plan in order to maintain and improve environmental quality in the Tahoe Basin, especially as regards runoff into and water quality in the lake. This purpose is translated by the plan's Implementation Element into two specific and land-oriented

goals: First, to consolidate development and, second, to protect and restore environmentally sensitive land. It is reasonable to assume that “cost-effectiveness” should be a criterion as well. Given the amount of money and effort that goes into the marketable rights programs, does the Tahoe Basin receive “bang for its buck” in terms of environmental improvements?

1. *The Marketable Rights Programs do appear to consolidate development on smaller parcels.* Our analysis showed persuasively that both TRPA and CTC activity resulted in coverage and other rights being transferred from large to small parcels by a factor of three – that is, on average, the sending parcels were three times the size of the receiving parcels. It is worth noting, however, that there is no particular evidence that rights are being transferred from outside Community Plan Areas to inside those areas, and in fact there are disincentives to do so. Spotty data has consistently made it difficult to assess the impact of consolidation in a meaningful way.
2. *The Marketable Rights Programs do not appear to consistently transfer rights from more sensitive land to less sensitive land.* It proved difficult to estimate this trend accurately. But using four different and admittedly imperfect methodologies on the CTC database (mostly Coverage transactions), we found that, on average, sending and receiving parcels have about the same Bailey and IPES scores. In general, even the sending parcels are high capability (although they are among the more sensitive of the high capability pool). In other words, the Marketable Rights Programs move development around, but it is hard to say that they always move development off less sensitive land. In part, this appears to be due to the way the Coverage program is designed. Low capability landowners have few rights to begin with, so they have little motivation to transfer their rights to high capability land.

THE ROLE OF BANKERS

Experience from around the nation suggests that TDR and mitigation banking programs work best when there is a strong entity with considerable financial resources serving as a banker to both “make” the market and bring stability to the market when necessary. The Tahoe Basin has been fortunate to have two different entities take on the banking role, the California Tahoe Conservancy and the South Lake Tahoe Redevelopment Agency. Based on our analyses of the banking functions, we find:

1. *In general, both bankers function as “mitigation bankers” in the sense that they protect the environment “up front” and then sell those mitigation credits later.* This is a plus for environmental protection, in that it ensures that this protection is before the development activities generating the need for mitigation occur.
2. *The CTC sometimes buys and sells different commodities in ways that make it difficult to assess the agency’s effectiveness.* The CTC’s Land Coverage Bank

does not buy and sell the same commodity. Rather, the bank purchases land with marketable rights; retires the land; and then may sell some or all of the rights. (Sometimes the rights are retired.) Therefore, it is sometimes difficult to determine what are the net environmental benefits of the bank's activities.

3. *The SEZ/Watershed Restoration Credit Program is not very active.* This program operates like a classic mitigation bank, but it is active primarily when public agencies are engaged in constructing linear facilities. It suffers from the same design "flaw" as the coverage program: Most owners of environmentally sensitive land are already restricted from development via regulation, so they have little incentive to participate in a program to retire or restore land they own.
4. *The Memorandum of Understanding between TRPA and CTC gives CTC's Land Coverage Bank considerable flexibility.* The MOU delegates some of the administration of both the Excess Coverage Mitigation Fee Program and the SEZ/Watershed Restoration Credit Program to CTC. In the case of the Restoration Credit Program, CTC has some flexibility to interpret the MOU in order to initially determine when its own efforts have led to the creation of credits, which they are then enabled to sell or allocate to qualifying agencies or landowners. The Conservancy does seek regulatory approval for transfer of credits, following the usual TRP project approval process.
5. *The South Lake Tahoe Redevelopment Agency has done an excellent job of "making the market" for TAU and CFA in South Lake Tahoe.* Redevelopment agencies in California have a particular set of powers that are designed to permit them to serve as "market makers" in traditional land and development markets. In particular, they use their eminent domain power and financial resources to buy, bank, and then resell land to developers, sometimes at a loss. At a time when the CFA and TAU markets were sluggish in ways that were preventing the upgrading of tourist accommodations in South Lake Tahoe, the Redevelopment Agencies used these same techniques to stimulate the "market" for marketable rights and, hence, the market for new hotel units. It is unclear, however, whether any other location in the Tahoe Basin would lend itself to such an intense concentration of activity in banking and allocating rights.
6. *There is no existing entity in Nevada capable of performing the banking function.* Nevada has not had not have the small-lot parcelization problem on the same scale as California. Nevertheless, the rights markets are not as active in Nevada simply because there is no entity capable and/or willing to perform the banking function. The Nevada Division of State Lands has recently received statutory authority, and has acquired an initial inventory of coverage, both of which will allow it to operate as a land bank under the Excess Coverage Mitigation Program. The Division is also developing a capability to facilitate land coverage transfers.

Recommendations for Improving the Marketable Rights Trading Programs

It is clear that the Tahoe Basin is entering a new era in environmental protection, one in which remediation and mitigation of existing problems on the landscape will take precedence over the effort to preserve undeveloped areas. The Marketable Rights Programs can serve as an effective set of implementation tools if they are re-tooled with this objective in mind. More specifically, we make the following recommendations regarding altering and improving the Marketable Rights Programs:

1. The goal of the Marketable Rights Programs should be streamlined and clarified.

TRPA should consider not only clarifying, but narrowing or changing the purpose of the Marketable Rights Program to reflect simpler and more clearly measurable goals. For example, TRPA could alter the purpose of the program to simply increasing the amount of preserved and restored environmentally sensitive land (specifically SEZ and low capability land) in the Tahoe Basin. This goal ties in readily to the larger system of goals in the Regional Plan

2. The goals and objectives of the Marketable Rights Programs should reflect the reality that the Tahoe Basin will be moving from preservation to a mitigation environment.

The current set of marketable rights involves, essentially, a mixture of preservation and mitigation, and sometimes implementation involves blurring the line between these two concepts. But given the fact that only 8,500 acres remains privately owned and undeveloped, preservation is a short-term goal. TRPA should declare one of the purposes of the Marketable Rights Program is to facilitate mitigation of existing degraded conditions on SEZ and low capability land and to gradually implement best practices on already developed land.

3. The goals and objectives of the program should be quantified in ways that are easily measurable.

One reason that it was difficult to measure the effectiveness of the Marketable Rights Programs is that, although they are tied to implementing certain goals in the regional plan, there are no quantifiable objectives. If the goal of the program is simplified to be an increase in the amount of environmentally sensitive land preserved and restored in the Tahoe Basin, then it would become much easier to quantify.

4. The actual operation of the Marketable Rights Programs should be as transparent as possible.

It is currently difficult for outsiders and landowners to understand how the Marketable Rights Programs operate. TRPA should initiate an effort to monitor the rules and operations of the programs and make simple and easy-to-understand explanations available to the public and to landowners.

5. Incentives for landowners to participate in marketable rights transactions should be re-tooled to ensure maximum environmental benefit from each transaction.

The Marketable Rights Programs should be restructured to increase incentives for landowners to engage in transactions that enhance the environment, rather than merely fulfill requirements that will enhance their own economic conditions. The most obvious change in this regard would be to provide meaningful bonus credit to landowners who preserve – or, better yet, restore – sensitive environmental areas.

6. Some programs should be restructured to encourage true mitigation banking, and the role of bankers should be clarified.

As we have emphasized throughout this report, some of the Marketable Rights Programs in the Tahoe Basin function somewhat like mitigation banks, especially under the guidance of the CTC's Land Coverage Bank. These programs could be more active and provide greater environmental benefit if they were modified to operate more in the manner of traditional permit mitigation banks.

7. Once incentives are in place to ensure that transactions automatically lead to environmental protection, programs should be restructured to encourage more market activity.

The Marketable Rights Programs currently have several aspects that discourage market activity, including the cumbersome nature of the process, the difficulty in obtaining market information, and the jurisdictional veto. Assuming the previous recommendations are adopted – meaning that the system is structured so that each transaction produces maximum, cost-effective environmental benefit – TRPA should remove all possible impediments to market activity.

8. Systems of record-keeping and monitoring progress toward goals should be improved.

TRPA's project-tracking records allow for key data needed to monitor and assess the marketable rights programs but the data was inconsistently entered by staff. TRPA should explore requiring entry of marketable rights data during routine project processing procedures.

CHAPTER 1. INTRODUCTION

1A. Purpose of the Study

The Lake Tahoe Basin – located in the Sierra Nevada Mountains between Sacramento, California, and Reno, Nevada – is at the forefront of the continuing dialogue between environmental and economic interests. One of the largest and clearest alpine lakes in the world, Lake Tahoe’s natural beauty and recreation opportunities attract millions of visitors each year. This intense level of human use combined with a sensitive natural ecosystem has set the stage for regulatory policies and programs that attempt to balance economic interests with environmental protection. There are at least four basic efforts under way to address ongoing and future environmental and land use issues:

- (1) The land acquisition program, which includes purchase of private land by the California Tahoe Conservancy (CTC), the US Forest Service (USFS), and Nevada Division of State Lands;
- (2) The land use and development regulation program administered by the Tahoe Regional Planning Agency (TRPA);
- (3) The Environmental Improvement Program, a large and integrated set of public improvements designed to improve the basin's environmental quality; and
- (4) the marketable rights transfer programs, a set of programs permitting landowners to buy and sell certain rights and obligations associated with development. Many consider the marketable rights programs not as a separate effort but as a "lubricant" to the regulatory structure characterized by #2 above.

In 1980 the United States Congress revised the 1969 bi-state compact that originally created the TRPA as a planning and regulatory agency and gave the TRPA greater authority to adopt and enforce environmental standards (P.L. 95-551). The TRPA’s mission is to “lead the cooperative effort to preserve, restore, and enhance the unique natural and human environment of the Lake Tahoe region.”¹ The 1987 Regional Plan’s Implementation Element created several classes of transferable rights and entitlements related to existing and new development. The term Marketable Rights Transfer Programs

¹ TRPA, *Regional Plan for the Lake Tahoe Basin: Goals and Policies* (1986), p. i.

is given to the corresponding programs created by the TRPA as it is more inclusive than the more widely used term Transferable Development Rights (TDR). The TRPA Transfer Programs being assessed in detail are:

- 1) Coverage (impervious surface),
- 2) Residential Development Right,
- 3) Residential Allocation,
- 4) Commercial Floor Area, and
- 5) Tourist Accommodation Unit.

The assessment also deals in less detail with a somewhat similar program, the SEZ/Low Capability Restoration Credit.²

In the TRPA's jurisdiction area nearly all types of development projects must acquire marketable rights. Normally, development and/or use permits are issued by a local government based on the applicant meeting specified requirements. The TRPA's Transfer Programs allow certain types of commodities, or "rights", to be purchased from landowners who then separate, or transfer, the rights from their property to the purchaser and permanently record their transfer as a deed restriction. The development right is said to have gone "from a sending site to a receiving site."

These programs enable the TRPA to discourage existing or potential development on sending sites that are environmentally unsuitable for development while encouraging development on receiving sites that are more suitable for development. In theory, the environment is gradually improved through the reallocation of development activity via the private market. As will be explained later in this study, the marketable rights programs are by no means the only – or even the primary – tool by which land use policy is used to pursue environmental protection in the Tahoe Basin. Nevertheless, they are a vital part of the system that has never been rigorously analyzed. An assessment of the transfer programs is the general purpose of this study.

This study was sponsored by the League to Save Lake Tahoe, a privately funded, non-profit, public benefit membership organization formed in 1957 dedicated to the restoration and preservation of Lake Tahoe (<www.keeptahoeblue.org>). Funding for this study was provided by the William and Flora Hewlett Foundation and the David and Lucile Packard Foundation. The assessment was completed by the Solimar Research Group (Solimar), a for-profit land use and policy analysis consulting company located in Ventura, CA (<www.solimar.org>).

² Each program is defined in more detail in Chapters 3 and 4. There are two other transfer program not being assessed: Sewer Unit, and Persons At One Time.

1B. Assessment Format

The assessment was divided into six tasks, several of which form the subsequent chapters of this document. Task 1 was the creation of an advisory committee composed of public officials and residents involved in land use and planning in the Tahoe Basin. Appendix A is a list of the members and a summary of the committee's activities.

Task 2, described in Chapter 2, was a review of Transferable Development Rights (TDR) programs and similar tools (such as mitigation banking) in the United States. That chapter describes the evolution of TDR and mitigation banking programs and how other communities implement these programs.

Chapter 3 provides 10 case studies of TDR and mitigation banking programs throughout the United States. These include (1) two short case studies of TDR programs on the East Coast that have received national recognition for their success (2) five detailed case studies of TDR programs and similar situations in the Western United States, two from California and one each from Arizona, Colorado, and Washington; and (3) three short case studies of mitigation and conservation banks elsewhere in California.

Chapter 4 reflects Task 3, descriptions and the current setting of the TRPA Transfer Programs. It details the history of the Bi-State Compact that created the TRPA and the 30 subsequent years of planning and regulatory efforts aimed at substantially reducing the deterioration of the lake and the surrounding hillsides and streams. In this chapter, regional and local plans are reviewed and the current land use and development situation in the Tahoe Basin is described. The regulatory rationale for each of the marketable rights is explained, followed by a description of how the rights are identified, documented, and transferred.

The next chapter (Chapter 5) presents the detailed assessment of each program. Administrative records from the TRPA and the California Tahoe Conservancy (CTC), along with various environmental and census datasets serve as the main data sources. Individual TRPA projects are examined in detail. The success of the TRPA's Transfer Programs in meeting various 1987 Regional Plan goals and objectives is measured, quantified where possible, and assessed.

Chapter 6 presents three qualitative case studies of individual transfers, including two in South Lake Tahoe.

Finally, Chapter 7 brings the program assessments and review of other TDR and mitigation alternatives together into a summary discussion with a list of recommendations.

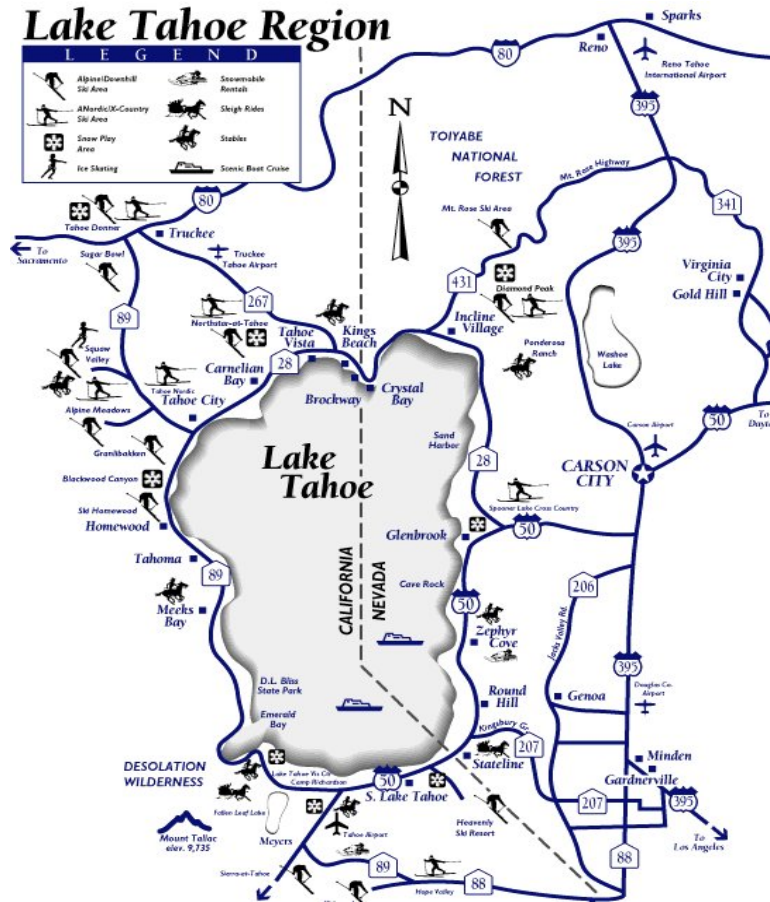
1C. History and Geography of the Lake Tahoe Basin

Lake Tahoe straddles two states, California and Nevada, and five counties (Placer and El Dorado in CA; Washoe, Douglas, and Carson City in NV). Surrounded by mountains, the lake sits in a valley at an elevation of 6,229 feet and is the highest lake of its size in the United States. Lake Tahoe measures 22 miles from north to south and about 12 miles at its widest east-west extent, with a surface area of 191 square miles. The California shoreline is 42 miles long and the Nevada shoreline 29 miles long. Lake Tahoe became the official name of the lake in 1945. The word “tahoe” is a Washoe Native American Indian word meaning “big water.”

Lake Tahoe, in its natural state, is one of the clearest lakes in the world. The extreme clarity of the lake’s water creates spectacular reflection of the color and features of the surrounding mountains and sky. During clear days the lake is a deep blue, during sunsets it can appear red, and during storms it can take on the deep grey color of the storm itself.

Lake Tahoe is a nearly self-enclosed eco-system that is very sensitive to disturbance of the surrounding soil cover and drainage system. The average annual rainfall in the Tahoe Basin is 8.3 inches and the average annual snowfall is about 18 feet, giving the area its world-famous skiing season and scenery. The lake receives its water both from snow and rain falling directly into the lake and from water draining into it through lakeside marshes and meadows that act as water filtration systems. Rain and runoff that passes over paved surfaces such as roads, parking lots, and roofs carry small particles and pollution into the lake, gradually reducing the lake’s clarity – a major concern of the Tahoe Basin community. Sixty-three streams flow into Lake Tahoe, but the Truckee River is the Lake’s only outflow. Because of this, and the lake’s large surface area, most of its water loss is through evaporation.

Figure 1-1: Tourist Map



Source: < <http://www.virtuالتahoe.com> >

Prior to the end of the 19th Century, Lake Tahoe was so clear that objects could be seen to depths approaching 140 feet. The lake has been losing roughly a foot and a half of clarity each year due to eutrophication, a naturally occurring process of increasing algal presence in fresh water over time. Human activities can hasten this process through the addition of nutrients such as Nitrogen or Phosphorus into the natural system. These nutrients can come from numerous sources; however, urban runoff and atmospheric deposition are thought to provide the largest nutrient inputs to the Lake. While the TRPA is mandated to preserve water quality, clarity continues to be lost. According to the most recent measurements (performed by The Tahoe Research Group at UC Davis in 2001; <http://trg.ucdavis.edu/>), Secchi depth – a measure of clarity³ – is around 73 feet. Although the Secchi depth for Lake Tahoe has declined steadily for decades, this is

³ Secchi depth is operationally defined as the depth at which a white disc, lowered into a lake, is indistinguishable from the surrounding water.

slightly greater than measurements made two years before. The significance of this short term trend has yet to be determined.

Figure 1-2: Lake Tahoe in Winter



Source: League to Save Lake Tahoe

The first recorded sighting of Lake Tahoe by a non-Native American was by John C. Fremont in February of 1844. In 1848, the Mormon-Emigrant Trail passed through what is now called the Carson Pass on its way to California from Utah. In the 1860s, Lake Tahoe area became the center of a lumber industry that supplied the mines, boomtowns, and railroad of the Nevada silver mines. The scars of the logging industry, known as the “Comstock Era,” lasted for decades. Forest communities, which historically were dominated by a diverse community of late seral stage trees, today are often comprised of tightly packed groves of firs. Drought and infestation of the bark beetle brought forest health to the attention of the agencies and the public in the 1980s. As a result, there has been substantial an effort to return the forests to a state similar to conditions prior to the Comstock Era. Timber thinning projects and controlled burns have become the latest efforts to rejuvenate forest health.

Tourism began in the 1890s. Initially the Tahoe Basin was a popular retreat for the wealthy, and also developed into a popular camping destination for the working and middle classes from Sacramento and the Bay Area. Development followed throughout the 20th Century with highways, utilities, ski resorts, second homes, boating, hiking, hotels, and casinos (on the Nevada portion). Today, the Lake Tahoe area is a world-famous year-round destination resort with a sophisticated marketing and tourist support service industry. People do not, however, visit Lake Tahoe to see the built environment, they visit to recreate.

It is clear that visitors have a dramatic impact on Tahoe Basin. The thin strip of developed land around the Lake can become so congested that traffic may come to a standstill. Air quality deteriorates as idling cars dump NOX and CO into the atmosphere. And runoff from visitor serving amenities carries nutrients to the Lake.

In 1969, the United States Congress, following approval in both the California and Nevada Legislatures, adopted legislation forming the Tahoe Regional Planning Agency (TRPA). The bi-state agency was charged with preservation of the lake and the surrounding basin. TRPA is composed of a Governing Board with 15 members. One member is appointed from the five counties surrounding the lake, one from the City of South Lake Tahoe, the remaining nine members are appointed by the States of Nevada, California and the Federal Government. Local representation is not a majority.

Several other agencies and organizations have various levels of jurisdiction and influence over environmental and land use planning efforts. The California Tahoe Conservancy (CTC) is most involved with the TRPA's transfer programs. The CTC was first funded through an \$85 million state bond issue, approved by California voters in 1982, to fund acquisitions that would protect the natural environment and promote public access to Lake Tahoe. The CTC also funds several other programs that provide resources to local jurisdictions to build erosion control facilities, enhance wildlife habitat, develop recreation projects, and restore Stream Environment Zones (SEZ). In addition, CTC plays a major role in the marketable rights programs by operating a "Land Coverage Bank" that purchases land and sometimes sells the marketable rights associated with that land.⁴

To stem the loss of clarity and maintain other environmental thresholds, several public agencies within the Tahoe Basin purchase private land. Through acquisition programs, by 2000 nearly 75% of the land in the Tahoe Basin is publicly owned. Complicating the acquisition process are the numerous small lots. These lots are the legacy of the 1950s and 1960s, when local officials in the basin (primarily in El Dorado County, California) permitted the creation of tens of thousand of lots, often in sensitive environmental zones, through easy subdivision. While the public buy-out programs seek to preserve Lake Tahoe's natural characteristics, the Tahoe Basin is also home to at least 60,000 full time

⁴ <http://www.tahoecons.ca.gov/programs/coverage/prg_coverage.html>

residents and accommodates somewhere between 10 and 20 million visitors a year.⁵ This level of human activity has led to significant urban development, creating a contrast between the pristine Sierra Nevada Mountains and the lakeside built environment.

1D. Other Agencies and Organizations

The following is an alphabetical list of government agencies and organizations other than TRPA that play major roles in the Tahoe Basin followed by a list of other agencies in the area.

California State Water Quality Control Board Lahontan Region: Often simply called Lahontan, they are a powerful regulatory agency in the Tahoe Basin. As with all Regional Water Quality Control Boards, they do not regulate individual residential development.

California Tahoe Conservancy (CTC): An independent state agency within the Resources Agency of the State of California established in 1984 with jurisdiction only on the California side of the Lake Tahoe Basin. The CTC does not regulate but acquires private land, implements site improvement and restoration programs, and manages open space and wildlife habitat areas. The CTC also works closely with the TRPA as a “bank” that holds and transfers marketable rights.

City of South Lake Tahoe (and Redevelopment Agency): The only incorporated city entirely within the Lake Tahoe Basin with 23,609 year-round residents, according to Census 2000. The population will multiply several times during the peak tourist season. The city’s redevelopment agency is very involved in new hotel, lakeside, and skiing resort projects.

Incline Village General Improvement District: This district is similar to the Tahoe City Public Utility District.

Lake Tahoe Gaming Alliance: The alliance represents the casinos located in State Line immediately adjacent to the city of South Lake Tahoe.

League to Save Lake Tahoe: The oldest environmental non-profit in the Tahoe Basin area. The League has played an important role in shaping the current regulatory structure and public investment strategy in the Tahoe Basin as an environmental advocacy group since 1957.

⁵ The exact number of visitors is a source of some debate. Visitation is often measured in Visitor Days. One Visitor Day is equal to one person spending 12 hours in the Tahoe Basin. Some recent estimates have put annual Visitor Days at as many as 25 million.

North Tahoe Public Utility District: This district is similar to the Tahoe City Public Utility District.

Nevada Divisions of State Lands (Nevada State Lands): Nevada State Lands operate an acquisition program similar to the CTC, but does not operate a land and marketable rights bank.

Nevada Division of Environmental Protection: Enforce Clean Water Act in Nevada.

Tahoe City Public Utility District: The district plays a unique role in unincorporated Tahoe City as it provides services traditionally offered by cities or counties such as a Parks and Recreation Department, adult education classes, bike trails, parking lots, and public restrooms.

Tahoe Sierra Preservation Council: The council is a major advocate for protecting private property rights in the Lake Tahoe Basin.

Tahoe Transportation and Water Quality Coalition: Concerned with environmental and economic issues in the Lake Tahoe Basin including gambling, skiing and has worked closely with Chambers of Commerce, the League to Save Lake Tahoe and the Tahoe Sierra Preservation Council.

United State Forest Service: The USFS in the Tahoe Basin is called the Lake Tahoe Basin Management Unit (LTBMU). The LTBMU was established in the 1980's, pieced together from several existing national forests and Wilderness Areas.

Government agencies other than TRPA with activities in the Tahoe Basin are:

Regional Agencies

Tahoe Transportation District
Tahoe Regional Planning Agency

Federal Agencies

U.S. Environmental Protection Agency
Natural Resources Conservation Service
Army Corps of Engineers
U.S. Postal Service
U.S. Geological Survey
Bureau of Reclamation

State Agencies

CALTRANS (California Department of Transportation)
California State Lands Commission
California State Parks
Nevada Department of Transportation
Nevada Division of Environmental Protection
Nevada Public Service Commission

Local Governments

Douglas County, NV
Carson City, NV
El Dorado County, CA
Placer County (and Redevelopment Agency), CA
Washoe County, NV

Other Local Agencies

Nevada Tahoe Conservation District
Tahoe Resource Conservation District
U.C. Davis/Tahoe Research Group
South Shore Transportation Management Association
Truckee/North Tahoe Transportation Management Association
Douglas County Sewer Improvement District
Kingsbury General Improvement District
South Tahoe Public Utility District
University of Nevada, Reno
Desert Research Institute

CHAPTER 2. BACKGROUND ON MARKETABLE RIGHTS TOOLS: TRANSFERABLE DEVELOPMENT RIGHTS PROGRAMS AND MITIGATION BANKING PROGRAMS

2A. Introduction

This chapter reviews the history of Transferable Development Rights (TDRs), both in theory and in practice, and provides a brief overview of their legal context. The chapter also reviews the somewhat similar practice of mitigation banking and the overlap between TDRs and mitigation banking.

Although no two TDR programs are exactly alike, the TRPA's transfer programs are different in several respects from TDRs in other parts of the United States. Most communities use TDRs as a cost-effective alternative to buying land outright or a mitigation tool to compensate landowners for forgone or reduced development that results from land use regulation.⁶ It is also rare that TDR programs are used in combination with public acquisition programs; more often they are an alternative to such programs. In the Tahoe Basin, transfers occur not only among development rights, but also among impervious surfaces, hotel and motel units, commercial square footage, and existing and allowed residential development. Whereas most TDRs outside the Tahoe Basin are used to protect undeveloped land, some TRPA transfer programs provide an incentive to remove existing development. And, of course, the TRPA transfer programs take place against the backdrop of a very large public acquisition program.

Because the TRPA programs both resemble and depart significantly from traditional TDR programs, we compare them to other TDR programs to aid in evaluating their strengths and weaknesses. It follows that a framework to evaluate the TRPA transfer programs should combine criteria from more traditional TDR programs with criteria that specifically recognize the TRPA and the Tahoe Basin contexts.

⁶ Berger in Pruetz, 1997 p. 94. As will be discussed later, some TDR programs, including some of the programs administered by the California Coastal Conservancy, are designed to facilitate mitigation for otherwise allowable projects, rather than provide compensation to landowners whose development rights have been removed by regulation.

Mitigation banking programs represent a kind of “mirror image” of TDR programs. They represent the ability to trade, not rights, but *obligations* conferred on landowners. In Lake Tahoe, certain aspects of the transfer programs resemble mitigation banking – most especially some activities of the California Tahoe Conservancy’s Land Coverage Bank, which banks and sells some commodities best described as rights and other commodities best described as obligations.

2B. TDRs as Market-Based Instruments

Most TDRs allow public agencies to restrict allowed development in areas targeted for land preservation by transferring as yet undeveloped density to preferred development areas. Restricted areas are known as “sending sites,” while preferred or targeted areas are the “receiving sites.”⁷ The managing public agency permits landowners in the sending area to sell the “right to build” to landowners in the receiving area. The sending landowner’s property is then permanently restricted from the transferred development, usually by a recorded deed restriction. The value of the transferred right is theoretically the discounted difference between the sending site’s net developed and undeveloped value.⁸ Under this system, landowners receive legally adequate compensation for the value of the foregone development.

TDRs are a form of market-based policy alternatives used to direct regulation and/or purchase. Stavins (2000) defines market-based instruments as “regulations that encourage behavior through market signals rather than through explicit directives regarding pollution control levels or methods.” Most of the theoretical work on market-based instruments as an alternative to straight regulation has involved air and water pollution trading.

The shortcoming of the regulatory model, as least as far as air and water pollution are concerned, is that it imposes a uniform standard on sources whose costs to control pollution tend to vary. In other words, factory A may control air pollution far more inexpensively than factory B, but under a regulatory system both must control the same amount of pollution, irrespective of their differing costs.

In contrast to direct regulation, a market-based system allows factory A, which controls pollution efficiently, to sell its “right to pollute” to factory B, which finds the same pollution control more expensive. Under this model, the total combined cost of controlling pollution is lower than under the regulatory scheme, where both factories would have to reduce the same amount of pollution, without attention to their different costs.

⁷ Sending sites may also be called “selling sites” and receiving called “purchasing.”

⁸ Of course, as in any market, the actual market value is whatever a seller and a buyer can agree on.

Like direct regulation, market-based instruments are responses to what economists refer to as "negative externalities." As the name suggests, "externalities" are not directly accounted for in production and consumption pricing. Externalities occur, in part, because there are no rights assigned to how the externality is generated or controlled. In other words, generating negative externalities is free. Smog, sewage, or non-point source pollution (e.g., soil runoff into Tahoe Basin) are all examples of negative externalities. Under the regulatory model, the cost of externalities is made "internal" to the source responsible for generating them. This is achieved by assigning and enforcing limits and/or a cost to prevent or control externalities. Federal legal standards that limit how much air pollution a company may emit from a smokestack are one example.

AIR POLLUTION TRADING PROGRAMS

Air pollution trading programs are the oldest and most well known example of market based trading instruments. Over the last decade, environmental regulatory agencies such as the U.S. Environmental Protection Agency (EPA) adopted tradable air permit programs with increasing frequency (Environmental Protection Agency, 1992; Teitenberg, 1997). These programs consist of two basic types: credit programs and cap-and-trade programs. Under credit programs, credits are assigned (created) when a regulated pollution source (e.g., industrial boiler) reduces certain emissions below levels that existing, source-specific limits require. The resulting credits enable the same or another firm to meet its emission control target. Under a cap-and-trade system, an allowable overall level of pollution is established for all sources (e.g., industrial boilers) and stated as a clear environmental goal (e.g., 50 million-ton reduction by 1994). EPA then allocates this cap, or total limit, among polluting firms in a specified area in the form of permits, which can be freely exchanged among sources participating in the program. EPA typically bases permit allocations on a complicated formula that reflects how much pollution a plant historically emitted. Another way to allocate tradable permits is to auction them to the highest bidder.

Examples of credit programs include the EPA's 1994 emissions trading program to improve local air quality; the phase down of leaded gasoline in the United States; and heavy duty motor vehicle engine emissions. Examples of cap-and-trade include the trading of ozone depleting substances under the Montreal Protocol; EPA's sulfur dioxide allowance trading program and South Coast Air Quality Management District's (SCAQMD's) RECLAIM (Regional Clean Air Markets) program.

WATER TRADING PROGRAMS

In contrast to air quality programs, the United States has limited experience with tradable permit systems for controlling water pollution (Stavins, 2000). EPA defines effluent trading as "a method to attain and/or maintain water quality standards, by allowing sources of pollution to achieve pollutant reductions through substituting a cost-effective and enforceable mix of controls on other sources of discharge" (EPA, 1994). In

particular, environmental managers view effluent trading as among the most promising of methods to reduce non-point source pollution (e.g., sedimentation, agricultural runoff), which constitutes a major remaining American water pollution problem (Peskin, 1986).

Water trading systems tend to be credit-based approaches. Credits are assigned (created) when a regulated pollution source (e.g., industrial boiler) reduces emissions below that which is required by existing, source-specific limits; these credits enable the same or another firm to meet its control target. Water trading systems in the United States include experiments at the Dillon Reservoir in Colorado, the Tar Pamlico Sound in North Carolina, and Wisconsin's Fox-Wolf Basin (EPA, 2000).

For air and water, regulators agree that successful elements of market-based trading programs include clear, enforceable goals and a large number of potential buyers and sellers. It also helps to have a number of different abatement options to reduce emissions. The more cost-effective the reduction option, the greater the opportunity to generate tradable pollution rights.

LAND CONSERVATION PROGRAMS

Although the market-based model for land turns on a different set of conditions and assumptions than air and water based trading programs, certain basic concepts are the same. At its heart, the conflict between developing and preserving land is a conflict between the community interest in land preservation versus the private interest in maximizing land value through development.

One important difference in conditions involves the rights associated with the different activities concerned. Under environmental law, the release of significant quantities of air and water pollutants is not generally recognized as a "right" even when it is a longstanding practice. But under land-use law, it is generally recognized that the ownership of land carries with it the right to develop up to the level permitted by government zoning regulations. Thus, air and water based trading programs are often viewed as *creating rights which can then be traded*, while development-right trading programs are typically viewed as *creating a market for the trading of existing rights*.

The issue of property rights has important consequences for the construction of regulatory programs, and has been a major impetus to the development of alternatives to regulation, including development-right trading programs. Regulatory programs that are seen as infringing on property rights are inherently controversial. Moreover, the Fifth Amendment of the U.S. Constitution, and similar provisions of state constitutions, prohibit the taking of private property for public use without payment of "just compensation" to the property owner. Courts have had no difficulty concluding that a factory's emissions may be regulated to the point of closing the factory if its emissions are a threat to the public health, safety, and welfare. But because regulation of land is commonly viewed as the restriction or even removal of a pre-existing right, courts have struggled to determine the extent to which land development may be regulated.

Another important difference between the types of programs is that air and water market-based trading programs typically target point sources of pollution, such as smokestacks and sewer outfalls. For these sources, clear connections can be discerned between the pollution and its source, and between the amount of pollution and the activities that affect that amount.

For land development across a wide geographic area the situation is quite different. Although it may be clear that both land development activities and subsequent use of the developed land cumulatively generate pollution, such pollution is typically from diffuse "non-point" sources. Such pollution is difficult to trace to its points of origin, and often none of those points would be significant sources of pollution standing alone. In these circumstances it is also difficult to measure the affect of activities, including control measures, on the quantity of pollution. Such pollution is thus more difficult to regulate and a more difficult target for programs that offer alternatives to regulation.

Figure 2-1: Land Protection Costs and Benefits

Land Protection Tool	Opportunity Cost	Transaction Cost	Conservation Benefit
Purchase full property rights	Society/government pays for all land rights, including development.	Low cost to government to monitor current/future land use.	Targets most environmentally valuable land and/or least expensive. Conserved in perpetuity.
Tax credits	Landowner partially compensated.	Higher costs to government to monitor land administer taxes.	Targeted land preserved for low actual immediate cost.
TDRs	Landowner compensated for development right.	Low cost to government if market works well.	Market more efficient in determining value and small cost to public sector.
Easement	Landowner partially compensated.	High cost to government to write contract, record easement, but low cost to develop/administer program.	Allows or requires desired private uses to continue, prevents others.
Regulation	Landowner not compensated.	Low cost to government (unless takings).	Targets environmentally valuable land.

Source: Adapted from Boyd, Caballero, and Simpson. 1999.

TRANSFERABLE DEVELOPMENT RIGHTS

As mentioned before, TDRs are just one tool among several land conservation mechanisms. Their suitability depends in part on the program goals, the opportunity cost that the public is willing to bear, and the public and private transaction costs. TDRs are distinguished from other land conservation instruments by their focus on the concept of a right to develop as separable from other property rights. TDRs resemble tradable air and water programs because they create a market through the reassignment of rights. Whereas air and water systems assign rights to emissions, TDRs transfer rights for future development from a specific sending site to a receiving site (with a possible intermediate stop in a holding bank).

In theory, at least, TDRs represent a potentially less expensive way for communities to achieve planning goals such as open space preservation, environmental protection, and farmland preservation. The degree to which TDRs save communities money, however, depends on how well the TDR market works. If the market fails to work well, then communities and developers may bear a high "transaction" cost to administer the program. TDRs can be used alone or in conjunction with other instruments such as Urban Growth Boundaries (UGBs) to protect land from future construction while increasing density in preferred areas designated for additional development. TDRs also serve to compensate landowners for the loss of their land value in areas barred from any development.

TDRs are a very complex form of land use management and require a sophisticated management system. TDRs should have an adequate number of potential buyers and sellers. TDRs are usually traded only one time, and then the right is used to develop a land use, such as residences. A TDR could be moved again if the TDR system allows a new right to be created for an existing use that is removed. TDRs also depend on the availability of a "receiving area" where development rights buyers presumably capture the value of the TDR as well as the underlying uses.

2C. National Policy Context and Experience

Environmental economists started to popularize market-based alternatives to environmental regulations in the 1960s and 1970s. According to Pruetz (1997) TDR implementation occurred in three distinct "waves." The initial wave occurred during the 1970s. The most successful programs were developed during the 1980s, based in part on the early "pioneers" (as Pruetz describes them), followed by more innovative departures from the traditional TDR model in the 1990s.

The most-often cited "creation" of TDR's was in New York City. In 1968, New York City passed an historic preservation law that imposed restrictions on alterations to landmark structures that would unduly affect its aesthetic, historic, or architectural character. The law allowed property owners to transfer unused development rights from the landmark property to other properties. The Penn Central Transportation Company

sought to build an office tower atop the Grand Central Terminal, a designated landmark and was denied by the city. Penn Central sued. Among other claims, Penn Central argued that the city's landmark law constituted a taking of its property. In 1978, the U.S. Supreme Court found that New York City's TDR program was a legitimate mechanism to mitigate the financial burden that the landmarks law imposed on property owners. With this Supreme Court test passed, TDR's had a more solid legal foundation. As Pruetz (1997) observes, the rate of TDR adoption rose from an average of one per year prior to the *Penn Central* decision to more than five per year in the 1980s.

The TDR concept at the local planning and zoning level evolved mainly from the concept of clustering (Pruetz, 1997, p. 9). With clustering, developers concentrate development on a portion of the site in order to provide common open space and/or preserve and enhance a portion of the site of environmental value. Although potentially effective, clustering only moves development from one part of a parcel to another. It was not until 1961, when Gerald Lloyd wrote a technical bulletin for the Urban Land Institute which called for the ability to transfer development from one property to another, that TDR's first received significant attention (Pruetz, 1997, p. 9). In the 1970's, economists and planners began to view TDRs as a more cost-effective alternative to outright purchase and less risky than regulation, which could easily be perceived as a 'taking'.

TDR analyses come from two streams: economic theory and applied planning. The economics literature assesses the benefits of trading partial interests in land specifically within the context of development rights. The planning literature is mostly descriptive. Combined, the two streams provide a set of potential criteria with which to evaluate the Tahoe Basin program (Figure 2-2). TDR literature is thin, with fewer than 20 citations, and empirical studies are non-existent.

Economics literature focuses on TDR programs in which a local or regional planning agency delineates a region into TDR sending areas (e.g. agriculture, open space) and TDR receiving areas (e.g. existing, infill, or preferred residential and commercial). The agency enables sending site landowners to separate specific development rights from specific parcels (with a corresponding deed restriction) and transfer them to receiving sites (usually to augment already existing development rights, used or potential). The value of the TDR rights is determined by the going market price. In some systems, a bank is created to purchase and hold sending site rights until a transfer is completed to a receiving site.

Economists have largely concluded that the transaction costs of TDR programs often exceed the benefits. TDR programs can be costly and difficult to design and administer and demand for TDRs is often mismatched with supply. A TDR program relies on the use of deed restrictions and bureaucratic procedures to prevent transfers from occurring more than once. Economists suggest that TDRs invite strategic behavior or "gaming" by private interests who find creative ways to circumvent TDR restrictions.

Several early economic assessments concluded that the potential economic benefits to public agencies, private landowners and developers were outweighed by the

administrative costs to develop and implement TDR programs. Studies found that TDR programs are unlikely to result in an efficient land allocation (Field and Conrad, 1975; Mabbs-Zeno, 1981; and Barrese, 1983). The experience in areas that experimented with zoning-based TDR programs would seem to bear this out. In general, supply and demand conditions for development rights did not conform to planner's expectations, leading either to too few transfers or insufficient supply to meet demand (Thorsnes and Simons, 1999). Common components of successful TDR programs are:

- Viable receiving areas,
- Market study and supply and demand balance,
- Clearinghouses or banks to match buyers and sellers,
- Community support,
- Low transactions or administrative costs, and
- Low risk of successful gaming.

Despite such challenges, interest in TDRs as a policy instrument remains strong. By 1997, there were over 100 TDR programs underway in the United States (Danner, 1997). Pruetz (1997) surveyed 3,500 communities to find 112 TDR programs operating in 107 communities, the most extensive TDR program inventory made to date. Of these, 61 had environmental protection as their primary goal, 17 used TDRs to preserve environmental areas and to protect farmland, and 7 were exclusively to promote historic preservation (Pruetz 1997 pp. 28-31). Lane (1998) notes that a TDR program may be considered success even if few transactions take place. When used in the context of a larger land use plan, a TDR program may make a different preservation program more palatable by providing the landowner with more choices.

In contrast to economic analyses, planning literature describes implementation of prominent TDR programs in the United States. The most important criterion for TDR success is the existence of ample realistic receiving sites. Residents in receiving areas may object to additional density allowed and/or encouraged by the TDR program. Another important element is the ability of buyers and sellers to identify each other and conduct transactions with relative ease. Some TDR programs languished due to the difficulty of matching buyers and sellers. A number of studies found that third parties, such as land banks, help to promote transactions and reduce transaction costs.

Another benefit of TDRs is that they preserve, rather than eliminate entirely, a private landowner's development rights. A TDR program may provide a compensatory alternative for property owners whose land is affected by regulation. In practice, Pruetz has found that most communities with TDR programs do not rely on them to reduce the risk of takings claims. Instead, "most communities use TDR to mitigate the economic effects of regulations (Pruetz, 1997, p. 10)."

The Montgomery County TDR program, described in the next section, requires individuals who wish to develop a parcel in receiving sites to purchase a development permit from those inside the sending sites who were granted one permit for every five acres. Other examples where transferable development rights have been implemented are The Pinelands (New Jersey), New York City, San Francisco, Chicago, and Seattle. The success of the Pinelands TDR program is attributed to a fee-less government brokerage entity, resulting in low transactions costs (Stavins, 1995). A criticism of the TDR programs in New York City and Maryland is that they contribute to congestion and overbuilding (Levinson, 1997).

2D. Legal Context for TDRs

Transferable Development Rights programs have emerged partly as a response to the shifting legal terrain surrounding property rights and land-use regulations over the past 25 years. The courts have indicated that the economic rights of property owners should be protected in the face of extremely stringent regulations. And, despite many challenges by landowners, the courts have also sanctioned TDR programs and related implementation tools, such as mitigation banking, as a way to protect those rights.

In affirming that New York City's transfer of density away from the site of Grand Central Terminal helped avoid a taking, *Penn Central* established a multi-pronged legal test to determine whether a "taking" has occurred, including the character of the government action, the regulation's economic impact on the landowner, and the question of whether the regulation interferes with the reasonable investment-backed expectations of the landowner. Many of the nation's important TDR programs were created in the decade after *Penn Central I*, including the programs in Montgomery County, the New Jersey Pinelands, and Lake Tahoe. In legal terms, these programs sought to provide landowners with an "escape valve" from strict regulations that would permit them to realize the economic value of their property.

Since that time, a series of other court cases -- stemming from *First English Evangelical Lutheran Church of Glendale v. County of Los Angeles*, 482 US 304 (1987) -- have reaffirmed the rights of property owners to sue for monetary damages if their economic rights are regulated away completely. A series of other court cases beginning with *Nollan v. California Coastal Commission*, 483 US 825 (1987), clarified that mitigation measures imposed on a development project must have a direct relationship to the public burden imposed by that same development project. The U.S. Supreme Court has declined to lay down a hard-and-fast rule about when a taking occurs, except to say (in *Lucas v. South Carolina Coastal Council*, 505 US 1003 (1992), among other cases) that if a property owner is deprived of all economic value, then, with a few exceptions, a taking has occurred.

Property rights lawyers have frequently argued that the concept of transferable development rights is unconstitutional or, alternatively, that the implementation of TDR programs violate the constitution because the markets created by them do not function

well enough for property owners to retain property value. Many of the most important legal challenges along these lines have involved the Lake Tahoe regulatory program. Generally speaking, the courts have not accepted these arguments.

One prominent case challenging the constitutionality of TDR programs was *Suitum v. Tahoe Regional Planning Agency*, 520 US 725 (1997). In that case, a Tahoe Basin residential lot-owner claimed that her property rights had been extinguished by the TRPA regulatory system. She further argued that her economic rights could not be reclaimed by the TDR system, claiming that no TDR market really existed and therefore her property had no marketable development rights. The Ninth U.S. Circuit Court of Appeals ruled that the economic value of her property could not be determined unless she applied for a TDR. The U.S. Supreme Court declined to rule on the merits of the case, which was eventually settled out of court.

More recently, in *Tahoe Sierra Preservation Council v. Tahoe Regional Planning Agency*, 535 US ____ (2002), the Supreme Court reaffirmed that, except in cases where all economic value has been wiped out, the "balancing" analysis contained in the *Penn Central* case should be applied to the question of whether a taking has occurred. Before, the Supreme Court, the *Tahoe Sierra Preservation Council* case dealt only with moratoria that predated the adoption of the 1986 Regional Plan and therefore did not deal with the TDR program.

In summary, TDR programs have emerged in the last 20 years largely in response to the need to balance land-use regulations with the protection of property rights as required by the U.S. Constitution. Some property rights lawyers have argued that TDR programs do not provide this Constitutional "escape valve," but so far courts have not agreed.

2E. Mitigation Banking and Other “Tradable Development Obligations”

Generally speaking, TDR-type programs such as those in the Tahoe Basin are programs that deal with the trading of *rights* – that is, the ability of a landowner to develop property as determined by a government regulatory agency with the power to issue development permits, such as TRPA. However, *rights* are not the only thing that regulatory agencies confer on landowners when issuing a development project. In many cases, regulatory agencies also confer *obligations* on landowners as well – that is, requirements that the landowner must fulfill in order to obtain the right to develop. In the world of natural resources policy, such *obligations* are usually referred to as *mitigations*. Just as *rights* can be banked and traded, so too can *mitigations*. *Mitigation banking* (and its close cousin, *conservation banking*) involves establishing a program around what might be called a *transferable development obligation* – essentially, the mirror image of a transferable development right.

In most TDR programs there is no confusion between *rights* and *mitigations*. In the case of the Tahoe marketable rights programs, this distinction is not so clear-cut. Some marketable rights involve commodities whose supply is extremely constrained, so that sometimes the commodity is a right and sometimes it is an obligation. This is especially true of coverage, which in some cases is traded as a potential future right and in other cases is subject to a mitigation fee to rectify past damage. In addition, there is at least one program that operates like a classic mitigation banking program. These distinctions will be discussed in more detail in the next section.

The concept of “mitigation” has deep roots in environmental law, dating back at least to the Fish and Wildlife Coordination Act of 1934, which first mandated conservation features (such as fish ladders) as part of federal projects such as dams and channelization. (Environmental Defense, November 1999.) Most commonly, under a variety of laws – especially the federal Clean Water Act – mitigation requirements have been applied to projects that disturb wetlands. In wetlands mitigation, especially under federal law, a three-step guide has emerged – avoidance, minimization, and compensation. Projects should first seek to avoid destruction of wetlands. If that is not possible, then projects should minimize destruction. Finally, in cases when a project could not be reconfigured to avoid or minimize damage to wetlands, project applicants were required either to restore degraded wetlands or to acquire healthy wetlands and deed them over to public agencies as compensation.

Over time as well, the notion of “off-site” mitigation gained in popularity; that is, the applicant could perform his or her mitigation on a different location so long as regulators approved. But because individual projects often involve small pieces of land, it was sometimes difficult to determine whether the mitigation requirements were resulting in meaningful conservation. For this reason, both state and federal policies have evolved over time to encourage broader goals of watershed and habitat planning and the use of mitigation banks to help achieve those goals.

Perhaps the best definition of mitigation banking (provided in the wetlands context) comes from *Wetlands Regulation: A Complete Guide to Federal and California Programs*, by Paul D. Cylinder, Kenneth M. Bogdan, Ellyn Miller Davis, and Albert I. Herson: “A mitigation banking program uses a credit system to enable the purchase of compensation credits, with each credit representing a unit of restored or created wetlands which can be withdrawn to offset impacts incurred at a development site. In most cases, wetlands are created at a mitigation bank site prior to the removal of wetlands at a project site.”

Thus, mitigation banking is similar to a transferable development rights program in the sense that it seeks to take an individual landowner *obligation* (the mitigation requirement) and convert into a *unit of currency* that can be bought or sold so that the landowner can realize financial value while the environment is protected. In general, a mitigation bank can be defined technically as “a system in which the creation, enhancement, restoration, or preservation of (a natural resource) is recognized by a regulatory agency as generating compensation credits allowing the future development of other (wetland) sites.”

2F. Wetlands Mitigation Banking Under the Federal Program

Federal wetlands mitigation banks are governed by the “Federal Guidance for the Establishment, Use, and Operation of Mitigation Banks,” which was published in the Federal Register by a variety of 2. federal permitting agencies in 1995. Also in 1995, California adopted a similar policy for establishing what the state Resources Agency calls “conservation banks,” specifically for land affected by endangered species. The chief difference is that whereas restoration is an important component of wetlands mitigation banks, California’s endangered species conservation bank program places high priority on preservation. The federal government has also adopted similar “guidance” for the use of in-lieu fees in mitigation banks, and has considered – but has not adopted – similar “guidance” for endangered species mitigation banking.

Although providing mitigation for a development project with environmental impacts is mandatory under several Federal and State regulations, such as the National Environmental Protection Act (NEPA), participation in a mitigation bank is voluntary. (Land Use Forum) "Mitigation banking is intended to help resolve contentious situations where growth and development pressures conflict with wetland protection efforts" and is often considered more effective than project-by-project mitigation. This view is gaining support, as measured by the growing number of operating banks and the larger number that are being discussed or proposed. "(www.cnie.org). There are approximately 100 wetland mitigation banks already in operation or being constructed in 34 states across the country(Watersheds, <http://h2osparc.wq.ncsu.edu/info/wetlands/mitbank.html>). In California, where wetland loss has been dramatic, there are 19 approved mitigation banks and 18 more pending approval (ELI proposal).

Since Section 404 of the Clean Water Act requires compensation in order to mitigate for lost wetland functions due to development, wetland mitigation banking dominates the discussion of current mitigation banks. There are also clear guidelines for utilizing wetland mitigation banking in the 1995 interagency Federal Guidance for the Establishment of, Use, and Operation of Mitigation Banks under the Clean Water Act and the Food Security Act. (Bean). There are five federal agencies involved in the process of permitting and administrating mitigation programs in compliance with these Acts. They are the Corps of Engineers, EPA, Fish and Wildlife Service, National Marine Fisheries Service, and the Natural Resources Conservation Service. These agencies all belong to the Federal Interagency Wetlands Work Group that is "working to bring greater continuity to the many and disparate efforts by developing a model banking instrument which can be used by each bank to document its objectives and operation. Continuity may become more important as banking policies and operations continue to evolve in various forms in most states. "(www.cnie.org).

The process of developing a wetlands mitigation bank under the federal guidance is as follows:

1. The need for a bank is identified by a government agency, commercial entrepreneur, or other party anticipating future mitigation needs in a given area. All banks require the acquisition or possession of a long term interest in a piece of land by such a government, corporate, or non profit "sponsor." This sponsor submits a "prospectus" which provides a general plan for the bank. The Corps provides this prospectus for a period of brief public comment.
2. A mitigation banking review team conducts a formal review of the proposal and a site is chosen based on its suitability to support the anticipated needs for habitat function.
3. The bank is designed, depending on its goals, to replace either anticipated functional losses or identified historical functional losses within a specified trading area. Regardless of the type of bank created, its value is determined by quantifying the created or restored function in terms of "credits." Credits may be calculated simply by the amount of acreage, by quantifying habitat, or by quantifying physical and biological functions and social values.
4. A permit or other instrument is finalized establishing the banks' goals, ownership, location, size, wetland or other resource types included, trading area, crediting methods and accounting procedures, performance and success criteria, monitoring and reporting protocol, contingency plans, financial assurances, long term responsibility, and detailed construction plans.
5. Applicants proposing impacts to habitats that meet the banks criteria, and who have met all other normal permitting requirements for their project, can then withdraw "debits" from the bank based on anticipated functional losses due to their development activities. (Watersheds, <http://h2osparc.wq.ncsu.edu/info/wetlands/mitbank.html>)

One of the key concepts to understanding mitigation banking is understanding how compensation credits and debits form a type of "currency" to quantify environmental gains and losses. The 1995 Guidance policy suggests a method for developing this currency that measures both wetland acreage as well as function to determine whether environmental losses are equal to gains made by mitigation. In the in-lieu fee system, the currency essentially becomes money that is paid to compensate for losses.

Endangered species represent a somewhat different mitigation problem than wetlands. In general, not every member of a species' population need survive for the species recovery goals to be achieved, meaning not every location needs to be saved. At the same time, however, species populations tend to occur over a much broader "habitat" area. In certain ways, therefore, species habitat is well-suited for banking efforts, because, across a broad area, some locations can be "lost" and others "saved" and the recovery program can still meet its objectives.

2G. Endangered Species Habitat Conservation Banking Under California Law

California has led the effort to coordinate habitat mitigation banking with mitigation efforts under the Endangered Species Act through its official policy regarding the establishment and implementation of "conservation banks." Since the adoption of the conservation banking policy in 1995, more than 40 conservation banks have been created and certified by the state. Approximately half of these banks are in San Diego County.

It is important to note that the policy language of these banks makes a distinction between "conservation banking" and "mitigation banking." It is not, however, the same distinction made earlier in this paper between *conservation* and *mitigation* where conservation simply meant preservation while mitigation implied restoration or no net loss. The California policy describes conservation banks as a second generation of mitigation banks because "Conservation banks are designed to focus on the conservation of biological resources that are high priorities in specific regions. Further, conservation banks are designed to address the protection of habitat types and dependent species at the same time. Specifically, the State seeks to encourage banking in those parts of California that are engaged in regional habitat protection on a formal basis."

"A conservation bank is a parcel, or series of parcels, of habitat owned by a private party or public agency and managed for its natural resource values. Habitat restoration credits in a conservation bank are sold to other individuals, firms, or agencies that are required under law to compensate the adverse environmental impacts of a development or other activity." (http://ceres.ca.gov/topic/conservation/april_press_release.html)

Here the distinction is made because "a conservation bank serves to consolidate these environmental mitigation requirements and apply them at high priority habitat sites for maximum regional environmental benefit." In other words, this is mitigation banking with the goal of working toward more comprehensive conservation of species and habitats through regional habitat conservation planning and efforts under the state's Natural Communities Conservation Planning effort. In many cases, especially in San Diego County, the conservation banks have essentially served as tools to implement large-scale conservation planning efforts under the NCCP.]

2H. Design and Operational Issues Associated With Mitigation and Conservation Banking

Both state and federal agencies now have many years – and, in some cases, decades – in managing mitigation and conservation banks. As with TDR programs, this experience with banking programs reveals a small but common set of design and operational issues. A review of bank programs by Environmental Defense in 1999, prepared in order to determine what type of federal endangered species habitat banking program would be most appropriate, identified the following issues as both important and common to most

banking situations. Many of them will be familiar to those who have examined TDR programs.

1. Should Banks Be Created Based On Rigid Requirements or Loose Guidelines?

Federal wetland mitigation policy requires the creation of banks according to uniform rules. However, greater activity and entrepreneurialism may be encouraged by use of loose guidelines to create banks.

2. Are Publicly Owned or Privately Owned Banks Preferable?

Both exist, but in many cases private bankers complain that regulators do double-duty as bankers and/or undercut their prices. In some cases, a bank may be created specifically to meet the mitigation needs of a public agency; in other cases, a private bank may be more appropriate in order to put private buyers and private sellers together.

3. Should Banks Follow the Standard Avoid-Minimize-Compensate Hierarchy?

This is the traditional hierarchy required for federal wetlands mitigation. However, many practitioners and critics suggest that, in fact, the entire banking idea will inevitably tilt toward compensation. Furthermore, endangered species habitat banks may have different requirements so that a rigid adherence to the hierarchy is less necessary.

4. How Far Apart Should Impact Areas and Mitigation Areas Be?

This is always an issue in any mitigation program that permits off-site mitigations. The bias in wetlands mitigation banking is toward mitigation within the same watershed – the equivalent of the requirement in the Tahoe coverage program that coverage may be traded only in the same hydrological basin. However, individual wetlands mitigation deals have been done as far as 150 miles apart in California when equivalent wetlands are hard to find. Furthermore, close proximity may not be necessary in the case of endangered species.

5. How Should Currency Be Created?

In a situation analogous to TDR credits, this is a fundamental question that is not always well answered in mitigation or conservation banking programs. In many cases, bank programs create credits but do not create criteria for them, thus leaving this important question up to the judgment of individual regulators. Ideally, the credit system would be based on assessment of the property's true mitigation value in the context of protecting the entire ecosystem, as the Kern program was.

6. Should the Preservation of Existing Habitat Generate Mitigation Credits?

This may be an issue more applicable to endangered species than to wetlands, but it is increasingly an issue in all mitigation banking situations. Originally, mitigation was defined as an effort to avoid, alleviate, or compensate for actual losses. In general, this

has meant either affirmative effort to improve environmental conditions in the context of the project (i.e., fish ladders) or to actually restore land that has been environmentally degraded. Increasingly, however, the term “compensation” has come to mean, setting aside land “at risk” as mitigation for a project that degrades the environment on other land, without necessarily improving the land being used as mitigation. California officials, who argue more aggressively for preservation than officials elsewhere, claim that preservation of intact natural systems is preferable to attempts to restore or create wetlands or natural systems, which may fail.

7. *Should Activities on Public Lands Create Credits?*

The question of whether to allow a mitigation bank to create credits by mitigation activities on publicly owned land is a sticky one. In general, publicly owned land is required to meet environmental regulations in any event; hence, the use of public-land mitigation as a credit bank for private activity would seem to be allowing private permit applicants to buy credits for activities that would take place anyway. On the other hand, not all public agencies have the resources required to perform the mitigation activities they are supposed to perform. Federal wetlands policies have generally not permitted this type of mitigation credit.

8. *Should Credits Be Sold Before They Are Earned?*

In some cases, mitigation credits can be sold before the mitigation has been successfully carried out. This, essentially, is what an in-lieu fee system such as Riverside County’s does. However, this creates a typical “market versus results” issue. As the Environmental Defense report pointed out, bankers often say advance sale of mitigations is necessary for the market to function well but environmentalists are concerned about awarding credits by “betting on the come” rather than only when actual mitigation has been successfully accomplished.

It is also worth noting that mitigation banking programs, unlike most TDR programs, almost always operate in the context of a public acquisition program as well. Many TDR programs (Boulder and Lake Tahoe being exceptions) exist primarily because there is no public source of funds to purchase land or development rights. However, mitigation banks often exist in conjunction with public acquisition programs; public funds are used to acquire the core properties, while trading programs are used to protect other land.

CHAPTER 3. CASE STUDIES OF MARKETABLE RIGHTS TOOLS: TRANSFERABLE DEVELOPMENT RIGHTS PROGRAMS AND MITIGATION BANKING PROGRAMS OUTSIDE THE TAHOE BASIN

3A. Introduction

The experience of TDR programs and mitigation banking programs nationwide holds many lessons that will be valuable in the context of the Tahoe Basin marketable rights programs that will be described and assessed in Part 3 of the report. In this section, we will examine 10 different case studies of TDR and banking programs around the nation, including the following:

- Two short case studies of successful TDR programs on the East Coast, Montgomery County, Maryland, and the Pinelands in New Jersey.
- Five extensive case studies of TDR and PDR (Purchase of Development Rights) programs elsewhere in the Western United States.
- Three short case studies of conservation/mitigation banking programs in California.

3B. Eastern Case Studies: Montgomery County and the New Jersey Pinelands

MONTGOMERY COUNTY, MARYLAND

Montgomery County operates one of the most prominent and successful TDR programs in the United States. The program is designed to protect farmland from development. Since 1980, the program has grown to protect 40,583 acres of farmland (Montgomery County Environmental Assessment, 2000). The TDR program is one of four preservation programs. The other three are the Montgomery County Agricultural Easement Program, Maryland Environmental Trust, and the Maryland Agricultural Land Preservation Foundation.

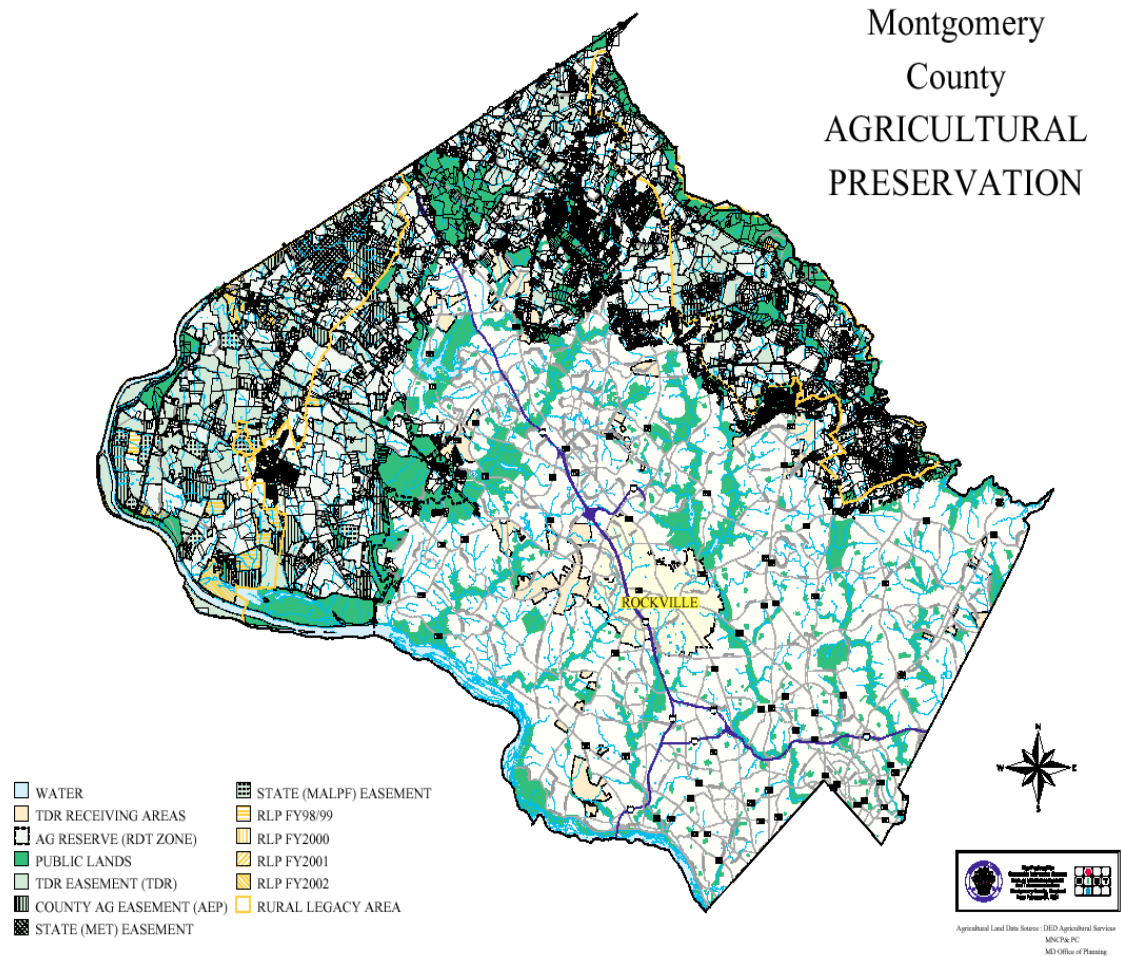
Montgomery County's record is impressive; given its location directly northwest of Washington, D.C. Washington itself has steadily lost urban residents to its suburbs in Maryland and Virginia since the 1950s. Montgomery County recognized early that it would lose its agricultural open space to urban development if market forces directed the county's future. In 1956, the state adopted tax rules that provided tax incentives to landowners to keep land in agricultural production. However, growth proceeded largely unhampered by these tax incentives and other planning efforts. In 1980 the County Council adopted a master plan with allowances for Rural Density Transfers.

Zoning regulations allow landowners within the designated open space zone (sending site) to build one dwelling per 25 acres. The TDR program, however, allows owners who transfer development rights into one of the nine designated receiving sites to transfer at a rate of one unit per five acres, creating a 5 to 1 incentive to transfer.

In 1982, Montgomery County established a County Development Rights Fund. The fund was intended to serve as a buyer of last resort in the event sellers could not find buyers in the private market. The county designed the fund to bank TDRs and auction them to the highest bidder. The bank languished for eight years because the private market was sufficient to successfully match buyers and sellers. Montgomery County eventually terminated the fund.

There are a number of reasons for the success of the Montgomery County program. The County developed a comprehensive land use plan that included economic analysis and TDR program impacts. Another reason is that the TDR program's 5 to 1 ratio provides buyers and sellers with significant incentives to transfer development rights. Finally, the program is straightforward and relatively simple to administer and landowner and public confidence in the process is high. Both TDR and non-TDR projects have the same entitlement process.

On the other side of the coin, the permitting process can take up to one year and there is criticism that the designation of receivership sites does not take into account differences in land value. It should also be noted that incorporated cities are not included in the process. This is perhaps a weakness, though few counties exist in Maryland and counties are far more powerful.

Figure 3-1: Montgomery County Agricultural Preservation

Source: Geographic Information Systems, Department of Information Systems & Telecommunications, Montgomery County

PINELANDS PROGRAM, NEW JERSEY

In contrast to the Montgomery County TDR program where the emphasis is on maintaining active agriculture, the goal of the New Jersey Pinelands program is to protect environmentally sensitive areas. The state's "Pineland" region occupies roughly 1.1 million acres in the southeastern portion of the state spanning seven counties and 56 municipalities. The Pineland region features pine and oak woodland, cedar and hardwood swamps, pitch pine lowlands, and includes unique areas of "pygmy forest." According to Pruetz, the program to date has permanently preserved 13,000 acres from development. By 1995 – 14 years after the program's inception – the program had severed 364 development rights or "credits" as they are called in the New Jersey case, from environmentally sensitive property in the Pinelands region.

The New Jersey Pinelands Commission controls land uses within a very large area, as shown in Map 3-2. In this regard, the Pinelands program is the first in the country to allow development rights to be transferred among different communities.

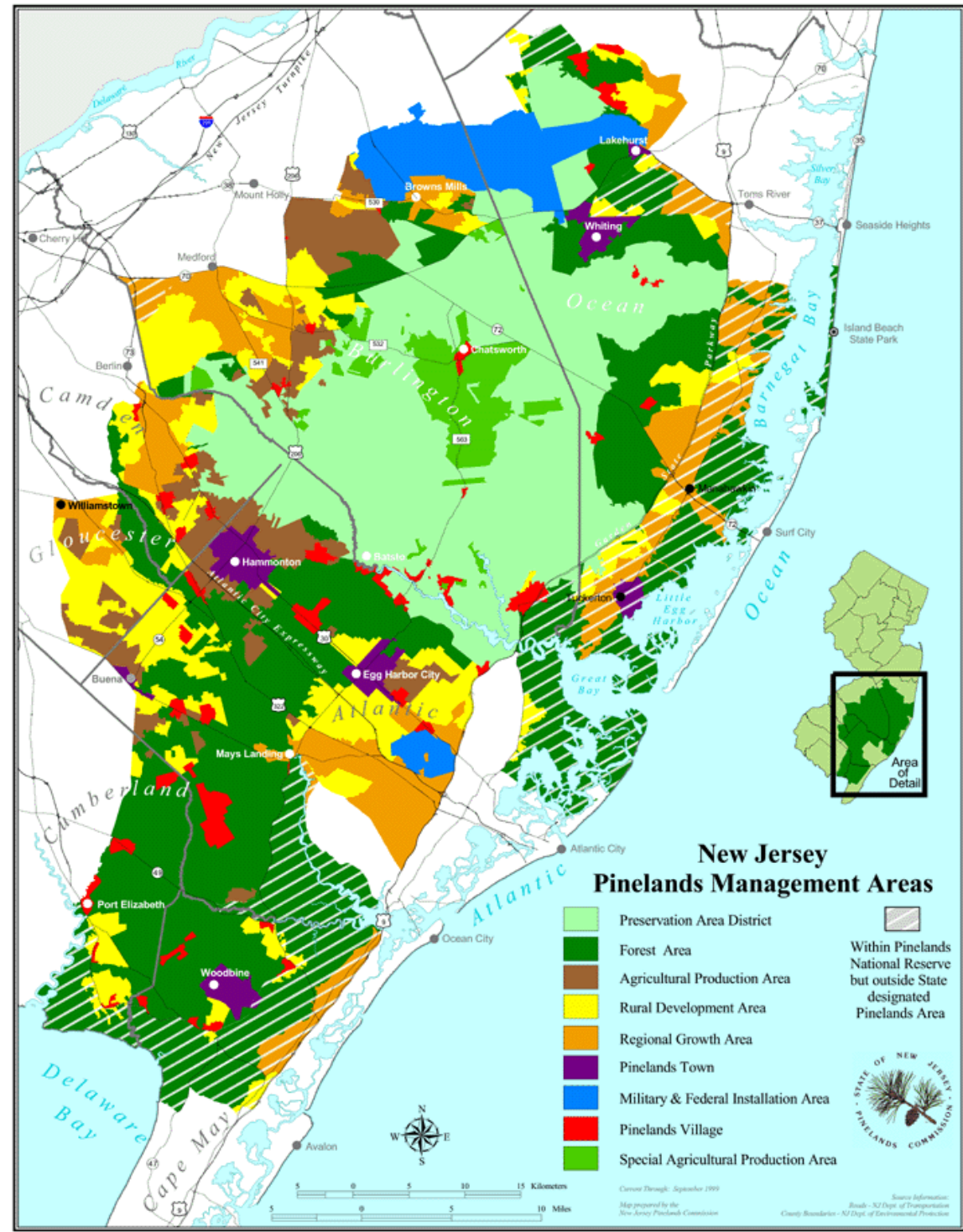
To accomplish its goals, the program designated nine planning management areas with allowed uses specific to each area. Like Montgomery County, New Jersey sends development out of sensitive sending sites to less sensitive receivership sites and employs a transfer credit at a ratio greater than one to one to encourage transfers. Each management area generates Pineland Development Credits (PDC) at a specific rate based on the land's development potential and environmental sensitivity. Credits are generated at a maximum rate of one PDC per 39 acres to a minimum of 0.2 PDC per 39 acres (no PDC can be transferred from land that has been mined).

If an owner keeps the PDC on site, it can be used to build one unit. However, if the PDC is transferred to a receiving site the landowner may build four units. Once a PDC is transferred, the property is deed restricted and only uses that are specifically authorized by the management plan are allowed. Pruetz cites the TDR program's consistent and thorough self-examinations as one reason it has succeeded.

Pizor (1983) evaluated the Pinelands program and found that the program lacked sufficiently suitable receiving sites. No-growth sentiments in many communities, restrictions on transfers to sites not serviced by public sewer systems, and other planning considerations often made transfers difficult. There is a consensus that the program was so complex and time consuming that building at lower density was preferable to dealing with the regulations and procedures. Many of these issues were addressed during program revisions.

Recently, Pruetz (1997) stated that the program works well because it applies to the entire Pineland region with the help of a well thought-out comprehensive plan. The 4 to 1 transfer ratio provides buyers and sellers with incentives. Local jurisdictions cannot increase density without using PDC transfers. And the public outreach program proved instrumental in the program's long-term success.

Figure 3-2: New Jersey Pinelands



Source: <<http://www.state.nj.us/pinelands/lcm.htm>>

3C. Western Case Studies: Boulder, Colorado; King County, Washington; Malibu and Cambria, California; and Pima County, Arizona

Western counties with TDR programs must address many situations not common in other states. This portion of Chapter 3 looks at five TDR (and PDR, or Purchase of Development Rights) programs in detail to find lessons applicable to the Tahoe Basin transfer programs. The programs are in Boulder City and County, CO; Malibu, CA; Cambria, CA; King County (Seattle), WA; and Pima County (Tucson), AZ.

These case studies are not the only TDR programs in the West. They were selected because they have characteristics similar to the Lake Tahoe area and program. Each of the case studies deals with sensitive scenic environmental areas, past and present development pressure, transfer of one or more development rights, and/or extensive small-lot subdivisions.

The American West has a singular history and a distinct set of patterns regarding the use of land. In the 19th Century, the federal government focused on the rapid transfer of frontier land from public to private ownership. The government's hope was that the private land owners could begin and increase economic activity resulting in land sales and collectible taxes. After the United States had acquired more and more western land through treaties with the Indian Nations and land purchases, the government became a broker of relatively inexpensive lands. Western lands became the area of promise and economic development for mining, farming, and expanding railroads. It is acknowledged that the treatment of the Indian Nations was usually not fair and treaty obligations were commonly not fulfilled under contemporary standards.

Beginning in the early 20th Century, the focus of government shifted slowly from selling of land to increasing public control over private property, and increased government restrictions over the use of Western lands still owned by the federal government. This was a difficult transition for land owners who had grown accustomed to the western frontier ethic. This shift began a continuing series of legal battles over private property rights.

Urbanization in the West held strong from 1920 to the 1960's, with agencies like the Bureau of Land Management (BLM) and Bureau of Reclamation facilitating growth with key land and water "development" programs. In addition, local governments in many parts of the West permitted widespread subdivision of land, often without making provisions for necessary urban infrastructure.

The West is usually regarded as a "rural" or "natural" area because historically it was relatively unpopulated relative to the rest of the country. This perception, however, can be deceiving. Although perceived as rural, western landscapes have been manipulated for the use of extractive industries and to provide water for irrigation. More important for our purposes, however, is the fact that in recent decades the West has evolved with a singular

pattern of urban and metropolitan growth that creates an unusual relationship between urban and rural areas. This pattern affects the region's ecosystems on a large scale and inevitably will shape the nature of the region's growth control efforts and the formulas for their success.

In contrast to the urban areas, which have pockets of environmental degradation and social inequity, most Western rural areas suffer from economic decline and feel increased pressure to rely on extractive industries, rapid subdivision, and other unsustainable economic development strategies that hold the potential for significant environmental damage. Despite efforts to abate the negative effects of development, it has been difficult for local regulators to deny the individual property owners the "development" rights associated with their property and/or legal lot.

BOULDER CITY AND COUNTY, COLORADO

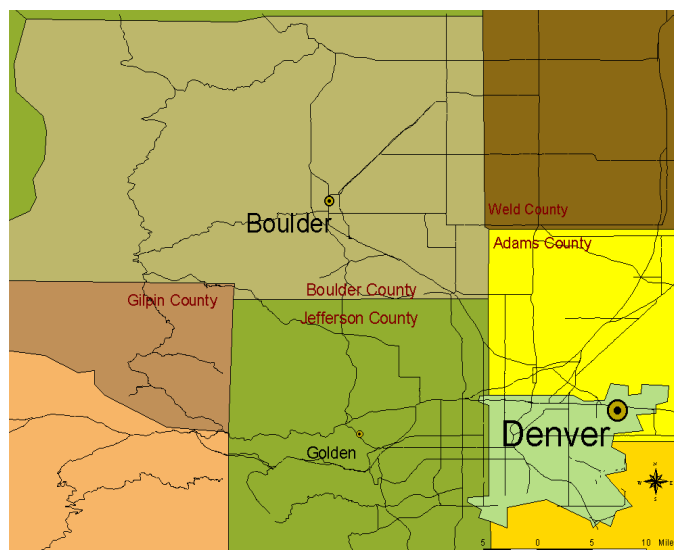
For more than 40 years Boulder County and City of Boulder, Colorado, have been home of some of the most innovative open space programs in the nation. Boulder City has had limitations on urban expansion since the 1950s; locally funded open space acquisition programs since the 1960s; and a TDR program since the 1980s. Boulder County started a rural 'PUD-clustering' program in 1981 that was the pre-cursor to their TDR program that is now county-wide and inter-jurisdictional. All these programs have worked together – and interacted in significant ways – to shape both open space protection and urban development in the Boulder area.

Historic, Geographic, and Political Context

Located in the north-central part of Colorado, the county sits 15 miles northwest of Denver. Boulder County is one of 64 counties in the State of Colorado, counting the recently incorporated County of Broomfield carved from the Southeast corner of Boulder County and three other adjacent counties (see Figures 3-4 and 3-5). The County is composed of 13 municipalities as well as several unincorporated areas. Broomfield City and County, while another story, is worth noting as an example of recent rapid growth that was 'approaching' from the Denver area.

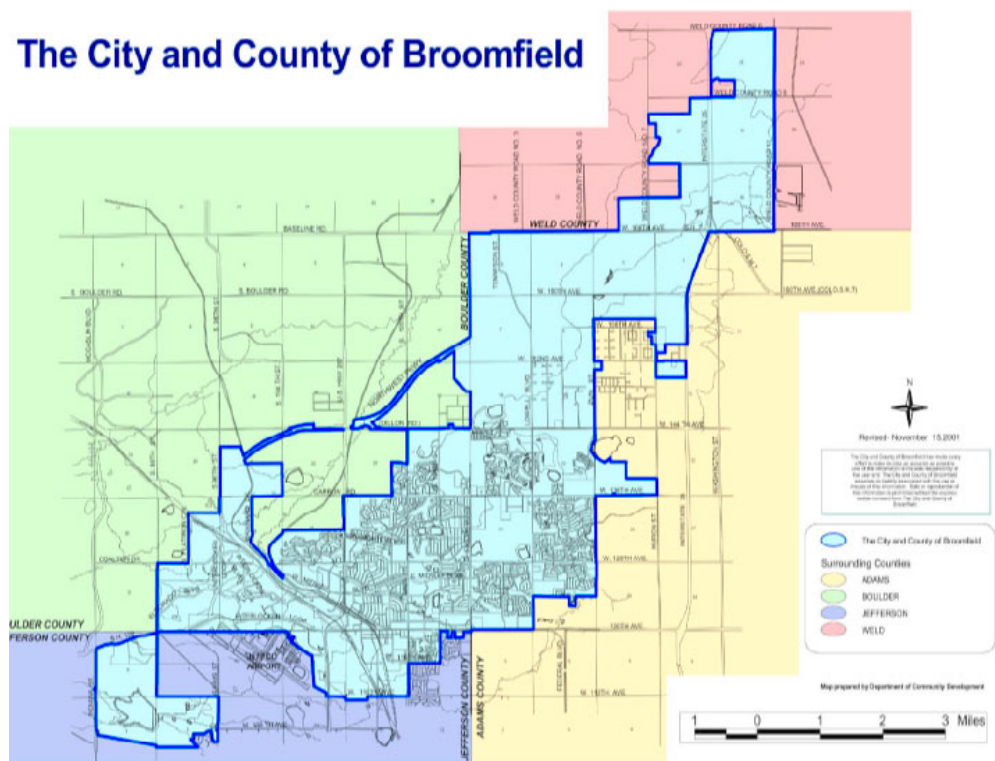
Bordered by the mountainous Continental Divide to the west and expansive rolling plains to the east, the county contains diverse land uses: lush farmland, destination ski-resorts, and large urbanized areas. The county encompasses 753 square miles and is situated on the eastern slope of the Rocky Mountains. Elevations within the boundaries of the county vary from the 5,000 foot level of the plains to the 14,000 foot peak of the Continental divide.

Figure 3-4: Boulder County and Northwest Denver Area, Colorado



Source: Census Bureau TIGER 2000

Figure 3-5: Broomfield City and County



Source: <http://www.ci.broomfield.co.us/maps/> (February 5, 2002)

As a part of the Louisiana Purchase, eastern Colorado became a part of the United States in 1803. The first record of modern settlement in Boulder County dates from March 1859, when reference is made in a letter to the laying out of the City of Boulder. In 1861, the Colorado Territory was created with Boulder County being one of the 17 counties represented in the first Territorial Assembly.

During the late 19th Century, competition among Boulder County settlements for new residents and businesses was intense. Residents encouraged the establishment of railroad service, hospital and school buildings, and stable town governments. The town of Boulder was incorporated in 1871. Open space protection began in 1898 when Chautauqua Park, at the foot of Flagstaff Mountain, was purchased through a bond issue that initiated the Boulder Mountain Parks System. In 1910, famous landscape architect Fredrick L. Olmstead came to the City of Boulder and suggested a program for preserving scenic Parks and Open Space lands.

The University of Colorado at Boulder was founded in 1876, the first campus in the University of Colorado's four campus system. The faculty and students at this liberal arts university played a major role over the decades in establishing a high value on open space and nature.

Figure 3-6: View of Mountains West of Boulder



Source: Solimar Research Group (2001)

With the mining economy faltering in the early 1900's, the Boulder area relied on tourism until World War II. During the decade of the 1950s, the City of Boulder more than doubled in population, growing from 20,000 to 37,700 persons. Citizens concerned with growth in their community formed a group known as PLAN-Boulder County, established in 1959. In that same year PLAN-Boulder County helped push an innovative

policy called the “blue line.” This amendment to the City Charter established a limit above which City water would not be supplied. . In post-war era United States where development and prosperity were common, these ideas of growth controls and restrictions were rare and ground-breaking.

Between 1960 and 1970 the population in the City of Boulder nearly doubled again, from 37,700 to almost 70,000. With pressure mounting between development and slow growth advocates, City of Boulder citizens approved a 0.4% increase in the city sales tax. Sixty percent of the funds were devoted to transportation and 40% were devoted to open space programs. Four years later, city voters amended the City Charter to allow the city to issue bonds against this revenue stream in order to purchase open space resulting in several large parks and open space purchases (see Figure 3-7). Meanwhile, Boulder County’s Parks and Open Space Advisory Board were formed in 1968 to begin directing land acquisitions in the unincorporated areas.

Acknowledging the desire for joint regional open space and land use efforts, the City of Boulder and Boulder County began developing the Boulder Valley Comprehensive Plan (1970), which defined the extent of urbanization. In 1978 the Boulder County Comprehensive Plan was adopted. The plan included goals and policies for preserving open space, protecting environmental resources (including both natural and cultural resources) and developing a county-wide trail system. More importantly, the County Comprehensive Plan designated urban-service lines that acted as a greenbelt and/or urban growth boundary (see Figure 3-8).

Figure 3-7: Entrance to Boulder Mountain Parks



Source: Solimar Research Group (2001)

Figure 3-8: Boulder County Urban/Open Space Edge



Source: Solimar Research Group (2001)

Areas that citizens thought were most important to be preserved as open space for future generations were shown on a map, which together with the goals and policies formed the open space plan. But Boulder's approach to protecting this open space did not consist exclusively of zoning or other land-use restrictions. The designation of "proposed open space" on that map (and subsequent maps) was not a zoning category, and development of any designated area was still determined by the applicable zoning. The implementation of the County Open Space Plan was based on both private cooperation and the county's financial ability to either acquire or place easements on selected parcels.

The Beginnings of Boulder's TDR Program

During the late 1970s the rural land parcels of Boulder County were zoned one unit per 35 acres of land. Beginning in the early 1980s, several mid- and north-county parcels were developed with large sprawling homes and, when combined with development activity approaching from the Denver area, prompted the County to take more action to preserve open space. Boulder City was buying open space in the southern portions of the county. The County did not have funds to purchase open space at their previous rate and a 1978 ballot initiative to implement a sales tax for Open Space had failed, prompting the County to search for alternative ways to control growth. The first effort was the Non-Urban Planned Unit Development.

In 1981, Boulder County introduced a development 'clustering' program named "Non-Urban Planned Unit-Development" (NUPUD). NUPUD applied principally to the rural and agricultural parcels with the county's 1 unit per 35 acres zoning. NUPUD did not transfer development rights between parcels in the classic definition, but instead encouraged developers and owners to cluster their homes in one corner and continue to

farm or graze at least 75 percent of the land which was placed under a permanent agricultural or similar easement. The County created the NUPUD process because Colorado state law did not explicitly authorize the use of TDRs, the County had only small amounts of general funding for open space and/or easement acquisition, and the pace of development of the rural areas was picking up.

Recognizing that the NUPUD process was not creating the desired effect of completely protecting open space in rural areas, the County expanded its program in 1989. The new process was known as NCNUPUD (non-contiguous non-urban planned unit development) and it allowed development rights to be transferred to a non-contiguous parcel, keeping the sending site “whole” and free from development. This program, in practice, stimulated even less activity than the NUPUD and has recently been overshadowed by a county-city TDR program implemented by means of Intergovernmental Agreements (IGA) allowing for cross-jurisdictional transfers.

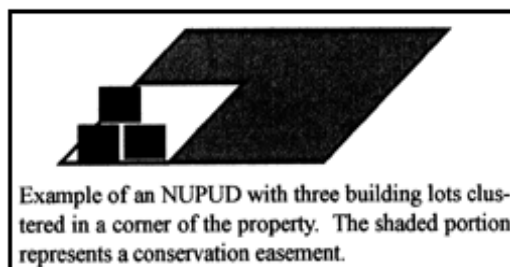
Program Descriptions

Non-Urban Planned Unit Development⁹

The NUPUD ordinance doubles the allowed residential density in most cases from 1 to 2 units per 35 acres on receiving sites. An NUPUD must contain 320 acres of which at least 75 percent must be designated by the County Comprehensive Plan as agricultural of state or national significance, designated open space, critical wildlife habitats and/or corridors, rare plants sites and associations, natural landmarks, wetlands, and archeological sites. NUPUD also allows for a minimum of 35 acres for pre-1994 parcels and if the proposed units are less than 2,500 square feet above grade or is less than one mile from an exiting municipality. NUPUDs may only be proposed on Agricultural, Rural Residential, Suburban Residential, and/or Multifamily zoning districts.

Development is subject to site plan review and must occur on the least productive agricultural land with minimal impact on open space. Lots must be efficiently clustered and attempt to maintain a rural character. The remaining undeveloped land is then platted as an outlot and a conservation plan may be required. The conservation easement is then granted to Boulder County and the outlot is usually leased for active farming or grazing and/or purchased by the County or another governmental entity. Figure 3-9 illustrates the NUPUD concept.

⁹ Section 6-400 of the Boulder County Zoning Code sets up the NUPUD, section 6-800, Conservations Easements

Figure 3-9: NUPUD Concept

The NUPUD ordinances have been used about 250 times as of 2001, resulting in over 10,000 acres set aside with a conservation easement. This is about 14 percent of the 73,000 acres in easements owned by the City or County of Boulder. Much of the NUPUD land is in active farming or grazing and makes up part of the 60,000 acres cultivated overall in the County. The County and City may initially manage the outlots but also sell them to area farmers while retaining the easement. The County grosses about \$350,000 a year from leases.¹⁰ NUPUD is still active although there is less eligible land due to the programs own success.

As in Lake Tahoe, the TDR programs in Boulder are often used in combination with public acquisition funds to set aside land for conservation.

To explain how this works, take the example of a 210-acre ranch which, under normal zoning, would be permitted six 35-acre lots would be developed and marketed for \$600,000 to \$1 million each. Market value for the land would be approximately \$5 million. By using the NUPUD process, 12 units are constructed on 25% of the land (52.5 acres). Assuming that these houses might be marketed for \$500,000 each that would mean the overall value of development is \$6 million. The remaining 75% of the property (210 acres) would revert to the agricultural market value of approximately \$6,000 per acre, meaning the overall value of the remainder of the remainder of the property is approximately \$945,000.

At this point it is possible for the county to step in with public funds and purchase the remaining 75% of the property at a much lower price. In essence, the county has provided the landowner with 6 additional units, clustered on one corner of the property, and lowered the price of the remaining 75% of the property from \$3.75 million (75% of the overall market value) to less than \$1 million.

¹⁰ Conversations with County staff at various times during 2000 and 2001 and Pruetz (1999), "Exhibit B: 33 TDC Program Case Studies" Butte County TDC Feasibility Study.

Non-Contiguous Non-Urban Planned Unit Development¹¹

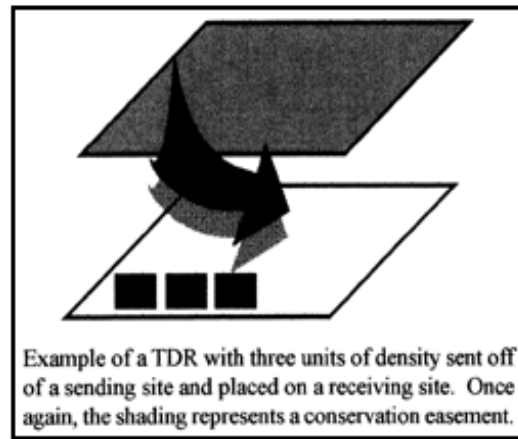
In 1989, the County expanded the NUPUD into the Non-Contiguous NUPUD (NCNUPUD) to encourage the complete preservation of sending sites by moving the development rights into an existing city or designated or negotiated receiving sites (see Figure 3-10).

The NCNUPUD program is a “real” TDR program in that rights transfer to a different site rather than just to the corner of the parcel as in NUPUD. NCNUPUD is explicitly a modification of the NUPUD program and incorporates most NUPUD criteria. NCNUPUD is intended to produce less overall negative impact and greater benefit compared to a series of NUPUDs on the same land. To entice developers and owners, NCNUPUD gives an additional 300 percent density bonus at the receiving parcel: up to 6 units per 35 acres compared to 2 for NUPUD and 1 under regular zoning. Unused density may be banked and used in a subsequent project. NCNUPUD also included a measure for the County to gain title and retire privately held lots in the national forests in the western half of the county by creating a sending site ratio of 1 unit per 175 acres of contiguous forest land.

With the NCNUPUD bonus, the owner of a 210-acre ranch could build 6 units under regular zoning (1 per 35 acres), cluster 12 units under NUPUD (2 per 35 acres), but create 36 sellable development rights (6 per 35 acres, or about 1 per 6 acres) under the NCNUPUD bonus. The ranch owner could sell those 36 units to another ranch owner who would create a relatively dense rural residential project elsewhere. The county could then use public funds to purchase the ranch at its agricultural value of \$1.26 million (about \$6,000 per acre).

Unlike NUPUD, NCNUPUD requires a public notice and hearing process and significant County review of both sending and receiving site characteristics and proposals. This perceived uncertainty coupled with some public opposition to proposed development at the receiving sites has discouraged developers, resulting in only five NCNUPUD projects through 1999. But NCNUPUD introduces several additional TDR tools: designated sending and receiving sites, transfer bonus, public notice and review, and TDR banking.

¹¹ Section 6-500 of the Boulder County Zoning Code sets up the NCNUPUD

Figure 3-10: NCNUPUD Concept

County-Wide TDR with Inter-Governmental Agreements¹²

The City and County of Boulder both adopted the Boulder Valley TDR Program in 1995, the first in a series of intergovernmental agreements (IGAs) between the County and its incorporated cities that are intended to transfer development rights from rural and other sensitive unincorporated areas of the County (sending sites) to incorporated cities (receiving sites) and several developed unincorporated areas of the County. Each IGA differs in some details and several have sunset dates and transfer caps. The Boulder IGA, for example, accepts up to 250 transferred units, has a five-year sunset clause, and requires both city and county approvals for projects or program changes in the county portion of the IGA area. The IGAs are modeled after the County TDR Program and generally act to receive development rights according to each city's criteria. These are the key components of the Boulder County TDR program:

Many exceptions are imbedded in the Code, suggesting both the detailed knowledge gained over the 20-year history of conservation and open space planning and program management by Boulder County and City and the need to negotiate details and tailor programs for multiple jurisdictions and circumstances.

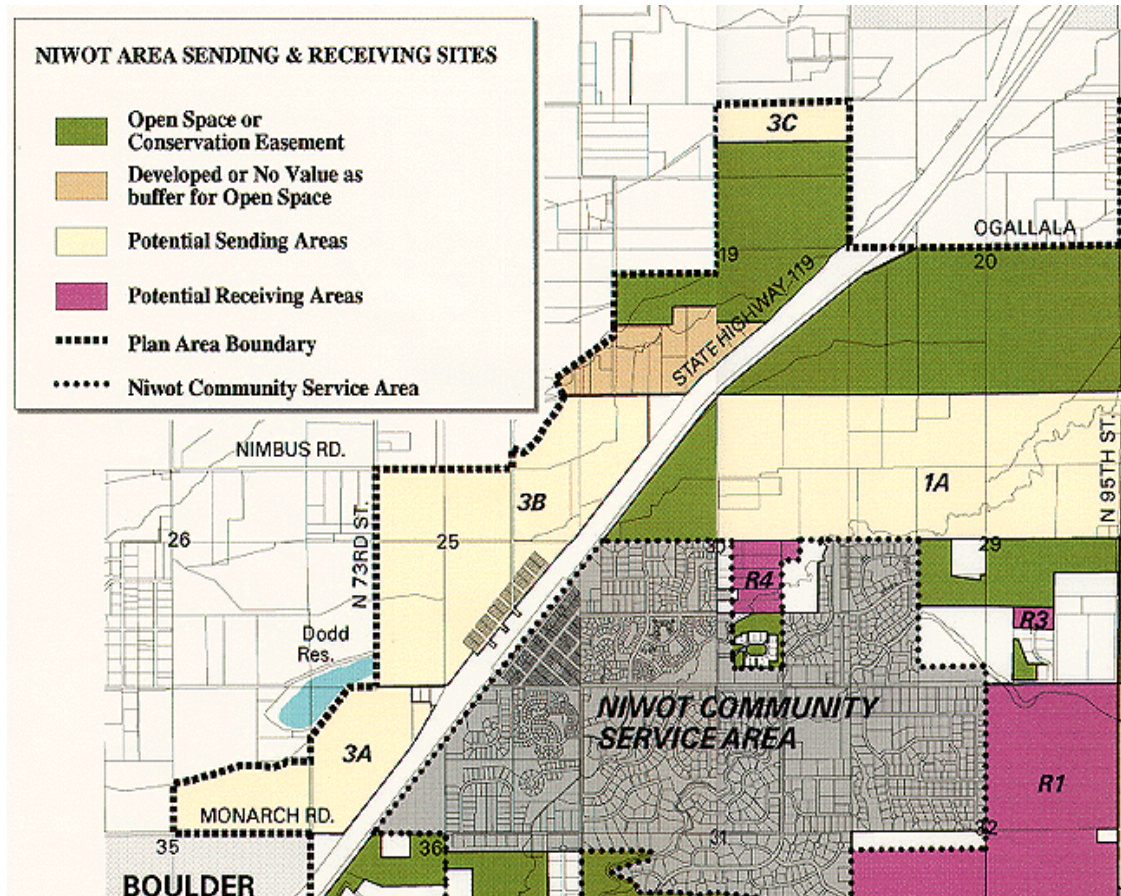
Of the three programs, NUPUD (the clustering technique) has preserved the most land, while the NUPUD (the county's transfer program) has preserved the least. NUPUD clustering techniques have preserved more than 10,000 acres of land since the program's inception. By contrast, there have been only five NCNUPUD transactions. Builders appear to prefer the NUPUD process because the NCNUPUD process is complex, time-consuming, and includes public hearings and planning commission and county commissioner approvals.

¹² Section 6-700 of the Boulder County Zoning Code

So far, the IGA program has been well-received, with 15 transfers producing somewhere between 3,200 and 4,700 acres of land conserved.

- The County TDR Program promotes countywide preservation of agriculture, rural open space and character, scenic vistas, natural features, and environmental resources including the perpetuation of large areas of generally contiguous parcels for agriculture.
- Sending sites are designated by the County (see Figure 3-11). County sending sites are zoned Agriculture, Rural Residential, Environmental Resources, and Suburban Residential. These zones allow development of one unit per 35 acres, two per 35 when transferred, and three per 35 acres if the sending site has deliverable water rights that are granted to the County. Owners may both develop at the sending site (at the rate of one per 35) and still transfer rights from the remaining portion, if applicable. IGA cities typically limit sending areas to nearby county land as their motivation to cooperate is based on local land use goals for greenbelt, farmland or environmental preservation.
- Many but not all receiving sites are explicitly designated (both Sending and Receiving Sites are denoted as “Potential” on maps). Receiving site owners must apply for designation and meet suitability requirements. Receiving sites are generally located in or adjacent to municipalities where they can benefit from urban services. There are several appropriate locations in the unincorporated plains and some areas around the City of Longmont, the Town of Niwot, and the City of Boulder.
- A TDR is initiated by the sending site owner who applies for a conservation easement in tandem with a Development Rights Certificate for each proposed transfer unit, subject to County staff review (and respective city staff, depending on the IGA). The Certificates are then used by the Receiving site developer to augment the receiving site’s underlying zoning. Certificates sell for between \$20,000 and \$50,000 each.
- Ideally, receiving sites will be located in or adjacent to municipalities where they can benefit from urban services. A conceptual plan and/or site plan, subdivision and/or PUD application, and Planning Commission and Board of County Commissioners approvals are all required. There may be several public hearings.
- The County’s Land Use Department (i.e. planning and zoning) maintains a list of interested TDR sellers and buyers, as do several local real estate agents. There is no TDR bank although it remains a possibility.

Several IGAs allow residential development rights to be converted to other uses provided the net effect is no worse than the residential uses. The conversions are negotiated as part of the approval process.

Figure 3-11: Portion of Boulder County TDR Map

Source: http://www.co.boulder.co.us/lu/transferable_development_rights/niwmapbg.htm

The NUPUD, NCNUPUD, and IGA programs may be thought of as the evolution of a TDR program over 20 years, first in unincorporated areas and now county wide. All three programs are secondary to purchase of open space, which has been Boulder City's primary focus for over 30 years. But the transfer programs and the open space acquisition programs work together in a way that results in the gradual implementation of the Open Space Plan.

The City and County are active players in the local real estate market backed by sales tax revenues, bond proceeds, and annual general fund allocations. Their financial resources would not be possible without the sustained backing of local voters and their elected officials. Continued Denver area growth has led to development "past" Boulder and an increase in cross-county commuting. Boulder City itself is net jobs-rich with expensive housing. Still, public support for the IGA remains as that program begins to find its feet.

MALIBU COASTAL ZONE TRANSFER OF DEVELOPMENT CREDIT PROGRAM

Between 1978 and 1991, the Transfer of Development Credit (TDC) program in the Malibu Coastal Zone was one of the most active and successful TDR programs in the nation. The TDC program is still in effect, but activity has declined substantially since the incorporation of the City of Malibu in 1991. The California Coastal Commission used the TDC program and public acquisition to prevent development in rugged, unsafe, and environmentally sensitive hillsides where over 5,000 small “vacation cabin” lots remained from 1920’s and 1930’s subdivisions. By 1999, 544 transfers retired 924 lots covering about 800 acres.

Figure 3-12: Malibu Regional Location



Source: Census Bureau TIGER 2000

Historic, Geographic, and Political Context

The Malibu Coastal Zone is a fragile ecosystem with diverse plant and animal species. With the Santa Monica Mountains rising upward directly out of the sea, steep slopes mark much of the landscape and increase the likelihood of erosion. Seasonal wind and fire danger potential are high. In the past decade, the City of Malibu suffered four major natural disasters, including a 1993 brush fire that destroyed 270 homes. The Malibu area, on average, has been subject to a large fire (one thousand acres plus) every two and a half years, and the entire surface of the Santa Monica Mountains has burned three times in the last 100 years. Emergency access is limited and sometimes closed due to slides, floods,

and fire. Yet, Malibu's beaches, ocean views, movie star residents, and access to Los Angeles create high demand and an average 2001 property value of about \$850,000.

Towards the end of the 18th Century, Spanish expeditions set foot on the California coast in an attempt to solidify and secure Spanish interests from possible English and Russian encroachment. "Rancho Malibu" became a well-established cattle ranch and the home for Jose Bartolome Tapia, the first owner of the rancho. After California changed from Spanish to Mexican to American hands in the first half of the 19th Century, the ranch remained relatively intact until the 1920s. As Southern California grew the once pristine beachfront / cattle-ranch became a desirable spot for many people. Those who flocked to the area were primarily those working in the film industry that came for the beauty and relatively cheap land. Several vacation "villages" were laid out on hillsides and along creeks with lots between 4,000 and 7,000 square feet, usually without adequate water or road access and no sewer system. Most of these lots remained undeveloped but retained entitlement to one unit under county zoning.

In 1972, California voters approved Proposition 20, known as the California Coastal Zone Conservation Act, which became permanent in 1976 with passage of the California Coastal Act (Act). This legislation is intended to protect the coastal environment, conserve resources, maximize public access, and encourage local initiatives and planning in coastal areas. As a result of the Coastal Act, the California Coastal Commission has ultimate regulatory authority over private land in the area. The Act requires all cities and counties to develop a Local Coastal Program (LCP) outlining management of their coastlines. Once the Coastal Commission approves an LCP, the local government regains day-to-day power to issue land-use permits. However, the Coastal Commission has never approved an LCP for Malibu, meaning the commission itself has retained land-use permitting power. The City of Malibu is currently preparing an LCP for the Coastal Commission.

In 1978, the U.S. Congress sought to further protect the ecology in the area by designating the Santa Monica Mountains National Recreation Area (SMMNRA). The Santa Monica Mountains Conservancy was created by the state shortly thereafter. Approximately 150,000 acres is owned by state and federal agencies for conservation purposes in the SMMNRA.

Much of the land in the Malibu Coastal Zone is now owned by government agencies, including the National Park Service (which operates the Santa Monica Mountains National Recreation Area), the California Department of Parks & Recreation, and the Santa Monica Mountains Conservancy. The Malibu Coastal Zone is divided among the County of Los Angeles, County of Ventura, and City of Malibu with the Coastal Commission having significant regulatory oversight on many land use issues.

The 1976 Coastal Act prohibits additional subdivisions if over 50 percent of existing lots are undeveloped. In 1978, 8,600 lots (about 64 percent of a total of 13,475 lots) in the Malibu Coastal Zone were undeveloped, many of these being small hillside lots without adequate services. Two 1978 planning studies recommended that development potential

be transferred from substandard entitled lots to new subdivisions that met current standards¹³. The Coastal Commission needed to develop a policy that could either slow or move development from the small-lot subdivisions in the hillside, and decrease the net development within the Malibu Coastal Zone. Consequently, the Commission developed its own transfer of development credit (TDC) program to not only move development closer to “existing development”, but to also mitigate the impacts of the new land subdivisions in the Santa Monica Mountains/ Malibu Coastal Zone that would occur as a result of the policy. The Coastal Commission began in 1978 to facilitate transfers on a project review basis as a pilot program, eventually leading to the 1979 adoption of guidelines (with several later modifications) and establishment of the formal TDC program¹⁴. The County of Los Angeles would not include a TDC program in its Malibu/Santa Monica Mountains Land Use Plan even though the plan supported the underlying goals. As long as there was no certified Local Coastal Program, the Coastal Commission was required to be the permitting authority in the Malibu Coastal Zone for subdivisions. The Coastal Commission’s 1981 Interpretive Guidelines acts as a “TDC zoning code” and the ability to require mitigation for “cumulative impact” as a condition of approval for discretionary permits is the legal mechanism for the TDC program.

Program Description

The TDC program applies only to subdivisions and is technically voluntary as landowners may seek development approval based on the underlying zoning without subdividing their property. The TDC program is considered a discretionary mitigation included in the conditions of a project or subdivision approval but is routinely applied. New subdivisions and projects must also meet other conditions for approval so the TDC is not a right to develop by itself. Because of high land values and strong demand, Malibu landowners have considerable economic incentive to subdivide and therefore to participate in the TDC program. As the TDC program evolved, exceptions and rules were added as needed. The following bullets summarize the main elements.

- The goal of the TDC program is to retire existing development rights in substandard subdivisions by transferring them to new current standard subdivisions resulting in no net increase of lots in the Malibu Coastal Zone.
- Sending Sites (called “donor areas”) were chosen by the Coastal Commission and consisted of small lot sub-divisions followed in 1981 with the addition of larger and un-subdivided lots in Significant Ecological Areas (SEA). The State Coastal Conservancy (an independent state agency within the State Resources Agency) later proactively focused on four project areas for restoration (El Nido, Malibu Lake, Cold Creek, and Las Flores Heights). The subdivision sending sites were inland between

¹³ California Coastal Commission, “Review of the Malibu/Santa Monica Mountains Transfer of Development Credit Program, April 25, 1996. Memorandum, pg. 1.

¹⁴ Pruetz, R (1999) “Exhibit B: 33 TDC Program Case Studies” from Saved by Development (1997).

Point Dume and Malibu Point and inland along Topanga Creek. The SEA areas were generally all undeveloped inland highland areas and several canyons.

- One TDC is generated for any combination of small lots which total one acre or more regardless of their ability to be developed. Or, one TDC is generated for one or more lots with access to a road within 300 feet, not located in a landslide or earthquake area, and capable of supporting 1,500 square feet of floor areas according to the Gross Structural Area (GSA) slope-intensity formula¹⁵. Or, one TDC is generated for three existing lots of at least 4,000 square feet each, buildable or not. Or, one TDC is generated for each parcel located within a Significant Watershed except where the parcel exceeds 20 acres in size; one TDC is for each 20 acres. Fractions are not allowed.
- TDCs are approved for transfer from the sending site owner after the Coastal Commission accepts permanent scenic easements (which may or may not preclude public access) and possibly a Declaration of Restrictions (in lieu of the reverting contiguous lots to common ownership) for recordation.
- Receiving sites are chosen by the Coastal Commission for subdivision or multi-family projects generally along the coastal terrace and a few inland pockets. When the applicant submits a permit for a subdivision or a multi-family project, the Coastal Commission then must find that the parcels created by this action contain building sites that can be developed in accordance with Coastal Act policies. As a condition of approval, the applicants must mitigate the cumulative impacts of their project by providing TDCs on a one lot to one lot basis. For multi-family projects, the Coastal Commission requires one TDC for each unit over 2,500 gross structural area⁸, minus the number of existing parcels within the project site. Lots that otherwise qualify for subdivision would need to present TDC's for each additional new lot being created. Coastal Commission staff and local realtors initially matched up TDC sellers to buyers.

With the 1981 interpretive guidelines setting the stage, the TDC market began to progress. The Commission staff found the transaction process to be extremely time consuming. Many applicants complained about how the permits were too expensive, in short supply, and it was difficult for the applicants to search for applicable donor sites. The Conservancy was looking for a solution to increase donor TDC supply. The Conservancy decided to sell groups of 10 TDCs through an auction, limiting the highest bidders to a maximum of 5 TDCs each. In the winter of 1981 a TDC auction was held. As a form of quality control, the bidders were prescreened, limited on the number of TDCs that could be purchased, and required to reveal their approved coastal permit. Additionally, the credits were site-specific and could not be transferred to another project. Because the demand to subdivide land within the coastal zone was high, the auction was a success.

¹⁵ $GSA = (A/5) \times ((50-S)/35) + 500$ where A = building site area in square feet and S = slope.

Since the TDC program was a “market-based” mechanism by nature, the approval of the market “players” was vital. The Coastal Conservancy (and later the Mountains Restoration Trust created by the Conservancy specifically to buy and sell TDCs) began assembling an inventory of TDCs as the initial supply of TDCs was too low and the TDCs were selling for \$25,000 to \$40,000 each, a fee considered to high by developers. The Conservancy used \$2.6 million to stake a revolving TDC ‘bank’ fund. The Conservancy’s and the Trust’s involvement proved to be a positive addition to the TDC program. TDC projects used the banked credits and substandard lots were retired as planned.

In other efforts to increase TDC supply and lower their cost, the Coastal Conservancy began taking advantage of an in-lieu fee program established by the Coastal Commission for one specific area. The program allowed developers to pay mitigation fees in lieu of TDCs, using the funds to later purchase TDCs. While the in-lieu fees have made progress in retiring over 100 lots, there was often a delay in completing the transactions and many retirements were never completed. For this reason, the in-lieu fee system has been placed on hold.

The Coastal Commission also reduced the formula for generating TDCs in watershed areas to one TDC for two contiguous lots or five non-contiguous lots. TDCs were also accepted as charitable tax deductions by owners who held several contiguous lots but only planned to build on one. And, the Coastal Commission credited public agency open space purchases with 53 TDCs.

Meanwhile, the Coastal Commission has other policies to deal with the impacts of buildout in the region such as disallowing road and water permits in undeveloped areas, strict analysis often requiring reductions in the amount of grading and other processes that impact the watershed and surrounding resources, and recommending that the Los Angeles portion of the Malibu Coastal zone have a reduction in density as stated in their Land Use Plans (the Ventura portion is large in public ownership). The City of Malibu Draft LCP calls for a continuation of the TDC program, but the city has a slow-growth orientation and there is doubt that the city will approve subdivisions at receiving sites in the city.

The Coastal Commission also developed requirements related to development of small lots using the GSA formula. Owners wishing to build more than allowed by the GSA for their lot could gain a bonus by retiring development rights of an adjacent or nearby lot. The GSA “bonus” and TDC programs are parallel and related and often confused.¹⁶

Occurring nearly simultaneously with the development of the TDC and GSA programs was the creation of the Santa Monica Mountains Comprehensive Planning Commission in 1977 by the State. The planning commission prepared a comprehensive plan for the

¹⁶ California Coastal Commission, “Review of the Malibu/Santa Monica Mountains Transfer of Development Credit Program, April 25, 1996. Memorandum, pg. 11.

conservation and appropriate development of the Santa Monica Mountains. It was a precursor to the state's Santa Monica Mountains Conservancy which works closely with the National Park Service. Often, the Conservancy acquires the parkland through purchase and then transfers it to the National Park Service. To date the National Park Service's open space acquisitions have totaled over 21,000 acres, the Conservancy has purchased over 23,000 acres, and the Mountains Recreation and Conservation Authority (a closely related state authority) has acquired an additional 7,000 acres¹⁷.

Around 1990 development began to cool down as the recession set in and the Malibu City incorporation effort gathered steam, introducing considerable uncertainty for developers. Elizabeth Wiechec, former Executive Director of the Mountains Restoration Trust (1982-1992), authored "Transfer of Development in the Malibu Coastal Zone" in 1995 and proposed the creation of a permanent TDC bank and promotion of private TDC brokers, as well as better tracking of trades through the use of Geographical Information Systems (GIS). Coastal Commission staff completed a comprehensive review and prepared a generally positive report in April 1996 without specific recommendations.⁸ This was followed by the Santa Monica Mountains/Malibu Regional Cumulative Assessment Project (ReCAP) that recommended in its 1999 final report that the TDC program "significantly reduced cumulative impacts" and proposed several changes including revising donor site criteria to include parcels in wildlife corridors and parcels adjacent to parkland and encouraging the City of Malibu to participate in TDC program. The January 2002 Draft Malibu Land Use Plan retains the TDC program for both the city and the unincorporated areas.

Discussion

The Malibu TDC program retired approximately 924 substandard lots and the mitigation fee program retired another 39 lots for a total of 963 lots, roughly 20 percent of the 5,000 'vacation' lots that were the original target and rationale for the program. The combination of the TDC GSA programs have essentially enabled development of over 1,100 units that theoretically could have been built in inland areas had costly service and serious safety issues been satisfied. As state law would not allow new coastal development as long as the inland lots remained undeveloped, the TDC program "killed two birds with one stone" by enabling coastal development while removing the potential high cost of servicing entitled inland lots. The TDC program was gradually expanded to serve other environmental planning objectives of park land acquisition, watershed protection, and habitat enhancement.

In an attempt to keep the project active and to create stability in the TDC market, the Coastal Commission found it advantageous to involve the Coastal Conservancy. Though it is not typical for a state agency to be involved in a TDR program, it was clear that both agencies could stabilize the market by serving as bankers.

¹⁷ Ibid.

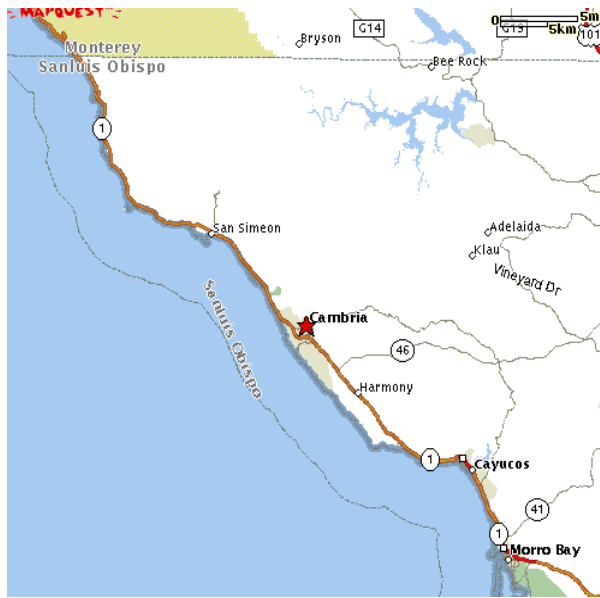
CAMBRIA, CALIFORNIA

Cambria is an unincorporated, mostly tourist coastal town with a population of 6,200 located along California's famous Highway 1 about halfway between Morro Bay and the Hearst Castle at San Simeon (see Figure 3-13). Cambria is characterized by rolling hills and a pine forest that is unusual for the Central Coast. The town became known as Cambria in 1869 and has a varied and colorful history that includes quicksilver mining, logging and whaling. Today it is home to galleries, restaurants and boutiques, and over 700 vacation homes.¹⁸

Cambria has 9,000 small substandard lots created in the late 1800s and early 1900s. San Luis Obispo County (County), working with the California Coastal Commission, created the Cambria Transfer of Development Credit (TDC) floor-area program in 1984 to consolidate and move development rights out of the pine forest called the Cambria Pines.¹⁹ As of 1997, the program had purchased 230 lots, created several open continuous open spaces in the forest, and enabled development of high quality homes better matched to lot size and characteristics. The Cambria TDC is considered one of most successful small TDR programs in the nation. The TDC program trades residential floor area and buys, consolidates, and sells lots through a local non-profit. The County also requires lot retirement for new subdivisions for the same TDC areas.

¹⁸ Census 2000, Summary File 1

¹⁹ San Luis Obispo County adopted a county-wide TDC plan in 1996 which was initially held up by a lawsuit. The program determines TDC amount based on the difference in appraised value between the pre- and post-transfer value of the sending lot. Only a few transfer have been proposed to date.

Figure 3-13: Cambria Area

Source: Mapquest.com

Historic, Geographic, and Political Context

The Cambria coastal area, as shown in Figure 3-14, includes the Monterey Pine Forest located along Highway 1 and to the north into the adjoining mountains. Other nearby open space is used mostly for agriculture. The 9,000 Lodge Hill lots were platted with 25 foot wide lots on steep slopes posing a potential problem of erosion, watershed damage, and loss of the pine forest if the remaining lots were developed. The California Coastal Commission (Coastal Commission), the California Coastal Conservancy, San Luis Obispo County, and the Land Conservancy of San Luis Obispo County collaborated to develop the Cambria TDC program that was incorporated into the county's Local Coastal Plan (LCP). The goal was to reduce the size of home that could be built on small lots and to retire the small lots wherever possible.

Figure 3-14: Cambria Monterey Pine Forest, Special Priority Area 1



Source: Global Explorer, Vantage Point Network

Prior to formally adopting the Cambria TDC program in 1984, the Coastal Commission required developers to retire one substandard lot in the Lodge Hill area in exchange for building approval on a separate lot, attempting to achieve a “no-net” increase in development similar to the Malibu TDC program. The County first took responsibility for Coastal Development Permits in 1984 after development of the County’s LCP, and modified permit conditions that had been routinely imposed by the Coastal Commission. The LCP stated that TDCs must be purchased from a non-profit organization that is approved by the County Director of Planning and Building.

The Land Conservancy was created in 1984 specifically for the Cambria TDC. It is governed by a Board of Trustees representing various communities within the county, has a small dedicated staff, and has since expanded to include land acquisition in three other core areas of the County, land use studies, habitat restoration, geographic information systems, and public involvement. The Land Conservancy participates in the TDC program by purchasing the lots intended for preservation, applying for TDCs from the County, and then selling the TDCs to applicants searching for additional density.

The Land Conservancy created a restoration plan with two Special Planning Areas (SPA) in 1986 and entered into a 10-year contract with the Coastal Conservancy to implement the plan. A \$275,000 Coastal Conservancy grant was used to start a revolving fund that

both purchases lots and then is replenished through lot sales. The contract between the Land Conservancy and the Coastal Conservancy continues on a year to year basis.

In 1988 the County's LCP was adopted by the Coastal Commission and the County assumed control over the Cambria TDC program and introduced two changes. The County LCP reduced the size of dwelling units on Lodge Hill lots overall but then designated some sub-areas for larger units if floor space was transferred from other more sensitive lots. Proceeds from the floor space sales return to the Land Conservancy's revolving fund. The result is a program that consolidates development onto larger lots while preserving open space networks within the forest.

All new residential lots, 7500 gross square feet or smaller or smaller, are also required to permanently retire an equivalent area (expressed in square footage) of existing lots in Lodge Hill and Park Hill planning areas. No more than one retired lot per transaction can be located on slopes greater than 25 percent. New lots over 7500 square feet in size must retire existing lots which total 7500 square feet in size. Proof of retirement is submitted prior to recordation of the final parcel or subdivision map. Retired sites are covered by a recorded open space or conservation easement to prohibit development in perpetuity. Easements may be held by the County or the County may grant them to another public agency.

Program Description

The Cambria TDC program is administered by the County as part of the LCP. The Cambria Pines forest is designated a Sensitive Resource Area in the LCP. A Minor User Permit is the administrative tool and a biological assessment may be required. The program is voluntary in that small lots are still allowed to build one small unit. Viewshed, water and sewer capacity restrictions, and other design requirements discourage low-value small-unit development.²⁰ The basics of the Cambria TDC are:

- The goal of the Cambria TDC program is that new development is sited on the least environmentally sensitive portion of the property and designed to cause the least damage feasible to surrounding native Monterey pine forest habitat and no development which would significantly disrupt environmentally sensitive habitat should be approved.
- Sending sites are LCP-designated and located in the Lodge Hill subdivision within Special Project Area #1, Fern Canyon, or #2, a scenic hillside along Route 1 (see Figure 3-15). The transferred floor area is that allowed under the LCP for the sending site. If the sending lot has water and sewer rights, they may also be transferred to the receiving site or separately transferred to a qualifying parcel with the utility's service area.

²⁰ The Cambria Community Services District has considered a desalinization plant.

- The LCP specifies receiving lots which are within the Lodge Hill subdivision. The receiving site owner applies for a Minor Use Permit that identifies the TDC credits held by the Land Conservancy on a 1 to 1 floor area basis to match their proposed new unit or additional to an existing unit. The Conservancy sets the price based on a 100% markup on the average cost, allowing the Conservancy to buy two additional lots for the sale of one TDC (2 to 1 ratio). The Land Conservancy currently allows receiving site applicants to reserve TDCs at no cost for the first six months.
- The Coastal Commission must approve the purchase of the TDCs by the Land Conservancy, which uses the TDC revolving fund to purchase the credits from the owner. The Land Conservancy then sells the credits to developers to be used in designated approved receiving areas that are closer to or within existing developed areas. The price of the TDCs is negotiated set by the Land Conservancy, averaging about \$15.00 per square foot over the years. For example, a 25-foot lot of 1,750 square feet with a 25 percent or less slope is allowed a building footprint of 500 square feet and a total floor area of 900 square feet. The Land Conservancy would buy the sending site's floor area for \$13,500 and sell it to the receiving site for \$27,000.
- The Land Conservancy then records a conservation easement and may sell the parcel to another agency for inclusion in preservation or open space programs.
- The LCP limits the amount of floor area that may be transferred to a sending area. The maximum footprint cannot exceed 45 percent of receiving lot area and the lot area combined with floor area cannot exceed 90 percent of the receiving lot area. Many projects involve transfers from adjoining small lots resulting in consolidation and the development of larger homes on relatively large lots.
- The Land Conservancy is the only authorized TDC buyer and seller and has managed the program from the beginning.

Community Services District (CCSD) sometime in the near future. The Land Conservancy plans on retaining a conservation easement to ensure the permanent protection of the sending site parcels. Additionally, even after the CCSD takes ownership of the lots, the Land Conservancy plans on continuing the involvement by working with the CCSD in selecting new lots to acquire.

The funds have accumulated during the past several years due to lack of sending site applicants. The Land Conservancy decided to develop options for the future of the TDC program. The first option would be to enter into a partnership with the CCSD as discussed above. This would increase the chances of potential acquisitions in the Fern Canyon region that contain delicate habitat and open space and would reduce potential future water demand in the area. The second option would allow the Land Conservancy to request approval from the Coastal Conservancy to use the available funds for acquiring lots outside of SPA 1 and broaden the area of conservation. Though SPA 1 has been the priority area for conservation, there are many other parcels that should be protected to ensure habitat and open space protection as well as visual amenity preservation. The third option would involve the project being terminated due to the eventual negative impacts of TDCs on receiving sites and their neighborhoods.

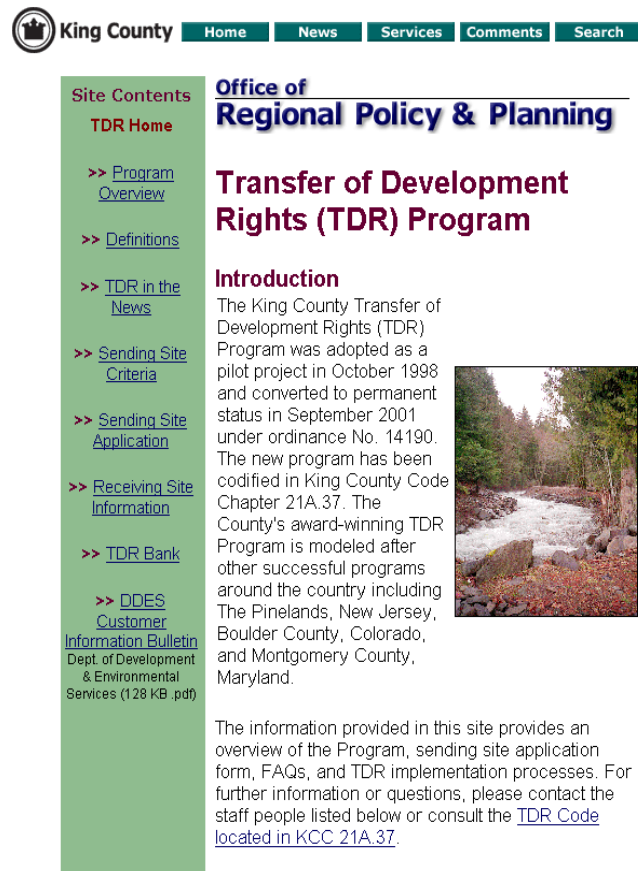
The Cambria TDC program is seen as a success. The TDC revolving fund grows with each transaction. The program is focused on two small areas and limited scope of policy. The resulting forest areas are immediately accessible by the local community who bought into program.

KING COUNTY TRANSFERABLE DEVELOPMENT CREDITS PROGRAM

King County, Washington – the county that contains the City of Seattle – has a history of innovative land use policy. In the 1970s, the county was one of the first in the nation to use public funds to purchase development rights from farmers as a way of preserving agricultural land. The county participated in regional growth management planning before the passage of the state's 1990 Growth Management Act. The King County Transfer of Development Credits (TDC) Program began in 1993 within the county and, after a review, expanded to an inter-jurisdictional pilot project in October 1998 followed by permanent adoption September 2001.²¹ The County's award-winning TDC Program is modeled after others including Boulder City and County, Montgomery County, and the New Jersey Pinelands and represents 'state-of-the-art' ideas and procedures for a large-scale TDC program, including a public-friendly Internet information site that refers to the program as a TDR (see Figure 3-16).

²¹ Ordinance No. 14190 and codified in King County Code Chapter 21A.37

Figure 3-16: King County TDR Program Home Page



Source: < <http://www.metrokc.gov/exec/orpp/tdr>>

Historic, Geographic, and Political Context

King County covers nearly 2,130 square miles of northwestern Washington ranging from Puget Sound on the western side to rugged mountains on the east and includes scenic coastline, river floodplains, plateaus, lakes and salmon streams (see Figure 3-17).

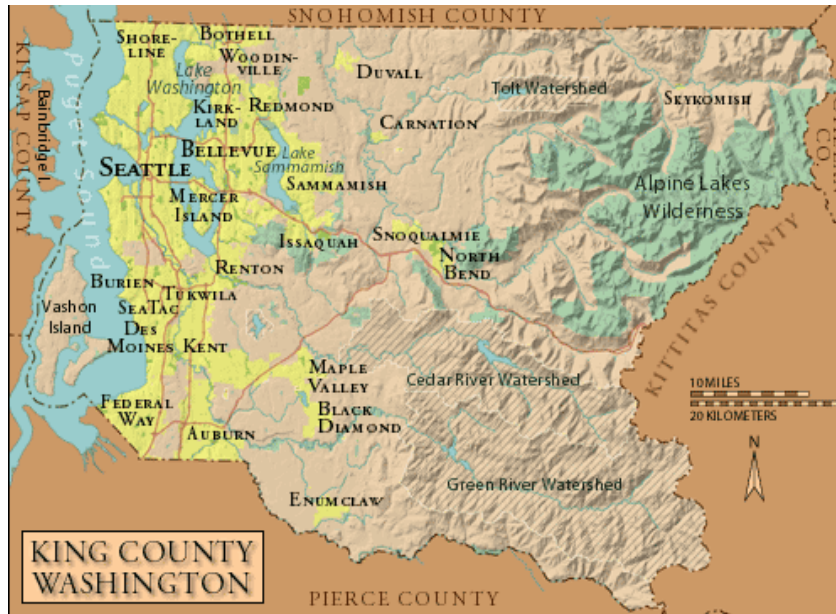
Prospering in the last 150 years from the large timber industry and its valuable Port of Seattle, King County today is the largest county in Washington and the 13th largest in the nation, with a population Census 2000 population of 1,737,000, 350,000 of whom live outside the county's 39 cities. The population grew by 11% between 1990 and 2000, which is relatively moderate compared to surrounding counties. Housing units increased faster than population, growing by 15.2% (230,000) during the same period. The King County economy – which includes Boeing, Microsoft, and international trade – grew much faster, by 24% in the 1990s.

All of these changes have put a great deal of pressure on King County's urban infrastructure, agriculture, government, and natural resources. The county is generally divided into: north (Seattle), east (Lake Washington, Bellevue, and Lake Sammamish suburbs), south (southern suburbs to Pierce County) and rural/resource areas (Vashion Island and the eastern half of the county). The three largest environmental issues are salmon, forests, and agriculture/open space.

Many salmon stocks in Washington are listed as either threatened or endangered under the Federal Endangered Species Act due to past commercial fisheries and habitat loss. Salmon conservation can be achieved only by involving large portions of the landscape that are currently (or in the past) managed primarily for natural resource extraction or intensive development. Agriculture and timber management have been the two most dominant uses of these areas. Added to that mix are the pressures for additional urban development spreading eastward from the Seattle suburbs and, to a lesser extent, growth in the small cities in the east county.

King County began responding to urban growth pressure in 1979, when voters passed the Farmland Preservation Program that authorized planning officials to preserve rapidly diminishing farmland by purchasing the development rights. To date the County has spent \$50 million in bond proceeds to purchase development rights on 12,800 acres of farmland. When farmers sell their development rights, they agree to a wide variety of future restrictions, including limiting the number of permitted residences on the property, allowing only agricultural or open space uses, maintaining 95% of the property as open for cultivation, maintaining a minimum lot size if property is subdivided, and restricting activities that impair agricultural uses.

The County also developed the Forestry Program, which serves as the policy basis for the TDC program. The Forestry Program provides education, and technical assistance, and economic incentives aimed toward retaining the forest resources. Staff foresters meet with property owners to discuss a "Forest Stewardship" plan which will provide direction on how to manage their land to keep it productive, healthy, and economically beneficial.

Figure 3-17: King County Map

Source: < <http://www.metrokc.gov/about.htm> >

Similarly, the County also developed the Public Benefit Rating System (PBRs) and the Timber Land programs to provide incentives to private landowners to voluntarily conserve and protect land resources, open space and timber. In return for preserving their resources, the County assesses the land at a value consistent with its “current use” rather than the “highest and best use.” – meaning it is not assessed at its speculative value for urban development. More than 550 properties and 7,000 acres are presently participating in the program. The PBRs program provides an economic incentive to protect the land without requiring the land owner to permanently deed restrict the land.

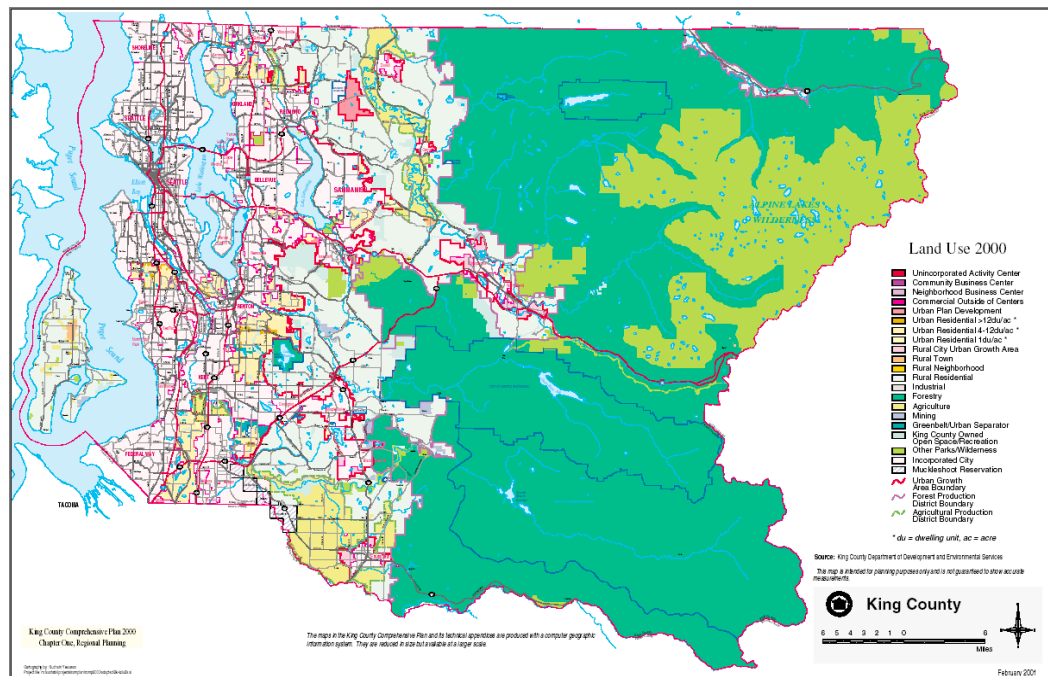
The State Growth Management Act (GMA) was passed by the Washington State Legislature in 1990. The GMA requires the state’s most populous and fastest growing counties and their cities to prepare and adopt comprehensive land use plans that direct growth into designated urban areas and away from rural areas and open space. Urban Growth Boundaries are designated (see Figure 3-18). Additionally, the plans must include potential critical environmental areas as well as commercially significant forestry area designations. In metropolitan Seattle, the GMA led to the creation of an urban growth boundary and fostered incorporations and annexations so that a larger percentage of the region’s population now lives inside cities compared to 20 years ago.

King County planning policies discouraged development in or near salmon habitat and/or watersheds. In regulating land use, King County acknowledged that alternative programs must be seriously considered in order to have an effect on development patterns and the county initiated a TDC program in 1993. Sensitive areas contained open space, wildlife habitat, woodlands, shoreline access, community separators, regional trail linkages,

historic landmarks, and agricultural land and/or park sites. Receiving sites had to be located in any of six zoning classifications and designated as appropriate to receive TDCs in the community plan. The density bonus achievable through TDC varied depending on the zoning of the receiving area. For example, TDC allowed a density bonus of 50 percent in the Neighborhood Business zone and 33 percent in the Community Business, Regional Business and Office zones. When the receiving site project did not otherwise require a public hearing, the transfer was subject to the procedures required for a conditional use permit.

After evaluating the TDC program, King County adopted a three year TDC Pilot Program in October 1998. The purpose of the pilot program was to supplement current land use regulations, resource protection efforts and open space acquisition programs. The program was also intended to encourage increased residential development density where it can be best accommodated with the least impacts on the natural environment and public services. A \$1.5 million appropriation was made available by the Metropolitan King County Council for establishment of a TDC bank, along with \$500,000 set aside for neighborhood improvements that might be adversely affected by additional density. On February 22, 2000 the King County Council adopted the TDC bank provisions outlining the selection criteria, and rules of spending and was permanently adopted September 2001.

Figure 3-18: King County 2000 Land Use Map



Source: King County Comprehensive Plan 2000

Program Description

The King County TDC program is authorized by ordinance and administered by the Natural Resources and Parks Department, Water and Land Resources Division. The program has the strong support of the King County Executive and nearly all members of the county council who voted 10-1 for its adoption. The TDC program is administered as part of the entitlement process along with zoning and other discretionary permits. There are also several Inter-local Agreements between the county and several cities so that the cities may be TDC receiving sites.

The minimum zoning applies to R-4 through R-48 (residential: 4 units per acre to 48 per acre). The minimum zoning ensures consistency with the Growth Management Act which governs service and utility extensions and improvements. Maximum zoning is the amount of extra density available from two programs, TDC and Residential Density Incentives (RDI) – a program designed to increase affordable housing. Maximum density may be up to 200 percent of base density if all applicable criteria are met. The TDC program is voluntary and relies on the market incentive of reaching the Maximum Density at the receiving site to trigger a transfer.

The basics of the TDC are:

- The goals of the TDC are to implement the Comprehensive Plan policies to protect rural resource lands and preserve rural character, implement the Growth Management Act by redirecting residential growth from resource lands to serviced urban and rural areas, develop an innovative market tool rather than an alternative to public purchases or additional regulations, and preserve agricultural, forest, and salmon habitat lands. In the county there are three zoning density levels: base, minimum, and maximum.
- The sending site application is included with a proposed development and/or subdivision application at the receiving site. Sending sites must be certified by the office of Regional Policy and Planning. To qualify as a sending site, the property must demonstrate a possible public benefit if density should be removed. Potential sending and receiving sites are shown on maps provided by the Department of Development and Environmental Services (DDES). They are designated agricultural, forest, forest focus areas, regional trails, open space, future parks, species habitat, R-1 urban separators, and historic landmarks. A Forest Stewardship Plan is also required in Rural Forest Districts.
- Receiving sites are county parcels where existing infrastructure can accommodate additional growth zoned R-4 to R-48, incorporated cities (if there is an Inter-local Agreement), and some rural areas zoned Neighborhood, Community Business, Regional Business or Office. Certain rural areas zoned RA-2.5 and RA-5 may also receive TDCs only from a Rural Forest Focus Area sending site. Developers may combine TDC from several sending sites and with RDI credits up to the Maximum zoning, subject to public hearings and discretionary review and conditions.

- City receiving sites and county “amenity funds” are identified by each city-county agreement. Seattle, for example, is allowing county credits from three specified rural river basins into its Denny Triangle neighborhood, just north of downtown, earmarked for significant growth. The county is committing up to \$500,000 for sidewalk widening, street improvements, transit facilities, and other neighborhood improvements. Seattle is allowing a 30 percent building height bonus to landowners who participate in the transfer program. The inter-local agreement runs until 2005 with an optional three-year extension.
- After TDCs are transferred off of the sending site, a permanent conservation easement is placed on the property. The property remains in private ownership, so that it will be retained in forestry, farming, and other conforming uses. In essence, the TDC program is similar to the purchase of development rights program, except that the landowners in the areas to be protected (the sending areas) are compensated by landowners in the receiving areas rather than by the county government.
- County staff assist in match sending and receiving site sellers and buyers. The County staked at \$1.5 million a TDC bank that is currently full. The bank may only purchase from sites in the rural, agricultural, or forest production districts based on providing the greatest public benefit.

The TDC program is still relatively new and the TDC bank has generated most all purchases. The TDC bank purchased 56 credits (\$1.4 million, or \$25,000 for each TDC, R-5 zoning) on 285-tree farm known as Sugarloaf Mountain. The residual value was \$1.2 million and the owners donated the land for forestry and recreation. King County received recognition in 2001 at the Vision 2020 awards in Seattle for using the TDR program to transfer 62 rights from a threatened 313-acre McCormick Forest in rural east King County into Issaquah’s urban area. The program has met some opposition from residents in the receiving areas. Some cities and towns in King County are accepting of the program, while others are weary of the idea of rights transfer due to possible adverse effects of density. As of January 2001 the TDC bank had acquired land worth \$10 million (700 acres, or \$14,285 an acre) for a total of \$1.7 million, a “savings” of \$8.3 million.

The King County TDC program is still “getting its feet wet” and finding that not all residents in receiving areas are receptive to additional density enabled by the TDC program. King County’s program is relatively simple compared to the TRPA transfer program as it identifies and trades only residential development rights based on existing zoning in the sending site on a one for one basis. The TDC program in King County is just one of the preservation tools available and is augmented by the Farmland PDR program, land stewardship programs, and tax incentive options. King County preservation efforts have wide public and political support so far.

PIMA COUNTY PURCHASE OF DEVELOPMENT RIGHTS PROGRAM

The Pima County Purchase of Development Rights (PDR) program is the “youngest” of the TDR Western Case Studies programs, having just been adopted as part of the Sonoran Desert Conservation Plan (SDCP) in December, 2001. Pima County is located in southern Arizona midway between New Mexico and California along the Mexican border (see Figure 3-19). Fifty years of steady growth in the eastern half of the county centered on the city of Tucson stressed the need for effective planning that would protect critical habitat and endangered species in the region as well as sustain the economic viability of ranching. The SDCP represents the most advanced state in the evolution of conservation planning and received the American Planning Association’s 2001 Outstanding Planning Award for a Plan.

Figure 3-19: Arizona



Source: Census Bureau MSA map series

Attempts to preserve land in Pima County provide an interesting contrast with the other Western TDR programs. Instead of transferring development rights from one parcel to another, Pima County is engaged in large-scale conservation planning to protect the Sonoran Desert which covers most of the eastern half of the county. The county is currently struggling with the question of how to extinguish development rights in “wildcat subdivisions” throughout the area.

Historic, Geographic, and Political Context

The local geology shows evidence of basin and range formations of patterned mountains and large valleys. A set of mountain ranges surrounds central Pima County (Tucson Valley) and the greater Tucson metropolitan area. Geologic changes over time have resulted in an altitude range from 1,900 feet above sea level, the lowest point in the Tucson basin, to the highest point of 9,188 feet. The area is noted for its desert and mountain scenery (see Figure 3-20).

Figure 3-20: View in Eastern Pima County



Source: Solimar Research Group

Pima County land use is greatly influenced by the federal and state governments. The state of Arizona owns 14.9 percent; the U.S. Forest Service and Bureau of Land Management, 12.1 percent; other public lands, 17.1 percent; individual or corporate ownership, 13.8 percent; and the San Xavier, Pascua Yaqui and Tohono O'odham Indian reservations together, 42.1 percent. A provision in the federal legislation which initially established the Arizona Territory granted significant areas of federal land to the state. These “State Trust Lands” were reserved for future sale to fund the public school system. The Arizona Land Department was established after statehood in 1912 for the management of the State Trust Lands.

Many of these public lands are leased to local ranchers for grazing. This combination of large privately held ranch parcels adjoining public lands that are largely undeveloped and sometimes very scenic is a unique Western land ownership and use pattern. It is also a pattern attractive to developers who can buy a large ranch and subdivide knowing the adjacent land will remain scenic and in public ownership. The ranchers may be counting on the sale as their retirement “nest egg.”

Pima County development is in and around the City of Tucson, the largest metropolitan area in the County, with a countywide 2000 population of 844,000. Transcontinental railroad developments reached Tucson in 1880 and continued eastward to New Orleans. With the existence of the rail, Tucson became a regional center for commerce. Soon after the turn of the century, Pima County began building state and local highways that would link it to the rest of the nation. The post-World War II era brought intensive development to the unincorporated areas. Relatively conservative rural state legislators, who were cautious about providing the counties with additional power and very suspicious of cities, took longer than most states to grant zoning, subdivision, and development power to Arizona counties. Pima County assumes urban management responsibilities that are more commonly those of incorporated places. The City-County Planning Department developed the first General Land Use Plan (GLUP) in 1959 composed of a Tucson City plan and a County plan.

Throughout the 1960s the GLUP was not effective in preventing excessive strip commercial developments and uncontrolled growth locally known as “Wildcat Development.” Wildcat Development, or lot splitting, is generally defined as the proliferation of new residential parcels without the benefit of subdivision regulation. Often these areas are devoid of any basic infrastructure, standard environmental regulation, or subdivision requirements. Under the Arizona Revised Statutes, a minor parcel division of less than six splits is not considered to be a subdivision. The county may not deny approval or require a public hearing in such cases. The effect of the law is that lot splits which occur under such circumstances, no matter how extensive the genealogy becomes, are not required to produce a plat and the related improvements that are typically required of larger subdivisions. In 1974, Arizona counties were finally granted the authority to regulate subdivisions, giving Pima County a way to control lot-splitting. But Wildcat Subdivisions evaded most of the restrictions, and continue to be a leading cause of sprawling developments.

In an assessment by the County in 1997 it was found that 41% of new residential dwelling units were Wildcat Developments, mostly within a 25 mile radius of the intersection of Interstate 10 and 19 in the heart of Tucson. Outside the 25 mile radius are large ranches in several valleys that have not yet seen intense development pressure but are attractive for wildcat subdividing. These valleys were evaluated and ranked in the SDCP for the highest conservation value. The Pima County PDR plan is designed to provide a competitive and attractive alternative to subdivision, keep the land as working ranches, and preserve valued natural features.

Program Description

The PDR program is voluntary, compensates the ranchers for the development value of their property, allows continued ranching use of most of the land, and maintains a ranch-based tax assessment. It is authorized under existing state law that allows counties to purchase land and agriculture and open space conservation easements.²² There is as yet no authorizing ordinance nor funding sources for the PDR program. If and when the program is authorized, funded, and active the SDCP recommends an advisory committee to prioritize purchases and an administrative staff in the Pima County Ranch Division.

The basics of the Pima County PDR program are:

- The goal of the Pima County PDR is to purchase the development rights from the rural land owners and State and Federal governments and then extinguish the rights in perpetuity.
- Eligible parcels must be in unincorporated Pima County and over 40 acres, about 316,000 acres in 2,680 parcels. Full cash value for these lands range from a low of \$782 to \$4,000 per acre based on 2000 assessor data. A more restrictive plan would target 239,000 acres in 2,321 parcels defined as biological reserve in the SDCP. A third plan would exclude land within a 25-mile radius of Tucson and include 187,000 acres in 1,237 parcels.
- Parcels owners would apply to the program. PDR staff would conduct an evaluation and report to the advisory committee. The advisory committee would rank and recommend parcels to the Board of Supervisors on a quarterly basis for approval.
- If approved, a Pima County Real Property agent would conduct a due diligence procedure, arrange for appraisals, and negotiate price and easement terms. All proposed parcels would be reevaluated by the advisory committee and recommended to the Board of Supervisors for purchase authorization subject to available funding. Parcels approved but not purchased would be placed on a waiting list.
- If authorized and funded to offer to purchase is made to the parcel owner and, if and when accepted, a conservation easement is recorded.
- A land trust or other easement holding organization may then manage the easement.

The largest hurdle is funding. Suggested sources listed in the SDCP include: general obligation bonds, mitigation payments for rezoned critical habitat, major development endowment funds. Other possible roadblocks may be management prescriptions (i.e. restrictions on uses discouraging land owner involvement), rigid conservation easement

²² Arizona Revised Statutes section 11-935.01.

not tailored for economic use of land, and loss of public/state grazing leases to residential development.

The PDR program also faces pressure from both sides of the political spectrum. The conservative Arizona State government and a select group of ranchers argue the program could infringe on private property rights by certain land restrictions. The liberal conservationists and environments perceive the Pima County PDR program as a lackluster effort that will continue to support damaging ranching practices and continued sprawl.

The Pima County administration feels that the PDR program is the first step towards preserving agricultural land and slowing wildcat developments. If they are successful in obtaining funding and general acceptance from rural land owners and ranchers the program could very well move ahead. The May 2001, PDR report claimed that there is growing support from rural property owners. There are PDR workshops sponsored by the Pima County Ranch Conservation Team, introducing the concept to potential participants.

PDR programs in general are supported by the Western Governor's Association, the Trust of Public Land, and the National Cattlemen's Beef Association. While there are no beef ranches in the Lake Tahoe area, the concept of buying development rights and allowing some viable economic use of the land to continue rather than strict regulation with transfer as the only 'out' may have some validity and be worth consideration.

3D. Case Studies Of Mitigation Trading Systems In California

This section provides three case studies of mitigation trading systems in California – how they were established and how they operate. Carlsbad Highlands is a small but successful conservation bank created and implemented in the context of the Multiple Habitat Conservation Program in northern San Diego County. The trading system created by the Valley Floor Habitat Conservation Plan in Kern County is an example of an innovative trading system used to implement a large-scale conservation plan. The interim impact fee program that was administered by the Riverside County Habitat Conservation Agency is an example of a fee program that served, essentially, as the function equivalent of a mitigation bank.

CONSERVATION BANKING: CARLSBAD HIGHLANDS

Prior to the adoption of California's conservation banking policy, the Bank of America established the prototype for the state's conservation bank, the Carlsbad Highlands Conservation Bank. This 260-acre bank, located in the eastern portion of Carlsbad in northern San Diego County, has been a financial success but also a test case for many other conservation banks that came after it.

Bank of America came by the Carlsbad Highlands property through a foreclosure. The property is part of an 800-acre area of undeveloped land that is mostly surrounded by residential subdivisions in both Carlsbad and Oceanside. Besides the bank, some of the property is owned by a local environmental trust; other land is owned by Caltrans, which acquired it for mitigation for an expansion of Highway 76, which runs through the area. Some of the property has been disturbed, but most of it remains in its natural state, including coastal sage scrub, chaparral, oak, riparian, and native grassland.

The land originally became attractive as mitigation property when the California gnatcatcher, a bird, was considered for an endangered species listing by the state in 1991. The bank's "service area" – that is, the area to which mitigation credits may be transferred – includes the entire coastal portion of San Diego County. (Later banks have a smaller service area.) Landowners who are required to obtain mitigation for their own development projects may purchase credits from the Carlsbad bank and apply them on a one-for-one basis to their own property. In addition to the cost of the credits, the developers also pay the California Department of Fish & Game a fee that goes into an endowment fund to manage and restore the property. Land management has been an issue for property obtained by public agencies through mitigation banks.

The mitigation requirement for these other landowners is either determined on a case-by-case basis through the regulatory process, or else it is spelled out in the Multiple Habitat Conservation Plan. In essence, the Carlsbad Highlands bank represents "pre-mitigation," in the sense that landowners buying credits are paying for mitigation that has previously been set aside. In Carlsbad and other San Diego County banks, bank owners are required to set aside all the land permanently as soon as they sell one credit.

The MHCP was devised after the Carlsbad bank was created, and the bank now essentially serves as an implementation tool for Carlsbad's portion of the MHCP. The bank was permitted move forward in three phases. Bank of America sold out the first phase. The bank then sold the bank to Tech-Bilt, a local developer, which sold some credits in phase 2 and then stopped sales. Tech-Bilt is believed to be holding the remainder of the credits for its own use.

MITIGATION TRADING: KERN COUNTY VALLEY FLOOR HABITAT CONSERVATION PLAN

The Kern County Valley Floor Habitat Conservation Plan (HCP), encompassing over 3000 square miles, represents a different model in the sense that it envisions a sophisticated trading system – along with public acquisition – as a means of permitting some land development and still setting aside critical habitat for endangered species.

The Valley Floor HCP has been a work in progress since 1990. It was an innovative at the time it was conceived because of its habitat transaction program, akin to air quality offset programs, and because it proposed to provide mitigation for multi-species habitat. The Coles Levee Ecosystem Reserve HCP, encompassing 6,059 acres and adopted in

1992, and the Kern Water Bank Authority HCP, encompassing 3,267 acres and adopted in 1997, created mitigation banks. Two other pending HCPs, the Chevron Lokern Conservation Bank (18,000 acres) and the Lost Hills District Mitigation Bank (160 acres) would also use the banking mechanism.

Under the transaction program included in the plan, landowners can sell conservation easements across their land to the bank in exchange for banked, marketable credits. Urban uses must be offset at a 3:1 compensating ratio regardless of the relative locations of the land to be developed and the land to be conserved. One of the reasons the Valley Floor program holds such potential is that the state Department of Fish & Game had already rated the habitat value of all the land; these ratings form the basis for habitat value. The lowest ranking (least valuable from a conservation standpoint; white) gives one credit per acre, the middle ranking (green) gives two credits per acre, and the highest ranking (red) is 3 credits per acre. So if urban uses will convert 1 acre of the highest ranked habitat (red), compensating conserved land must be provided that has a value of 9 credits. It can be made up of land carrying any classification (red, green, white) as long as credit total equals 9.

Oil and gas interests negotiated an agreement to provide 3,000 acres of land to compensate for all future development within the oil zone, oilfields under control of the Dept. of Oil & Gas, and to use best management practices and take avoidance measures. The land purchase was to be funded with federal and state dollars, and possibly some private grant money. Any oil and gas development outside the oil zone would have to be compensated under the general compensating strategy of 3:1.

Land developers can use their own banked credits, purchase credits or pay up-front mitigation fees, which are deposited in a trust account which will be used to purchase land. The market determines the price of the credits at any given time. In smaller reserves, the price of credits can escalate rapidly. In programs relying on up-front mitigation fees where the mitigation land must be acquired in advance of the approved development, agencies often have to pay top-dollar for habitat because of the price pressure exerted on land by the development being offset. In this respect, the Kern County Valley Floor HCP should differ because of the acreage it encompasses and the number of property owners involved; the size of this market should work to keep acquisition costs down. Furthermore, the transactions approach allows landowners whose land has low development potential because of regulatory restrictions to bank their land in advance of development pressures.

Though the HCP is yet to be approved, the County has already collected \$1.5 million in mitigation fees. Currently the cost of acquiring habitat is approximately \$300 an acre. The comparable figure for the Coles Levee Ecosystem Reserve land is \$600 per acre, exclusive of costs for fencing (\$100 per acre) and land management in perpetuity (\$375 per acre). The price of a credit from the Kern Water Bank Authority (KWBA) is considerably higher at \$2,000 per acre. The KWBA also charges a \$375 per acre fee to be deposited in the state Fish and Game endowment fund for management costs, and a \$5,000 fee per transaction, regardless of the number of credits being purchased. Most

transactions with the KWBA involve from 1 to 5 credits. The per-acre-all-inclusive cost for these ranges from \$7,375 to \$3,375. The Coles Levee Ecosystem Reserve is reportedly fully subscribed. To date the Kern Water Bank Authority has sold less than ten percent of its available credits.

REDUCING IT ALL TO MONEY: RIVERSIDE COUNTY INTERIM HABITAT FEE

The listing of the Stephens' kangaroo rat as a federal endangered species in 1988 was the first major species listing in Southern California. Fourteen years later, a multiple-species habitat conservation plan is still in process in Riverside County. However, the interim solution for the kangaroo rat was an in-lieu fee program that essentially placed a joint-powers authority in the position of the county's banker for "K-rat" land.

The habitat of the kangaroo rat is primarily found in the grasslands and scrub common to Riverside County but where suburban development and agriculture have reduced its range. Two years later, the county and seven cities formed the Riverside County Habitat Conservation Agency, or RCHCA, which was charged with creating a habitat conservation plan for the kangaroo rat and with ensuring that sufficient land was set aside to implement the plan.

An interim fee of \$2,000 per acre was imposed almost immediately, and a final HCP was approved by the U.S. Fish and Wildlife Service in 1996. "The plan authorized the incidental take of half of the occupied habitat in the remaining in the plan area, while using development fees to implement the plan, purchase private property, and create a reserve system. This reserve system sought to protect the largest, most contiguous fragments of remaining habitat on public and private land." www.ncedr.org/casestudies/hcp/western.htm

Amid controversy in the late 1990s, the RCHCA was disbanded and the planning of the multi-species plan was transferred to Riverside County. Among other things, some elected officials in Riverside County who served on the RCHCA board differed with state and federal officials in their interpretation of who should bear the burden of the K-rat recovery plan. RCHCA committed itself to acquiring 12,500 acres of land, while state and federal officials insisted that the agency seek to acquire 15,000. Eventually, amid a threat to reduce the per-acre fee, state and federal agencies agreed to devote both land acquisition money and federally owned land to make up the difference.

However, while it was in existence, RCHCA essentially served as a banker, collecting per-acre "K-rat" mitigation fees from developers and then using the funds to purchase property. Thus, although it was not an official mitigation or conservation bank, it acted somewhat like one. Instead of creating a market in which buyers and sellers of mitigation "credits" must find each other, however, the RCHCA system simply reduced all landowner mitigation to a financial obligation and left it up to the RCHCA to use the resulting funds to create appropriate mitigation.

During the 1990s, the RCHCA brokered the donation of habitat land in Riverside County that was owned public agencies in need of mitigation credits. For example, the Metropolitan Water District of Southern California donated several thousand acres of land around its reservoirs as mitigation for the construction of the massive Diamond Valley Reservoir in the Domenigoni Valley near Hemet.

On the one hand, an in-lieu fee system such as the one in Riverside County simplifies the regulatory process by reducing all mitigation requirements to a fee. On the other hand – unlike the Carlsbad conservation bank – the fee system creates mitigation for a project only after it is built rather than before. Instead of buying into an existing conservation bank, the fee system simply permits landowners to give money to a public agency, which must then bear the responsibility of finding appropriate land to purchase after the fact.

3E. Lessons From Case Studies

The 10 case studies contained in this chapter cover a wide variety of geographies and techniques. However, they all have one thing in common with each other, and with the Tahoe Basin marketable rights programs: They seek to use market-oriented trading systems among private landowners to help achieve land conservation goals. Given this similarity, they provide an excellent opportunity to further understanding how trading systems work and how they can work well.

First, TDR and mitigation banking programs tend to fall into two categories: Programs whose goal is to *conserve large pieces of land that have not been subdivided*; and programs that seek to *undo the damage done by profligate subdivision in the past*. In a sense, then, these programs are either *conservation* or *mitigation* programs in the same sense the we made a distinction in the last chapter between conservation and mitigation *banking*.

The TDR programs generally either seek to transfer development off of large chunks of un-subdivided land (usually agricultural land); or else they seek to retire the development rights of properties that have already been subdivided. Examples of the former include Montgomery County, Boulder, and King County. Examples of the latter include Malibu, Cambria, Pima County, and, as we shall see in the next chapter, the Tahoe Basin.

The TDR programs that seek to transfer development off of agricultural land basically seek to *redistribute potential development rights*. In most cases, landowners are given basic development rights but they are given additional development rights if they choose to transfer their property. That is, it is the *seller* of development rights who is given the incentive to participate in the market; for the buyer, these rights do not exist unless the seller chooses to create them by selling them to an off-site buyer.

By contrast, the TDR programs that deal with previously subdivided lands seek to *extinguish existing development rights*. In most cases, landowners are required to retire some development rights in order to exercise others. Thus, these systems work much

more like a mitigation trading system than a rights trading system. In such cases, it is the *buyer* of the development rights that is given the incentive to participate in the market; the seller often does not have the option of developing his or her property. These programs have most frequently operated under a strong regional regulator, most particularly the California Coastal Commission or the Tahoe Regional Planning Commission.

In addition to making these useful distinctions, these case studies provide several valuable lessons, including the following:

- Transfer programs often work best when *selling* landowners have a strong bonus incentive to sell their rights rather than build. These incentives sometimes reach 4:1 or 5:1.
- Transfer programs also work best when receiving zones are, in fact, capable (politically and economically) of receiving the additional development.
- Successful transfer programs almost always require a banking entity, such as the California Coastal Conservancy in Malibu or the Land Conservancy in Cambria, to assist in stabilizing the market. This is especially true in already subdivided areas, where each individual property owner probably owns only a small lot and may have little incentive to participate in the market on his or her own.
- Transfer programs work well when regulating agencies set clear goals regarding what the “currency” is (either rights, mitigations, or money) and holds fast to the supply of that currency.
- Banking entities are often public or quasi-public entities, but they work best when they are not also regulators.
- Transfer programs often interact with public acquisition programs, frequently serving to lower the price of land conservation to the public by transferring some of that cost to the *buying* or *receiving* landowners.
- Transfer programs are often most successful, especially in combination with public acquisition programs, when they are used to implement a large-scale conservation plan that specifies which areas will be developed and which will be conserved.
- Transfer programs often require intergovernmental agreements between sending and receiving areas that carefully specify the terms under which rights or mitigations may be transferred between local government jurisdictions.

CHAPTER 4. THE TAHOE BASIN MARKETABLE RIGHTS PROGRAMS: OVERVIEW AND DESCRIPTION

4A. Overview

The Tahoe Basin transfer programs are part of a larger approach to land use planning and land preservation in the Tahoe Basin. Land is preserved through the interconnected use of land use regulation and public acquisition. Like TDR programs elsewhere, the TRPA Transfer programs are, in essence, part of the regulatory system, as they permit landowners to trade certain commodities restricted by regulation. They also interact with acquisition programs by providing landowners with a menu of options for how to realize economic value from their property.

However, the TRPA transfer programs are broad-ranging and complicated and in many respects differ considerably from most other TDR programs. These include the following:

- TRPA transfer programs involve the trading of five different types of marketable rights, none of which, by itself, confers the right to develop. Most TDR programs involve the trading of only one commodity, the right to develop
- TRPA transfer programs seek to use a trading system not just to preserve vacant land, but in some cases to actually remove existing development that is considered environmentally undesirable. In that sense, some of the programs operate more like mitigation banking and trading programs than like TDR programs. By contrast, most TDR programs are concerned only with preservation of agriculture, ranching, or open space.
- TRPA transfer programs function in combination with an aggressive and well-funded program to acquire conservation lands using public funds. In many other cases, a TDR system is created because there is no public acquisition program in place, and there are few other options for simultaneously preserving land and providing landowners with economic compensation.
- The primary purposes of conserving land under the TRPA system are related to water runoff and water quality in Lake Tahoe, and other environmental issues such as air quality and wildlife habitat, whereas most rural TDR programs seek to preserve agricultural land, which is not primarily an environmental goal. Under

the TRPA system the social benefits of land conservation, such as the reservation of development capacities for public outdoor recreation, the protection of the recreation-based local economy, and the protection of scenic vistas and recreational and open spaces, appear to be secondary objectives.. Most rural TDR programs seek to preserve agricultural land, which is not strictly an environmental goal.

- On the California side, the “banker” role in the Tahoe system is performed in aggressive fashion by the California Tahoe Conservancy. CTC is probably the most active player in the rights market, and also serves as one of the land acquisition agencies.
- Finally, the TRPA transfer programs were not created with rigorous outcomes in mind. The transfer programs were created, in part, to provide relief to property owners who might be harmed by strict implementation of the Regional Plan. They were not created after a rigorous market feasibility study, and the program’s goals are not tied to the attainment of quantitative targets embedded in the program. The underlying regulatory system was not altered to be consistent with it. Other TDRs have specific quantifiable goals.

4B. History and Background of the Regional Plan

The TRPA Transfer programs as they exist today were created by the Implementation Element of the Tahoe Regional Planning Agency’s 1987 Regional Plan. That plan, in turn, represented the culmination an 18-year effort to remove land-use planning and regulatory authority from the hands of local governments and adopt a regional approach instead.

The Tahoe Regional Planning Agency (TRPA) was established in 1969 by the United States Congress after the governors and legislatures in California and Nevada approved a bi-state compact to oversee development in the Lake Tahoe Basin. The compact was revised in 1980.

The TRPA has land-use planning and regulatory authority in some or all of seven jurisdictions that make up the Tahoe Basin. These include portions of Alpine, El Dorado and Placer counties and the City of South Lake Tahoe (within El Dorado County) in California, and Douglas and Washoe counties and the western portion of Carson City, Nevada. (See Figure 4-1 showing topography and political units).²³

The TRPA divides its jurisdiction into 175 planning areas. Locals, however, commonly refer to four regions around the lake: South Shore (El Dorado and Douglas counties),

²³ The small uninhabited Alpine County portion includes the upper part of a hydrologic area.

West Shore (Placer County), North Shore (Placer and Washoe counties) and East Shore (Washoe and Douglas counties and Carson City) as seen in figure 4-1.

Figure 4-1: Lake Tahoe Area (not the TRPA jurisdiction area)



Source: USGS 1:100,000 Quadrangle Map series (created at Topozone.com)

At the most basic level, the TRPA land use and environmental policy is designed to stem the continuing loss of Lake Tahoe's prized water clarity. At the turn of the last century, Lake Tahoe's water was so clear that objects could be seen to depths approaching 140 feet. In recent years, the lake was losing roughly a foot and a half of clarity each year through a process known as eutrophication. Eutrophication is the increased presence of algae in fresh water, and algae "clouds" the water.²⁴ Human activities increase eutrophication by introducing nitrogen and phosphorus into the water. Urban runoff and atmospheric deposition are thought to provide the largest nutrient inputs into the lake. Although the rate of clarity loss is less than in the past, water clarity continues to decline. In 2000, Lake Tahoe's water clarity was down to 66 feet.²⁵

The Tahoe Basin today has about 63,000 full time residents, 46,000 year-round occupied housing units, and 20,500 seasonal housing units, and accommodates somewhere between 10 million and 20 million visitors a year.²⁶ This level of human activity has led to significant urban development, creating a unique contrast between the rugged Sierra Nevada, the clear alpine lake, and the built environment of ski resorts, private homes, Nevada casinos, RV camp grounds, restaurants, marinas, retail stores (freestanding and in centers), large and small hotels, and service businesses.

During peak tourist periods, the thin strip of developed land around the lake becomes so congested that traffic comes to a standstill. Air quality suffers as idling vehicles emit nitrogen oxides and carbon monoxide into the atmosphere. Runoff from roads, parking lots, roof surfaces, and other impervious surfaces carries nutrients to the lake.

To reduce, stop, and even reverse clarity loss, several public agencies have initiated private property buy-out programs to prevent additional land from being developed. Today, nearly 89 percent of the Tahoe Basin's 207,000 acres is publicly owned, compared to just 15 percent in 1930.²⁷ Most of the remaining land in the Tahoe Basin is already developed and/or in private ownership. However, some of the land remains privately owned and undeveloped. (More details about the current status of land and development in the Tahoe Basin are contained later in this chapter.)

One problem – especially for public land acquisitions – is the presence of numerous small parcels. Prior to the 1960s, there was little effort at land use control and the end result was the creation of thousands of new subdivision lots in the 1940s through the 1960s. This became a problem particularly in El Dorado County when comprehensive sewage

²⁴ One clarity measure is "Secchi depth." Secchi depth operationally is defined as the depth at which a white disc, lowered into a lake, is indistinguishable from the surrounding water.

²⁵ Environment News Service (ENS) 2000. "Lake Tahoe's Clear Blue Waters Clogged with Green." Feb. 6, 2000.

²⁶ The exact number of visitors is a source of some debate. Visitation is often measured in Visitor Days. One Visitor Day is equal to one person spending 12 hours in the Basin. Some recent estimates have put annual Visitor Days as many as 25 million.

²⁷ TRPA, 2001 Threshold Evaluation Draft, p 1-4.

treatment became available in the early 1970s, actual development of many previously created lots followed. This, in turn, led to the TRPA's efforts to manage growth.²⁸

The high level of parcelization has affected the public agency's land buy-out programs. Locating owners, negotiating prices, and assembling parcels into contiguous areas for efficient management all continue to be issues that challenge the agencies that have land acquisition programs (primarily the California Tahoe Conservancy, U.S. Forest Service, and Nevada State Lands). Furthermore, much of the existing development in the Tahoe Basin exists in stream zones or other environmentally sensitive areas and presumably contributes disproportionately to the water runoff problems associated with the lake.

The 1980 Compact revision gave the TRPA the authority to adopt environmental quality standards, known as "environmental threshold carrying capacities." It also required the TRPA to adopt a new regional plan within 12 months of the adoption of the carrying capacities. Finally, the 1980 action required the TRPA to review all projects and established temporary restrictions on development in the Tahoe Basin pending the enactment of a new regional plan. TRPA later adopted more restrictions as part of the "Section 208" water quality planning process.

In 1981, the TRPA enacted an ordinance to restrict development on sensitive lands as identified by the Bailey Land Classification System, which is described below. Nearly a year later, the agency adopted its environmental threshold carrying capacities. The agency then proceeded with the development of a new regional plan. Eight months later, the TRPA adopted a new land-use plan, the 1984 Regional Plan.

Directly after its adoption, the State of California and the League to Save Lake Tahoe sued the TRPA, blocking implementation of the plan on the grounds that it failed to establish land-use controls sufficiently stringent to protect the Tahoe Basin. Judge Edward J. Garcia of the United States District Court for the Eastern District of California issued a preliminary injunction prohibiting the TRPA from taking any action to approve building projects. This injunction remained in effect from 1984 to 1987.

TRPA then undertook a consensus-based dialogue that sought to find compromise among the Tahoe Basin's various stakeholder groups. Over the next three years, members of the business, environmental, and government community met and slowly agreed on details necessary for adoption of the Regional Plan. This group, known as the "consensus workshop," produced an amended regional plan in 1986 and zoning ordinances in 1987. That year, the TRPA lifted the injunction and several of the lawsuits were dismissed. The TRPA Transfer programs as they exist today were created by this 1987 Regional Plan.

²⁸ Sabatier, Paul and Pelkey, Neil (1990) Land Development at Lake Tahoe, 1960-84 (UC Davis), p 24-28.

The Regional Plan has six elements (chapters):

1. Land Use
2. Transportation
3. Conservation
4. Recreation
5. Public Services and Facilities
6. Implementation

The Land Use Element creates an overall land use regulatory system of which the Transfer programs are a part. Generally speaking, the Regional Plan restricted the overall amount of development in the Tahoe Basin and placed especially strict restrictions on future development of residential land and tourist/commercial development units. It is these restrictions on supply, which are described in more detail below, that create the possibility of a trading system.

As stated above, the Transfer programs were created in large part to protect the rights of landowners in the face of a strict regulatory system. So one of their primary goals has always been to provide relief for landowners. However, in policy terms, the Transfer programs are part of a system designed to achieve a variety of environmental and economic goals.

The TRPA Transfer programs are primarily authorized and designed by the Implementation Element in the subsection titled: Development and Implementation Priorities. This subsection has four main goals:

1. Direct residential development to the most suitable areas
2. Manage growth in tandem with progress towards meeting environmental thresholds
3. Encourage consolidation through transfer of development rights and coverage; and
4. Condition approvals on improved off-site erosion run-off control and air quality.

In pursuing these goals within the context of the Region Plan's limits on development, the marketable rights program reflects a consensus between environmental and economic interests that emerged from the consensus workshops that led up to the plan. Both sides agreed that the region's economic well-being is inextricably linked to the Tahoe Basin's environmental quality. Recent public and private efforts focus on attracting and constructing new hotels, retail centers and homes that attract tourist and residential dollars but also result in less actual and potential runoff than much of the region's existing

structures and undeveloped lots. By encouraging consolidation of development and removal of old tourist motel units, the marketable rights program has emerged as an important tool in achieving these objectives.

It is worth noting that the Marketable Rights Programs were designed with another goal in mind as well -- the goal of giving landowners relief from a potentially harsh regulatory environment by providing them with market alternatives they would not otherwise have.

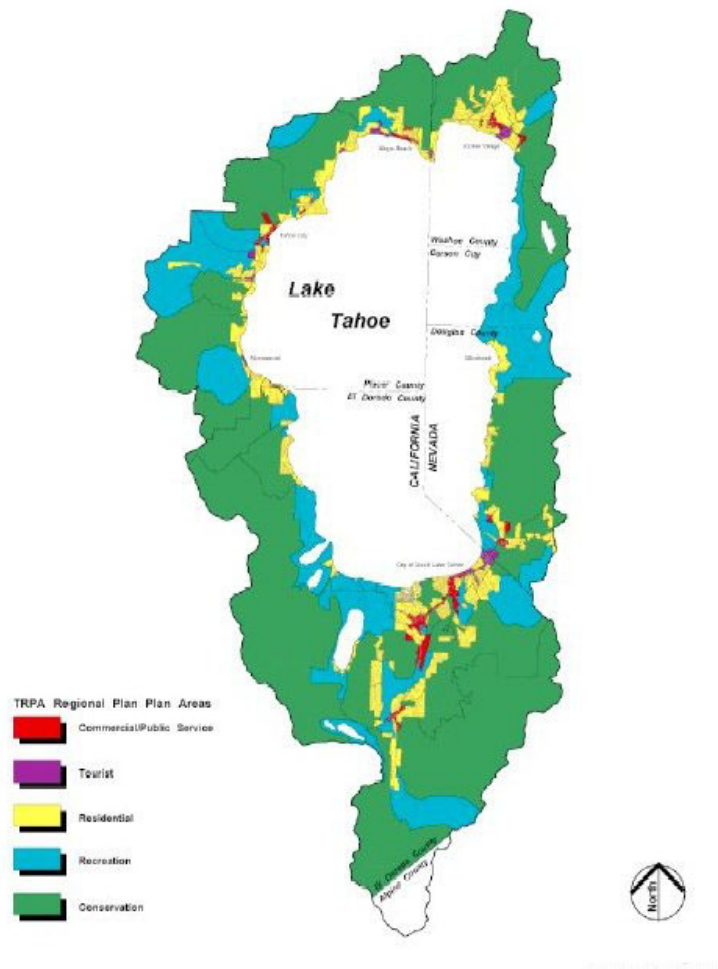
The 1987 Regional Plan established nine Environmental Thresholds of Carrying Capacity (Thresholds). The nine targets serve to protect water quality; air quality, vegetation, fisheries, recreation, wildlife habitat, noise, scenic quality, and soil conservation (see Figure 4-2). The threshold standards define a level of environmental quality which the TRPA desires to achieve in the Tahoe Basin. The threshold standards are long-term and often difficult to quantify and link to specific regulatory actions.

The 1987 Regional Plan's land use plan is shown in Figure 4-3, which largely reflects the existing pattern of development and use at that time.

Figure 4-2: Environmental Carrying Capacity Thresholds

Threshold 1: Air Quality Factors measured to determine attainment status: - Reduce emissions - Reduce VMT - Reduce traffic volume - Increase visibility - Reduce atmospheric nutrient loading Threshold 2: Water Quality Factors measured to determine attainment status: - Improve clarity of Lake Tahoe - Decrease runoff of sediment - Decrease impervious coverage - Increase natural function of SEZs - Reduce pollutants Threshold 3: Soil Conservation Factors measured to determine attainment status: - Improve clarity of Lake Tahoe - Decrease runoff of sediment - Decrease impervious coverage - Increase natural function of SEZs Threshold 4: Recreation Factors measured to determine attainment status: - High Quality Experience - Capacity Available to the General Public	Threshold 5: Vegetation Factors measured to determine attainment status: - Abundance and Pattern - Uncommon Species - Sensitive Vegetation Threshold 6: Fisheries Factors measured to determine attainment status: - Lake and Stream Habitat - In Stream Flow Threshold 7: Wildlife Factors measured to determine attainment status: - Special Interest Species - Habitats of Special Significance Threshold 8: Scenic Resources Factors measured to determine attainment status: - Travel Route Ratings - Scenic Quality Ratings - Public Recreation Area Quality - Community Design Threshold 9: Noise Factors measured to determine attainment status: - Single Event - Community Noise
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Source: 1987 Regional Plan for the Lake Tahoe Basin: Goals and Policies

Figure 4-3: Tahoe Basin Land Uses

4C. TRPA's Land Classification Systems

In determining where development should occur and where it should be concentrated, TRPA has adopted two different land classification systems. These two systems are used to determine the “capability” of land for development. Both are important tools used in the TRPA Transfer programs.

One of TRPA's first activities was to adopt the Bailey Land Classification (Bailey) system in 1972. The system is designed to determine which vacant parcels are best suited for development. Bailey scores are based primarily on the official USDA soils maps, on which each soil type was assigned a “land capability class code” from 1 to 7 with “capability 1” being the most environmentally fragile. Wherever land was found to be influenced by a stream or high groundwater, it was assigned to capability 1b: Stream Environment Zone (SEZ). The amount of development (and the percentage of their land available to cover with impervious surface) depends on the Bailey score.

The Bailey system presents problems for small areas, as the precision of the original USDA soils maps is frequently inadequate for classifying soils and capability at the scale of a typical vacant parcel, typically less than one-half acre.

In 1987, the Regional Plan introduced a new land classification system known as the Individual Parcel Evaluation System, usually called IPES (eye-ps). In contrast to Bailey, which is used to determine land capability on residential parcels developed before 1989 and on non-residential parcels, IPES is applied only on vacant residentially zoned parcels. IPES is based not only on soil and slope characteristics, as is the Bailey system, but on distance to Lake Tahoe, amount of disturbance necessary to build a driveway, and watershed health. The Regional Plan regards the IPES and Bailey systems to be consistent with one another.

TRPA assigns an IPES score ranging from 0 to 1150 to each undeveloped parcel. Parcels with an IPES score of 726 or higher are equivalent to Bailey land capabilities of 4-7. (The IPES scores of some large parcels have never been calculated, which required our team to use a combination of IPES and Bailey scores in analyzing trends in the Tahoe Basin.) Originally, only parcels with an IPES score above 726 were eligible for development of new, single family homes and parcels with a score less than 726 were ineligible for development, although a lot owner may “buy” their way to eligibility if they are within 10% of 726. This is known as the “IPES line”.

The TRPA intended for the IPES line to decrease over time through public acquisition of ineligible parcels. As agencies acquire more ineligible parcels, the IPES score at which parcels are eligible for construction is meant to drop according to a formula identified in the Regional Plan. Thus, over time, the public buy-out programs should increase the number of undeveloped parcels eligible for development.

At the time of the Regional Plan's adoption, certain criteria were established for each county in the Tahoe Basin to lower this "IPES line," based on the number of private vacant lots with scores below the IPES line and the number of private vacant lots below the IPES line in 1987. It was thought that as the public acquisition program progressed, eventually most of the “below the line” parcels would be taken off the market. In Nevada, this happened and the IPES line has fallen to 639 in Douglas County and to 325 in Washoe County. In California the IPES line has not moved below 726. Public agencies on the California side are unable to buy enough parcels ineligible for development to cause the IPES line to go down, primarily because there are such a large number of small, privately owned, undeveloped parcels in El Dorado County.

4D. Status of Land Use and Development In The Tahoe Basin

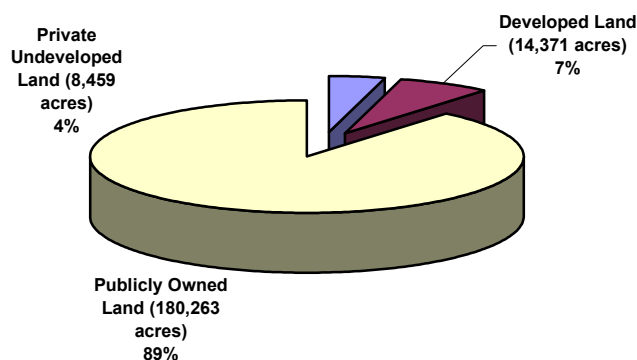
As stated above, the vast majority of the land in the Tahoe Basin is now in public ownership. The small amount of remaining private vacant land – which is the target for most of the transfer activity – is almost evenly divided between “high capability” land (suitable for development) and “low capability land” (not suitable for development) as defined by the Bailey system, and/or IPES.

In addition, the Tahoe Basin’s overall development pattern has begun to approach the development limits contained in the 1987 Regional Plan. As the basin approaches these limits, this situation should stimulate more transfer activity.

LAND USE AND LAND SUITABILITY

Currently, approximately 89% of the Tahoe Basin’s land is in public ownership (180,000 acres out of 207,000 acres), while 7% (14,000 acres) is developed and 4% (8,500 acres) is privately owned but undeveloped. (See Figure 4-4)

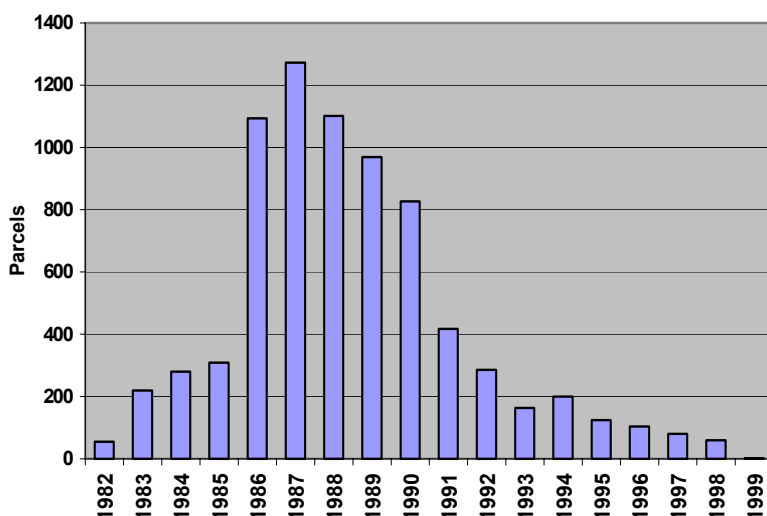
Figure 4-4: Land Use in the Tahoe Basin



Most of the land in public ownership is owned in large blocks by the U.S. Forest Service. Nevertheless, an aggressive purchase program in the last 20 years has greatly expanded the acreage and the diversity of public holdings. For example, the California Tahoe Conservancy and the Forest Service (through the Santini-Burton Act) have purchased more than 7,561 small building lots around the Tahoe Basin accounting for

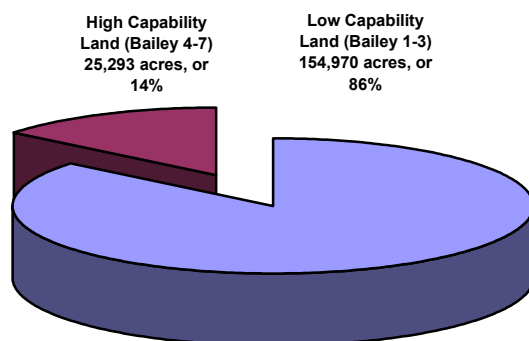
approximately 5,986 acres. Most of this land was purchased between 1986 and 1992.²⁹ (Figure 4-5)

Figure 4-5: Public Land Acquisition, 1982-1999



By matching the Bailey land coverage data to assessor's parcels and TRPA's list of private vacant parcels, Solimar was able to estimate the range of land suitability for publicly owned, developed, and private undeveloped land. As Figures 4-6 through 4-8 indicate, the vast majority of publicly owned land is "low capability" land (Bailey classifications 1-3), while developed and private undeveloped land is more or less evenly divided between low capability land and high capability land.

Figure 4-6: Land Classification of Publicly Owned Land in the Tahoe Basin



²⁹ Lake Tahoe Watershed Assessment, USFS, 2001

Figure 4-7: Land Classification of Developed Land in the Tahoe Basin

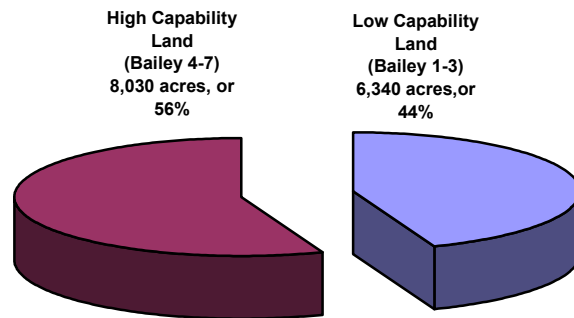
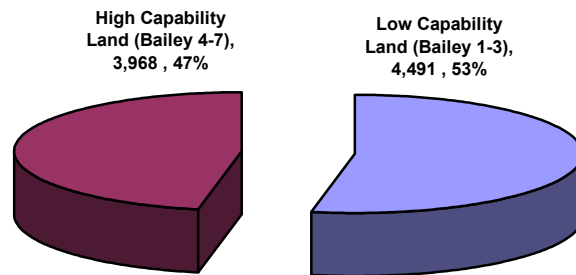


Figure 4-8: Land Classification of Private Undeveloped Land in the Tahoe Basin



A geographical analysis of private vacant land in the three most intensely developed areas in the Tahoe Basin (Figures 4-9, 4-10 and 4-11) reveals an extremely scattered pattern that reinforces the statistical conclusion that about half of the private vacant land is on low-capability land and about half is on high-capability land.

Figure 4-9: Private Vacant Land, South Shore

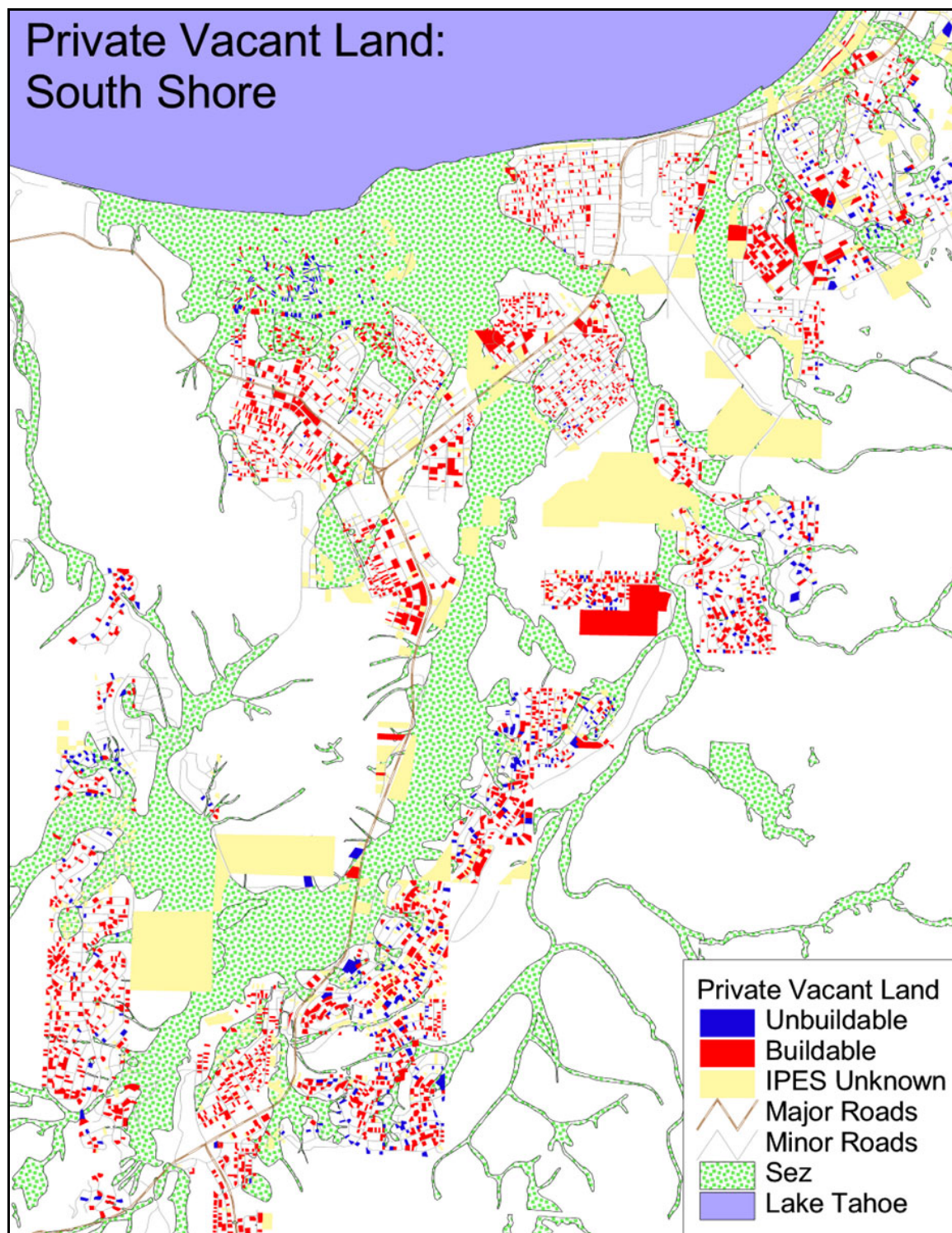


Figure 4-10: Private Vacant Land, North Shore

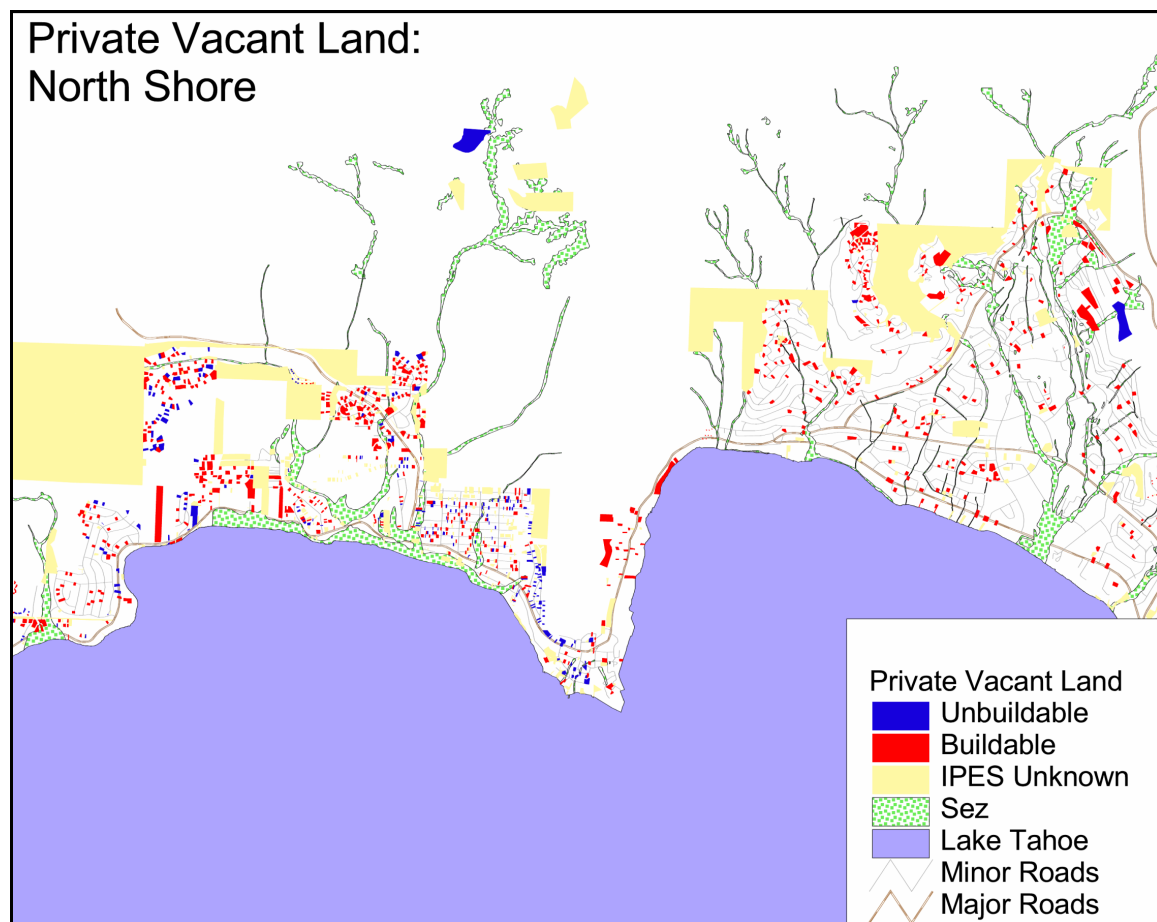
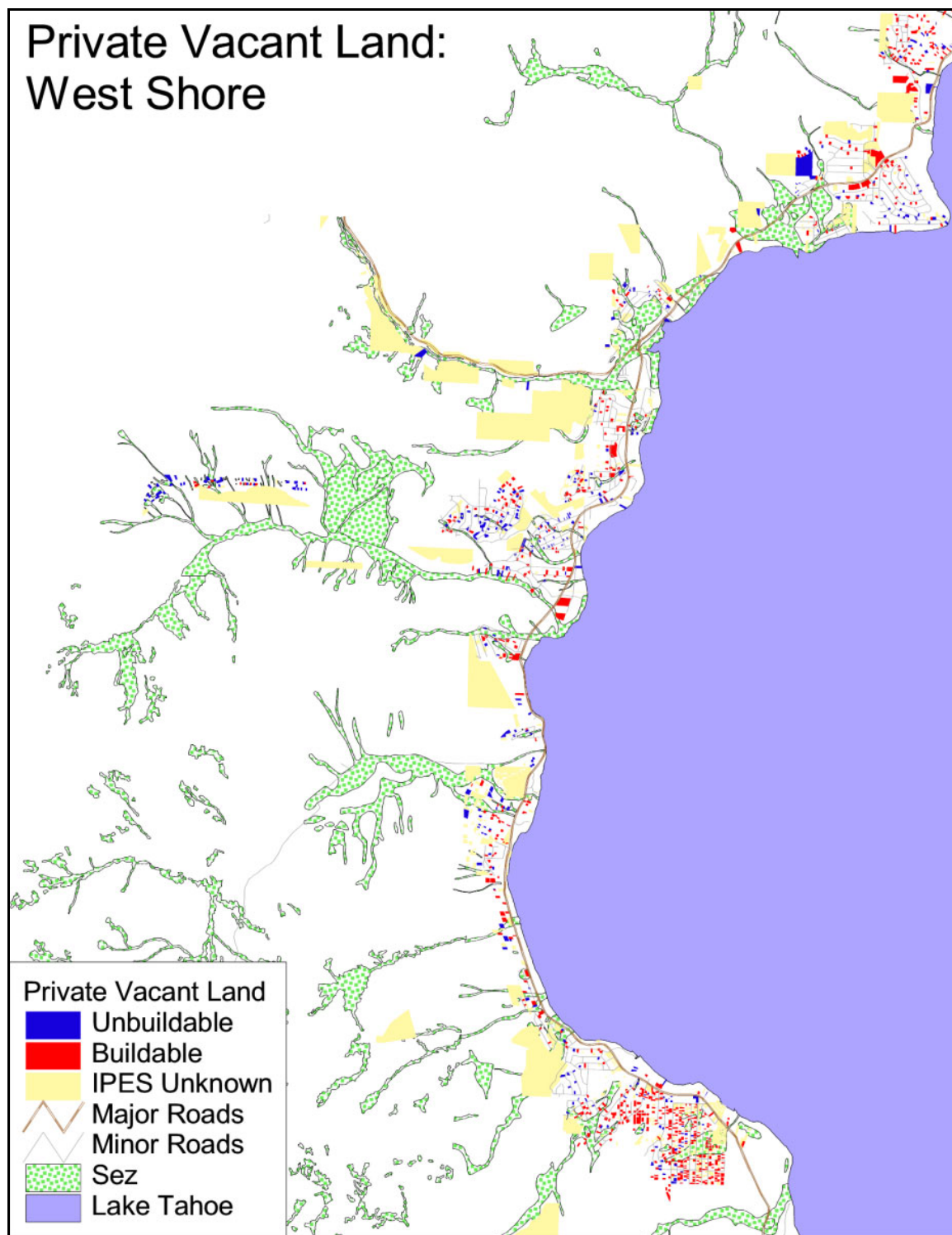


Figure 4-11: Private Vacant Land, West Shore



DEVELOPMENT UNDER REGIONAL PLAN'S DEVELOPMENT LIMITS

The 1987 Regional Plan called for strict limits on residential development, commercial floor area, and tourist accommodation units – all of which became commodities under the marketable rights programs. In addition, under the Bailey land classification system, the Regional Plan was able to suggest an overall limit to the amount of “coverage” – that is, impervious surface – for the basin as a whole.

Coverage

Coverage is defined by TRPA as a man-made structure or other impervious surface that prevents normal precipitation from directly reaching the surface of the land underlying the structure. Environmental literature defines coverage as impervious surface or compacted soil. The Coverage program was incorporated in TRPA's 1987 Regional Plan as a result of several years of consensus based negotiations and included the standards established by Bailey. Research has established the connection between impervious surfaces and water quality.³⁰ Coverage affects water quality because it reduces the land's natural infiltration capacity and/or its ability to absorb water. As infiltration capacity is decreased, a greater portion of the precipitation will flow over the surface of the landscape, scouring sediment as it travels. The amount of sediment carried by water is directly related to the water's velocity. Groundwater moves very slowly and, as a result, carries very little sediment when compared to surface flow. Phosphorous strongly adheres to small particles of sediment and, not surprisingly, there is a strong relationship between suspended solids in water and the quantity of phosphorus. As a result, the Water Quality and Soil Conservation Thresholds are probably the most directly related to the Coverage program.

Under the Bailey system, TRPA allowed each parcel of land to be covered with between 1% and 30% of impervious surface depending on the Bailey classification. Applying this system to the entire basin creates a limit of 11,629 acres of coverage, or about 6% of the overall land area of the basin. (See Figure 4-12)

³⁰ Dunne and Leopold, *Water in Environmental Planning*, 1978

Figure 4-12: Bailey Classifications and Allowed Coverage

Bailey classification	Total Acres	Allowed Coverage (%)	Allowed Coverage (Acres)
1a	83,550	1%	835
1b	10,281	1%	103
1c	55,681	1%	557
2	5,959	1%	60
3	10,331	5%	517
4	7,361	20%	1,472
5	17,855	25%	4,464
6	8,681	30%	2,604
7	3,394	30%	1,018
Total	203,092	6%	11,629

The 1986 Regional Plan found, however, that at least 14,000 acres of coverage existed in the Tahoe Basin at that time. The figure could be as much as 43,000 acres if all roads (including U.S. Forest Service roads on publicly owned land) are included.

Accordingly, the Regional Plan sought to minimize new coverage and encourage the removal of unnecessary coverage, especially on sensitive lands, without halting the coverage of land necessary to permit development on suitable land. Despite the existing over-coverage, TRPA permits landowners to cover their land up to 1-30% permitted by regulation, depending on the parcel's Bailey score. The maximum amount of coverage that TRPA may allow based on the Bailey score of the parcel, beyond what already exists on the land (the "actual coverage"), is referred to as the "potential coverage" of a parcel.

Thus, the owner of undeveloped land, or of land that is covered to a lesser extent than allowed under Bailey, is said to hold "potential coverage" as well as actual coverage.³¹

³¹ TRPA recognizes two types of actual coverage:: Hard Coverage and Soft Coverage.

Hard Coverage refers to existing impervious surface that is paved or covered with structures, rather than simply compacted dirt. It is principally used in regard to commercial and tourist facilities. A parcel's total hard coverage is computed based on land use designation and land capability. In general, new commercial development in a Community Plan Area can cover up to 70 percent while existing remodels can only cover up to 50 percent. The hard coverage program is a way to reduce the likelihood that commercial properties would serve as a source of coverage for residential development.

Soft Coverage is existing compacted dirt area. In general, TRPA's view is that soft coverage should eventually be converted to hard coverage. If property owners can show that they have legal soft coverage, the pre-existing coverage can be banked, sold, or used on site. TRPA typically enforces the "soft to hard" requirement when property owners seek permits.

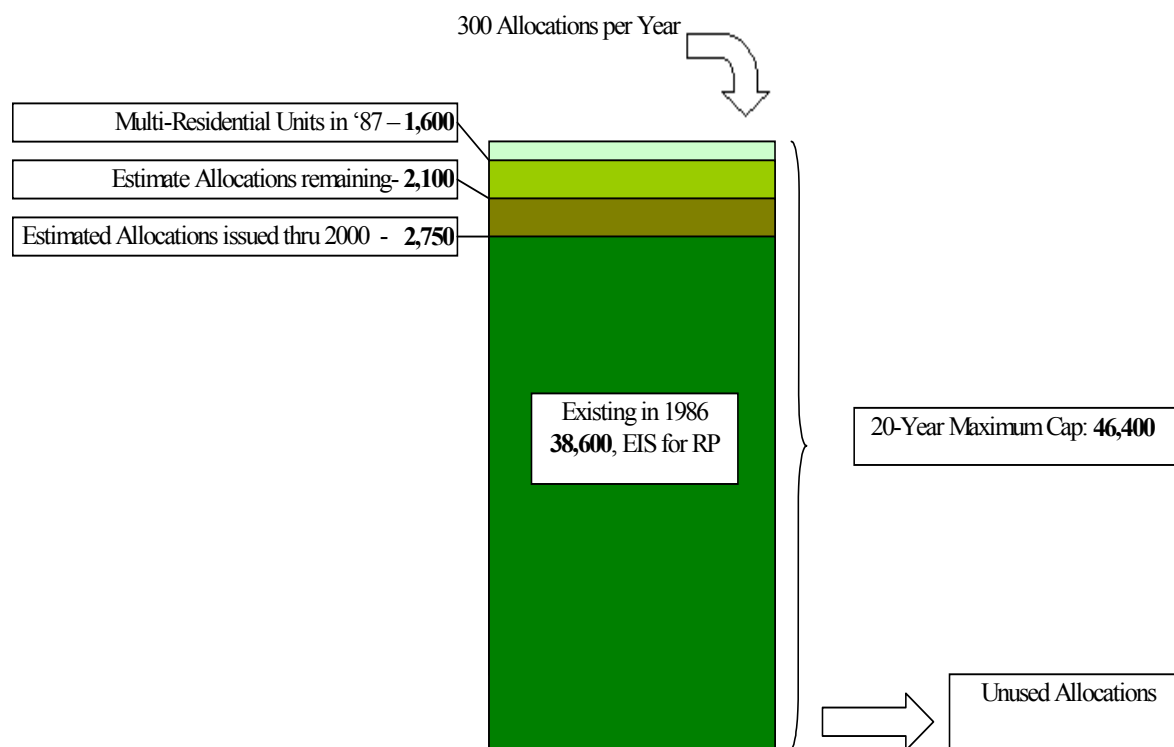
To address the problem of existing coverage in excess of the Bailey coefficients, TRPA developed the program known as "Excess Land Coverage Mitigation." It applies to property owners whose property contained more than their allocated amount of coverage in 1987. Property owners may retain this "over-coverage" so long as they do not seek new or additional permits from TRPA. But property owners who seek any type of a TRPA permit must pay an over-coverage mitigation fee for every square foot of coverage beyond the limit allowed by their land capability. Fees go to the CTC and Nevada State Lands, which use the proceeds to purchase and retire other properties and, in some cases, remove existing coverage. CTC's role in the Excess Land Coverage Mitigation Program is described in more detail below.

Finally, TRPA developed a number of programs to permit coverage in excess of the Bailey limits in certain circumstances, provided that actual or potential coverage within the same hydrologic area was transferred for that purpose.

Since the adoption of the Regional Plan, TRPA has permitted 242 new acres of coverage and the restoration programs have converted 135 acres to its natural state. Unpermitted activity (e.g. creating new parking spaces on bare dirt) has undoubtedly added significant coverage, while the acquisition of land has resulted in the retirement of significant amounts of potential coverage.

Residential Development

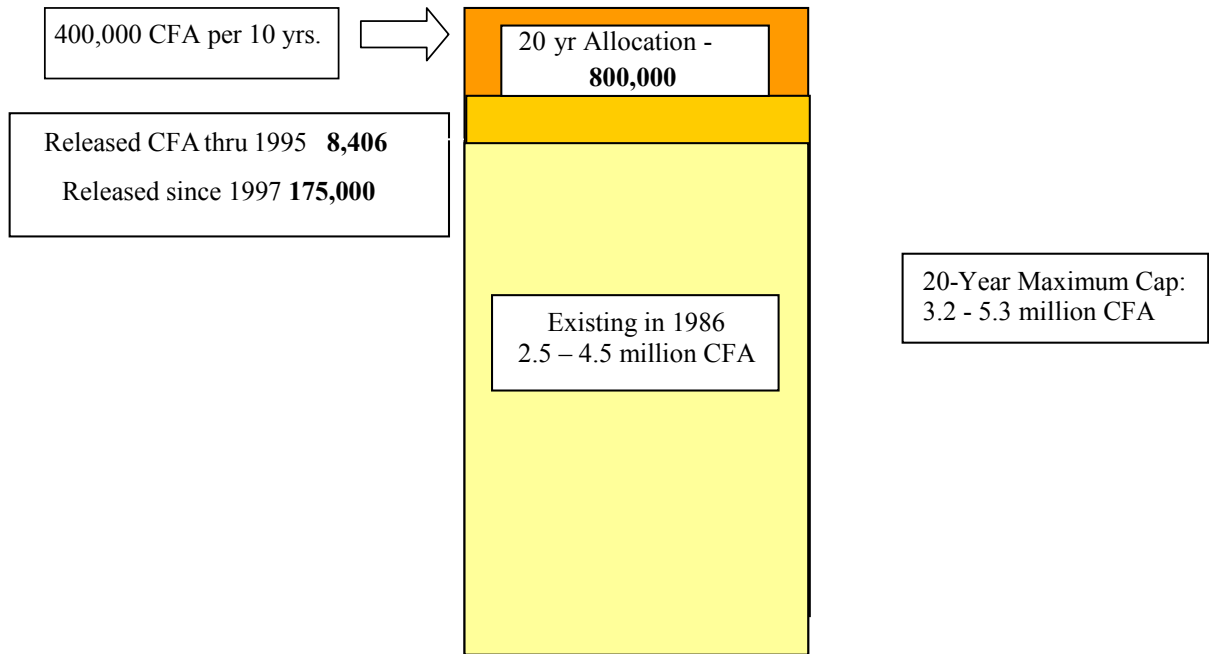
At the time the Regional Plan was approved, approximately 40,400 housing units existed in the Tahoe Basin, including 38,600 single-family homes. The Regional Plan restricted residential growth between 1987 and 2006 to 6,000 units, an increase of approximately 15%. Subdivision of raw land was prohibited, and all owners of residential lots were awarded a single residential "development right". These restrictions assured that the overall development potential of the basin would not be increased through the creation of new residential parcels. In addition, to regulate the pace of residential growth so that it does not outstrip environmental programs intended to offset the impacts of such development, TRPA requires a landowner to obtain from the agency a "residential allocation" for each unit to be constructed. The agency may issue up to 300 such allocations per year for the 20-year life of the plan to reach the maximum level of 6,000 units of residential growth. The landowner who seeks to build a single-family home must obtain a residential allocation from the agency, and will utilize the 'development right' assigned to the parcel. A landowner who seeks to develop a multifamily project on a parcel, whether for maintenance as a rental property or for future subdivision, must obtain from the agency as many residential allocations as the project will contain, and must also obtain from other landowners as many residential development rights as necessary, above the single one originally assigned to the parcel. As Figure 4-13 shows, only a small amount of residential development – perhaps 2,000 units – remains available today under the 1987 Regional Plan. It is important to note, however, that allocations awarded by TRPA but never used are now returned to a pool and then reallocated.

Figure 4-13: Residential Development Capacity

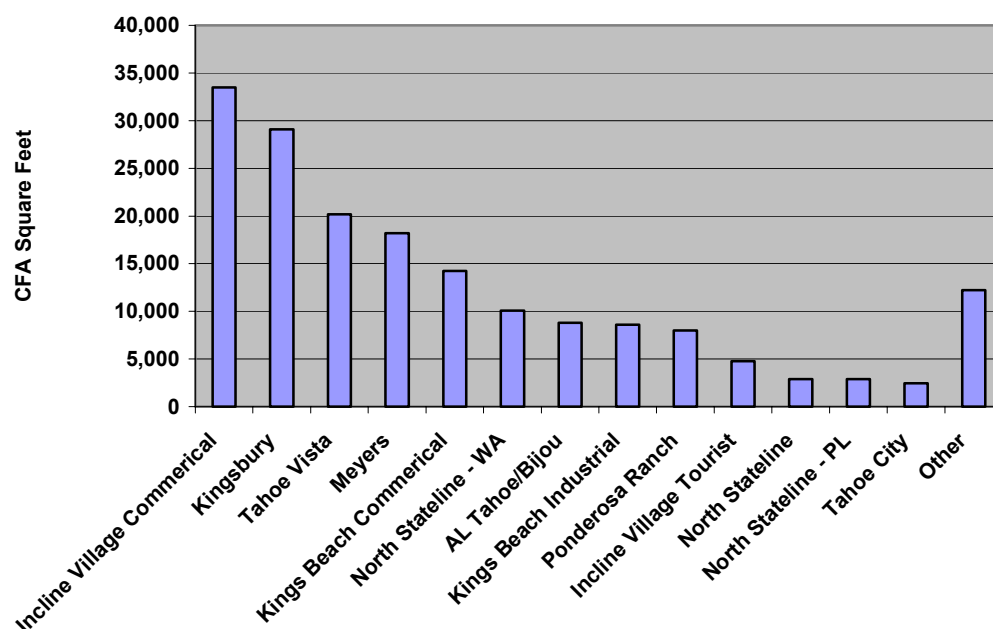
Commercial Floor Area

In preparing the 1987 Regional Plan, TRPA and its stakeholders agreed that both commercial and tourist development should be limited until certain planning goals were met. In this case, environmental and economic goals coincided. Business interests acknowledged that the large amount of “low-end” commercial development in the past had damaged Lake Tahoe’s potential as a resort area. For these reasons, the Regional Plan places restrictions on both “commercial floor area” (discussed here) and “tourist accommodation units” (discussed below)

The Regional Plan calls for an increase of 800,000 square feet of commercial development during the plan’s 20-year life to be allocated at a rate of 400,000 square feet for each decade. This amount represents an increase of somewhere between 17% and 32% over the stock of commercial space in 1987, which was estimated to be somewhere between 2.5 million and 4.5 million square feet. (Figure 4-14)

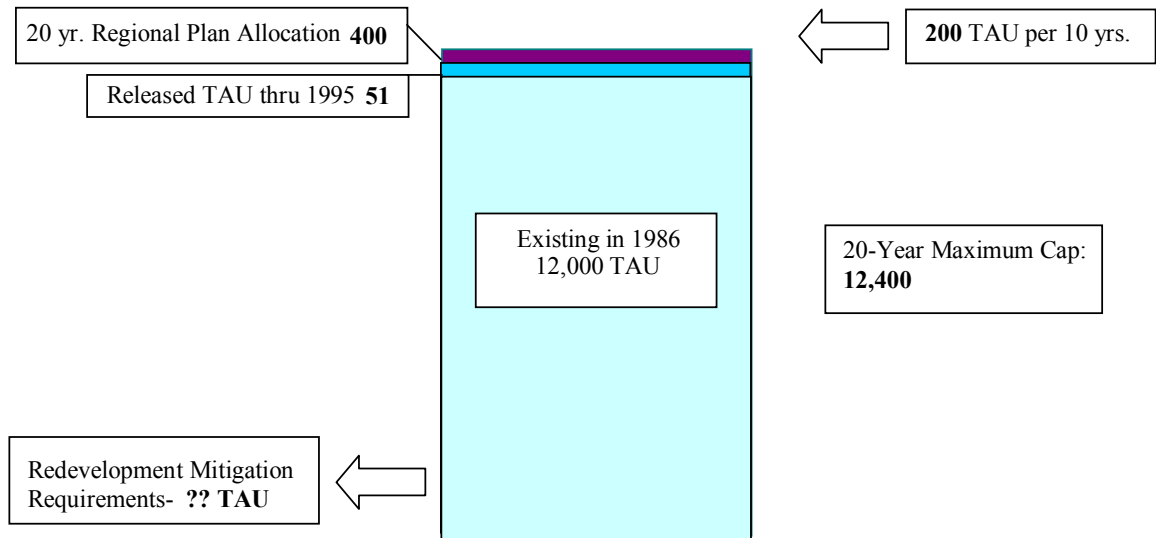
Figure 4-14: Commercial Floor Area Status

When commercial centers adopted Community Plans TRPA authorized the local planning authority to release additional CFA. The Community Planning process, however, took far longer than members of the Consensus Workshops originally anticipated, and as a result, it was not until well into the 1990s that CFA could be released to many Community Planning areas. Through 1995 TRPA released only 8,400 square feet of CFA. Since 1997, however, more than 175,000 square feet of new CFA has been released (Figure 4-15).

Figure 4-15: Location of New CFA Released Since 1997

Tourist Accommodation Units

A TAU is a bedroom, with or without a kitchen, designed primarily for visitors to rent by the day, week, or on a temporary basis. As for tourist accommodation units, the Regional Plan calls for an increase of only 400 hotel and motel rooms over the 20-year period between 1987 and 2006, an increase of only 3% over the existing 1987 stock of 12,000 accommodation units. (Figure 4-16)

Figure 4-16: Status of Tourist Accommodation Units

4E. Description of Marketable Rights Transfer Programs

As stated above, the 1987 Regional Plan restricted the overall amount of impervious surface and development in the Tahoe Basin. This restriction created the opportunity for landowners to buy, sell, or otherwise trade five different types of rights. It is important to note that all of these rights are “partial rights” in the sense that individually they do not confer the right to develop on any property owner.

The five marketable rights are:

1. “Coverage,” which means the right to create or retain impervious surface on the land.
2. “Development Rights,” which means a partial right to build that is provided to every residential property owner.
3. “Residential Allocation,” which means one of the 6,000 allocations for build residences that was created in the 1987 Regional Plan.
4. “Commercial Floor Area,” or CFA, which means the right to create or retain built space for commercial purposes.
5. “Tourist Accommodate Units,” or TAUs, which means the right to create or retain transient hotel or motel units.

We will describe and, in the next chapter, analyze the effectiveness of the trading system for each of these five commodities. We will also examine the effectiveness of the California Tahoe Conservancy's system of collecting and using Excess Land Coverage Mitigation Fees (a companion program to the coverage trading program) and CTC's method of creating and trading SEZ/Low Capability Restoration Credits. Both these programs operate, essentially, as mitigation banks. We will not analyze the use of two other restricted commodities sometimes required for development -- sewer units and "Persons At One Time" (PAOT) -- though we will describe these commodities at the end of this chapter.

Chapters 20 and 34 of the TRPA Code of Ordinances describe each program in complete detail and the two chapters are included as an appendix. Each program will be described in greater detail below, but first it is important to understand how these marketable commodities fit together to provide landowners in the Tahoe Basin with the right to build.

Below are four common scenarios where an applicant is seeking a use or development permit from the TRPA and the corresponding necessary transfer rights are listed. The applicant may have to purchase and transfer some or all of these rights in order to secure a permit. The scenarios assume the IPES and/or Bailey's scores allow the project. There are exemptions and exceptions that may apply as well as other permits. TRPA has a detailed public permit application and information system that fully explains the procedures.

(1) Build a new home on a legally subdivided vacant lot:

- Residential Allocation,
- Sewer Unit,
- Development Right, and/or
- Potential Coverage, if necessary;

(2) Expand and remodel an existing home constrained by coverage requirements:

- Soft or Potential Coverage, or
- Over-Coverage mitigation;

(3) Expand and remodel an existing home not constrained by coverage requirements:

- No marketable rights are required.

(4) Expand an existing commercial space or build a new commercial building that is constrained by coverage requirements:

- Hard Coverage, and
- Commercial Floor Area and/or Tourist Accommodation Units.

We will now describe the five marketable rights in more detail, as well as the three other programs we will not be examining in as much detail.

COVERAGE

As described above, the TRPA defines "coverage" as any surface impervious to water infiltration. The agency generally limits new coverage of land to percentages established by the Bailey system. However, the Regional Plan recognizes that these limits are not always practicable, and contains certain exceptions under which land developers may exceed Bailey limits provided that they transfer actual or potential coverage, on a one-to-one basis, from within the same hydrologic area. (see Figure 4-17) Thus, coverage became a marketable right under the plan. This program for the transfer of coverage was conceived as beneficial to both the local economy and the environment: it would allow flexibility to developers while encouraging the transfer of coverage from lower to higher capability land.

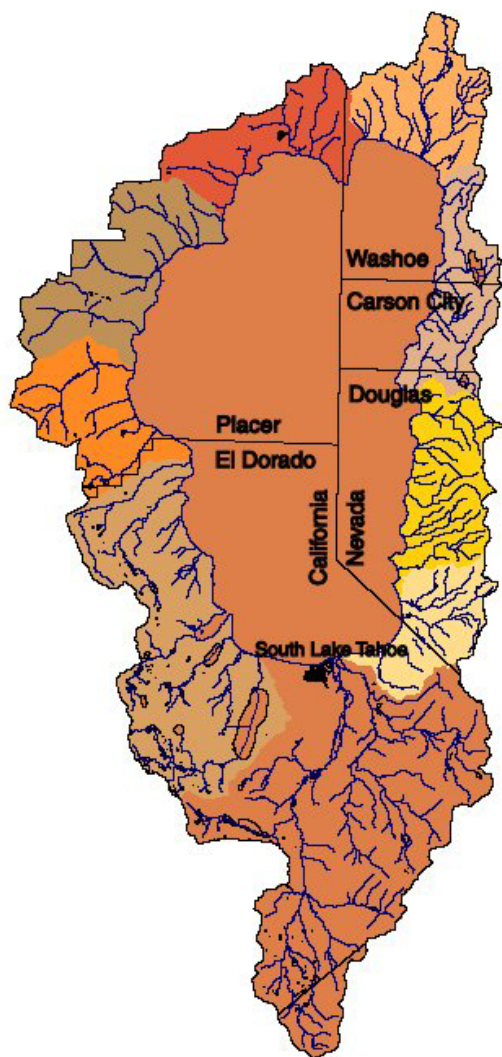
The exceptions to the Bailey limits include community plan areas (commercial core areas, typically already heavily covered, in which it was deemed more practical to aim for area wide stormwater treatment solutions than to seek on-site infiltration, and thus less important to limit coverage) and certain public facilities (such as a road through a streamzone).

Finally, in order to reduce the impact of coverage limitations on landowners generally, the Regional Plan drafters decided to permit a certain amount of coverage beyond the Bailey limits to be transferred. A complex set of rules governs these transfers, but generally owners of high capability lands may purchase coverage equal to 20% of their lot size, not to exceed 4,000 square feet, from land whose environmental sensitivity is equal to or greater than their own.

When coverage is transferred from a sending to a receiving site, a deed restriction is placed on the sending site, reflecting the retirement of transferable coverage rights. Coverage transfers occur through private markets as well as through the CTC Land Coverage Bank, which is described below. Nevada State Lands is considering developing a coverage transfer program similar to the CTC program. Unlike the other TRPA transfer programs, the four counties and two cities in the TRPA region do not have veto power over coverage transfers, either to send or receive.

Selling coverage rights on the private market is not easy. Actually transferring the coverage requires numerous steps not the least of which includes a field verification of the sending property by TRPA staff. This field verification can take several months or more to complete. As a result, property owners with small amounts of coverage almost never sell the rights. Most often, larger property owners with more coverage than any allowed use would probably require, are the source of coverage for private coverage transactions.

Figure 4-17: TRPA Nine Hydrologic Basins



Source: TRPA, Lake Tahoe Source Water Protection Program, 2000

RESIDENTIAL DEVELOPMENT RIGHTS AND RESIDENTIAL ALLOCATION

The residential Development Rights and Residential Allocation transfer programs are closely related and combined for purposes of the assessment. A property owner must have both in order to construct a new dwelling unit. Both may be traded. Each is described below, followed by a description of a program that combines the two.

Residential Development Rights (DR): The Regional Plan assigned to every undeveloped lot in the Tahoe Basin one Development Right (DR). To build more than one unit on one site, developers must purchase additional development rights. For example, if a property owner wanted to build two units on a vacant lot, he or she could use his or her existing DR but would need to purchase another DR. But this alone would not be enough to build two units. In addition to securing enough coverage, a residential property owner would also have to obtain two building Allocations.

Residential Allocation (Allocation): Each new unit must have both a DR and an Allocation. In contrast to Coverage, which is designed to reduce impervious surfaces, Allocations are designed to control the pace of residential development. Whereas each property owner of a vacant residential was awarded a DR by the Regional Plan, the number of Allocations was limited to 300 per year or 6,000 over the 20-year life of the plan. Thus, residential property owners with DRs may choose to buy Allocations in order to move their project forward. To transfer Allocations, the sending site must be a vacant parcel of land in an environmentally sensitive area and ineligible for development. After an Allocation transfer occurs, the sending site is precluded from future development either through deed restriction or transfer of title to a public or non-profit agency.

Existing Residential Development Right: This transfer program encourages the elimination of existing structures from sensitive land capability areas. The program allows property owners to, in effect, "create" rights through the demolition of inappropriately located structures. The existing residential development right is a combination of the DR and an Allocation. When a home is demolished, a property owner receives an Existing Residential development Right and may use or trade it. When all existing structures are removed, the land must be restored to its original environmental state. Once restored, sending sites are permanently deed-restricted to open space and/or donated to public agencies. If only part of an Existing Development Right is transferred off site, an easement must be recorded in order to prevent transfers of development back to the sending parcel.

During several years the number of issued RAs exceeded demand in many jurisdictions. Today, however, the rate of new home construction is relatively high and there is an active market for RAs. According to local realtors, some property owners have paid nearly \$25,000 for an RA.

Another aspect of the Development Right program is the Bonus Unit Incentive Program. Under this program, TRPA is permitted to allocate up to 1,600 "bonus units" to multi-residential development inside community plan areas, provided that the applicants achieve a high score on a set of criteria that includes retiring a low capability lot elsewhere.

COMMERCIAL FLOOR AREA (CFA)

As described above, Commercial Floor Area (CFA) is a commodity that consists of the right to construct or retain built commercial square footage, which was restricted in the 1987 Regional Plan. Before a property owner can open a business, he or she must obtain CFA for interior floor-space and deck area not already covered by existing CFA rights for that parcel. Such property owners must either obtain newly allocated CFA from TRPA or purchase CFA from other commercial property owners on the open market (or from the CTC, which occasionally acquires them as the byproduct of another acquisition). Except for the new allocations released by TRPA, tradable CFA is created only when commercial property owners demolish existing commercial structures.

TOURIST ACCOMMODATION UNIT (TAU)

As stated above, Tourist Accommodation Units are the commodity that refers to the limited number of hotel and motel rooms permitted under the General Plan. The Regional Plan also restricted TAUs more severely than any other commodity, essentially limiting the Tahoe basin to the then-existing total of approximately 12,000 units. Despite the fact that this commodity is restricted more severely than any other, the TAU market was sluggish throughout most of the 1990s.

Under the Bonus Unit Incentive Program, TRPA may allocate up to 400 "bonus" TAU to applicants who achieve high scores on a system of criteria that includes retiring a lot in a stream environment zone, or SEZ.

Of the 400 additional TAU available to TRPA as of 1995 the agency had allocated only 51. The result is that nearly every newly developed hotel/motel TAU (i.e. room) has replaced a previously existing TAU. As will be discussed in the next section, the South Lake Tahoe Redevelopment Agency has dominated this process.

STREAM ENVIRONMENT ZONE AND WATERSHED RESTORATION CREDITS

TRPA may award credits to projects that restore environmentally sensitive land to a natural state. Although development is strictly limited in a stream environment zone (SEZ) and on low capability land, certain specific exceptions are allowed. One such exception is for linear public facilities. Most road, trails or bikeways eventually cross streams, creeks, and wetlands. In order to mitigate their impacts, the TRPA requires restoration. Few public agencies actually build restoration projects and bank restoration credits. As a result, the CTC is usually the source of mitigation credits on the California side of the Tahoe basin. The CTC will buy low capability land, restore it to natural conditions and sell the restoration credits. Under a memorandum of understanding with TRPA, CTC determines when restoration credits have been created; TRPA retains ultimate responsibility for assuring the validity of those credits.

SEWER UNITS

On the South Shore, sewer capacity has sometimes controlled the pace of development. As a result, property owners are required to obtain a sewer unit before beginning construction. In the mid-1980s, before sewer capacity was improved, the waiting time for sewer units was substantial. Today, property owners with an Allocation are automatically entitled to purchase a sewer unit. Thus, the right to purchase a sewer unit is a tradable right to the same extent as Residential Building Allocations. The South Tahoe Public Utility District charges new homes roughly \$8,000 for a sewer unit and water hook-up.

PERSONS AT ONE TIME (PAOT)

As a method of measuring success in attaining the recreation threshold, TRPA developed the concept of PAOT. A PAOT measures the number of individuals a tourist servicing facility can accommodate. The TRPA board set a specific PAOT target for the Tahoe Basin. In contrast to the individual measure, TRPA treats the PAOT target as a cap. Projects such as campgrounds and marinas are required to have one PAOT for every user up to their capacity. At this point, PAOTs have never been bought or sold in the Basin, TRPA simply issues PAOTs at the same time it issues a permit to serve tourists. TRPA assumes that if the PAOT target is ever reached new tourist serving facilities will be required to purchase PAOTs on the open market.

4F. The Role of the California Tahoe Conservancy's Land Coverage Bank

The California Tahoe Conservancy was created in 1984 to serve as the state's steward of the natural environment on the California side of the Tahoe Basin. The agency performs a variety of functions. Perhaps the most well-known function is to purchase, retire, and restore land using funds from the 1982 Lake Tahoe bond act and other public funding sources.³² In 1988, pursuant to the recommendations of a TRPA task force, the Conservancy entered into a Memorandum of Understanding with TRPA to create a "Land Coverage Bank," as permitted by the Regional Plan and the TRPA Code of Ordinances.³³

This bank purchases land using a variety of revenue sources. The land is usually retained in Conservancy ownership, though it could be conveyed to another agency that will conserve it, such as the U.S. Forest Service of the City of South Lake Tahoe. In purchasing and retiring a parcel of land, however, the Conservancy also acquires all of

³² The Conservancy also operates a program of erosion control grants to local governments, a public recreation and access program, and a wildlife habitat restoration program.

³³ Memorandum of Understanding Between the Tahoe Regional Planning Agency and the California Tahoe Conservancy, dated February 18, 1988.

that parcel's marketable rights. These rights are typically "banked" by the Conservancy and then sold to other property owners who need them.

By far the most common right that is banked and then sold by Conservancy is coverage. Although the Land Coverage Bank trades in all types of coverage, approximately three-quarters of its activity is in "potential" coverage – that is, vacant landowners' legal right to create impervious surface in the future. Occasionally the Conservancy acquires land with other rights as well, but these are not the main focus of the Conservancy's rights-banking activities.

According to the Conservancy's 2001 annual report on Land Coverage Bank activities, during its history the bank has purchased approximately 1.2 million square feet of coverage (27 acres) at a cost of approximately \$5.6 million in public funds. This has left approximately 1 million square feet (about 22 acres) in the Land Coverage Bank's inventory. The bank also owns approximately 200,000 square feet of coverage provided as the result of public projects and is in the process of receiving some 1.4 million square feet of coverage from Caltrans as mitigation for its right-of-way acquisitions.

In addition to obtaining coverage and other rights, however, the Conservancy's Land Coverage Bank also actively participates in two other programs that have mitigation banking aspects to them: the Excess Land Coverage Mitigation Program and the Stream Environment Zone and Watershed Restoration Program. In both cases, the Conservancy has special banking status granted by the MOU.

Regarding the Excess Land Coverage Mitigation Program, under the MOU, the Conservancy receives the mitigation fees from TRPA, which are then applied toward the cost of buying and restoring land with "hard" coverage and retiring "potential coverage" (essentially, the right to create impervious surface on undeveloped land). Under the terms of the MOU, the Conservancy may – and does -- use other funds to buy, restore, and retire hard and potential coverage. In essence, the Conservancy's practice is to use other funds to buy coverage and then use mitigation fees as reimbursement, crediting the permit applicants accordingly. In that sense, the Conservancy has essentially "pre-sold" mitigation credits, as the Carlsbad Highlands conservation bank did, rather than using mitigation fees to acquire land after the fact, as the Riverside County mitigation fee program did. However, the Conservancy's has several companion programs with other funding sources that target environmentally unified geographical areas for purchase and possible remediation as part of an overall Tahoe Basin strategy, as many mitigation banking programs do. The Conservancy's land acquisition criteria for Land Coverage Bank parcels do target small lots that are influenced by stream environment zone corridors.

Regarding the SEZ/Restoration Credit program, the CTC is permitted to create and sell "mitigation credits" for restoring land in an SEZ or on low-capability (Bailey 1-3) land. Few property owners are permitted to develop these properties at all, but public agencies engaged in constructing linear public facilities represent one exception. Under this system, the Conservancy performs two roles. Under this system, the Conservancy plays

the same role for the SEZ and Low Capability restoration credits that it plays with Excess Land Coverage mitigation fees – it uses other funds to restore the land, then sells the restoration credits, and uses those funds to continue its restoration work. The Conservancy can create these credits in two different ways. The first is by restoring land purchased specifically for the Land Coverage Bank. The second is by restoring land acquired through other, publicly funded programs. Under the Conservancy’s criteria, the price of the credits is determined either by the private market or, if there is no private market, by the Conservancy’s actual cost of acquisition and restoration plus administrative expenses. Public agencies may provide in-kind services in lieu of cash.

CHAPTER 5. TAHOE BASIN MARKETABLE RIGHTS PROGRAM ASSESSMENT

This chapter assesses the way that the TRPA's Marketable Rights Transfer Programs (Transfer Programs) have been implemented over the last 15 years. Section A is an overview of the research approach, methodology, and summary of datasets used in the analyses. Section B lists criteria against which the Transfer Programs are assessed. Section C presents an overall analysis of the frequency and pattern of the transfers followed by analyses of each TRPA Transfer Program in four groupings: (1) Coverage (Hard, Soft, and Potential), (2) Development Rights and Residential Allocation, (3) Tourist Accommodations Unit and Commercial Floor Area; and (4) Excess Land Coverage Mitigation Fee Program and SEZ/Watershed Restoration Credit Program.

5A. Research Approach, Methodology, Data Sources

Our assessment of the TRPA Transfer Programs reflects the limitations of the data available and the constraints on the consultants' time. Like many implementation tools, the TRPA Transfer Programs evolved incrementally. Data on program activity was not collected with program assessment in mind, and in many cases data on specific transactions is incomplete.

Ideally, the assessment would have had access to a complete electronic database of all projects involving one or more of the transfer programs. Each project record would have included:

- sending site location (APN or address),
- sending site characteristics (IPES and/or Bailey scores, lot size, value, plan area),
- reason for transfer (expansion, new development, code enforcement),
- receiving site location (APN or address),
- receiving site characteristics (IPES and/or Bailey scores, lot size, value, plan area),
- transfer amount and value (square feet, number of rights, total valuation)
- whether the CTC or some other party was involved, and
- information on any special programs associated with the project.

The assessment would have started with a review of planning and related documents and ordinances to gain knowledge of the intent and implementation criteria and procedures of each program. A set of assessment criteria would be developed. Then, researchers would have been able to summarize the net effect of the summarized project data of each Transfer Program individually and in their entirety by location, valuation, and the overall environmental effect. The expected result, the ‘hypothesis’ in research jargon, we hoped to find would have been that the net overall environmental effect of the TRPA’s Transfer Programs was a quantifiable reduction in nitrogen and phosphorus runoff that improved the clarity of Lake Tahoe (or at least slowed its loss of clarity) at a reasonable cost burden on private land owners. The assessment would continue by comparing the results to the Environmental Thresholds of Carrying Capacity (Thresholds) to assess the Transfer Programs’ contributions to meeting plan goals and objectives.³⁴

The first part of the research was completed successfully. An advisory committee was created and the scope and goals of the assessment were determined. TRPA and related documents were obtained and reviewed resulting in the Transfer Program descriptions already presented.³⁵ We gained a thorough understanding of the context, intent, history, and implementation of each Transfer Program individually and as a whole. We completed several site visits and met frequently with TRPA staff and other knowledgeable parties in Fall 2000 and Spring 2001. The recently implemented TRPA project tracking system is capturing more of the key data items.

In terms of data, reality did not quite match theory. TRPA maintains computer records of selected project information but does not capture all desired transfer information from the paper project files. Because the California Tahoe Conservancy (CTC) was involved in many coverage transfers, both as a receiving and selling entity, the CTC’s Land Coverage Bank database also incorporated into the assessment. Duplicate records were identified by TRPA project number and/or APN. It should be strongly noted that the TRPA and CTC datasets are administrative records not originally designed to capture all information regarding marketable rights transfers, and therefore represent a limitation to our assessment. Both TRPA and CTC staff shared many datasets and offered considerable technical assistance.

After reviewing datasets and completing the first round of tentative analyses where we calculated much of the missing data, we hit a critical road block. The TRPA datasets had little information on the type and amount of rights transferred, while the CTC datasets provided information almost exclusively regarding Coverage transfers. The solution was to sample actual paper project files and estimate. Over 100 project files were reviewed in August 2001. As a result, there is a mix of analyses by type of Transfer Program based on the data available followed by summary analysis of all TRPA and CTC records combined. The assessment is strong in most all analyses and the few weak areas are

³⁴ We do not seek to evaluate the validity of the goals, objectives, and thresholds themselves.

³⁵ A list of documents reviewed is included in the Appendix.

noted. We are confident the assessment represents a best effort given the state of the source data and the budget resources.

To conduct our assessment, we matched the assessor's parcel numbers (APN) from the TRPA and CTC datasets') to a current APN list and then mapping each parcel with a Geographic Information System (GIS). Parcel numbers matched at relatively high rates, ranging between 77 and 94 percent. Unmatched records are assumed to be unbiased, but the parcel numbers associated with older projects are more likely to have changed.

Evaluation datasets and documents are listed below and were provided by TRPA unless otherwise noted: Individual Parcel Evaluation System scores for all parcels which have them.

- Baileys Land Classification scores for all parcels which have them
- Land Use Designations and Community Plan Areas Statements
- Marketable Rights transfers using new data codes (post 1995)
- Marketable Rights transfers, 21 categories (540 records)
- Coverage and Land Bank, 10 categories (339 records)
- Residential Allocation Transfer and Development Right transfers prior to 1995 (346 records)
- CFA allocated into Community Plan Areas, post 1997 (35 records)
- 'Old' Commercial transactions (94 records)
- Marketable Rights Transfer project files (120, sampled)
- CTC parcels, with accompanying descriptive data
- CTC land bank acquisitions/sending sites (191 records)
- CTC land bank sales/receiving sites (435 records)
- A sample of 105 TRPA 'paper' case files was randomly chosen to gather more complete project information
- Nevada State Lands parcels, with accompanying descriptive data
- U.S. Forest Service parcels, with accompanying descriptive data
- Case Studies (TRPA case files, newspaper stories, City of South Lake Tahoe and City of South Lake Tahoe Redevelopment Agency administrative records)
- U.S. Bureau of the Census, TIGER 2000 GIS files and Census 2000 data
- UC Berkeley Statewide Redistricting Database, which contained current property values to the Census block level for California land
- Assessed property value for all California parcels (CTC)
- CTC's "Annual Allocation of Land Coverage Rights and Authorization of the Transfer and Exchange of Land Coverage Rights," 1992-2001

5B. Assessment Criteria

The 1987 Regional Plan for the Lake Tahoe Basin established the Environmental Thresholds. In Figure 5-1 are principal goals and primary benefits for each of the Transfer Programs as determined from our review of TRPA and related documents and personal interviews followed by one or more corresponding Environmental Thresholds. This format frames the assessment.

Figure 5-1: Transfer Program Goals, Benefits, and Thresholds

Transfer Program	Principal Goals	Primary Benefit	Thresholds Addressed
Residential Allocations Existing Residential Units Development Rights	Manage the growth of development consistent with progress toward meeting environmental thresholds Direct residential growth to existing residential high-capability lots, reducing pressure to expand urban boundaries and/or create new subdivisions Offer transfer opportunities to owners of sensitive residential lots and encourage the transfer of development rights off of such lots	Water quality, limits on new development	Water quality soil conservation vegetation wildlife scenic
Tourist Accommodation Units	Manage the growth of development consistent with progress toward meeting environmental thresholds. Encourage consolidation of development.	Water quality, limits on new development, encourage redevelopment	Water quality scenic soil conservation
Commercial Floor Area	Promote projects that result in the construction of Threshold related environmental improvements, to promote transfer of development that results in environmental benefits, and to rehabilitate substandard development	Manage growth of development consistent with progress towards environmental thresholds Water quality,	limits on new development, encourage redevelopment Water quality scenic (redevelopment) soil conservation

Coverage -Hard -Soft -Potential -Over	Increase coverage opportunities for land developers without increasing net coverage or allowing the relocation of coverage to more sensitive lands. Mitigate existing excess coverage situations without necessarily requiring the removal of existing coverage. Direct commercial development to community plan areas.	Regulatory flexibility	Soil conservation water quality
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5C. Assessment Results

FREQUENCY AND GEOGRAPHICAL DISTRIBUTION OF ALL TRANSACTIONS

Our first task was to determine how frequently marketable rights are traded and which marketable rights are traded most frequently, as well as determine geographical patterns. To do this, we relied on several data sets available to us. These included:

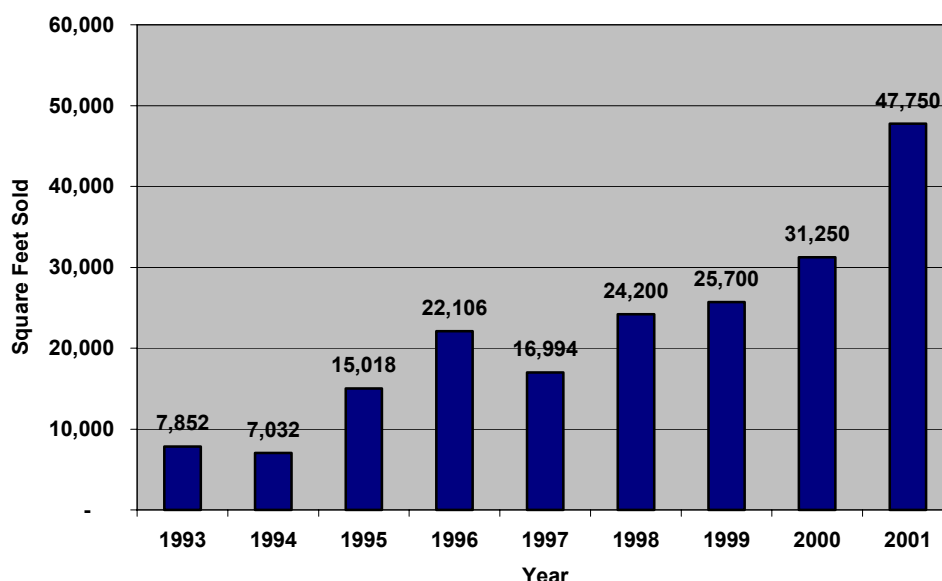
- (1) The TRPA transactions database maintained according to TRPA Code.
- (2) The annual reports of the CTC Land Coverage Bank (which are created in the form of a report to the CTC board.
- (3) The CTC database of land coverage transactions, which appeared to include virtually all transactions CTC had been involved in.

The TRPA database contained 1,354 different records of all kinds, many entered in different formats at different times. Approximately 35 of these records involved agency decisions to allocate CFA as well as other actions. It can be assumed that most, but not all, of these transactions involved trades of marketable rights. As will be described below, this database did not contain any information on what type or quantity of marketable right was traded.

The CTC data provided much more specific information about frequency. Between 1993 and the end of 2001, the CTC Land Coverage Bank had engaged in 469 different transactions transferring coverage to other landowners. These transactions involved nearly 200,000 square feet (an average of 469 square feet per transaction), which the Land Coverage Bank sold at a total cost of \$1.43 million (an average of \$6.50 per square

foot, and \$3,065 per transaction). These “Open Market” Sales, as CTC calls them, have increased steadily in volume over the last decade (see Figure 5-2.)

Figure 5-2: “Open Market” Sales



As for the CTC transactions database used by Solimar, this included 626 different records. Of these, 191 were “sending sites” (transactions in which CTC had purchased land) and 435 were “receiving sites” (transactions in which CTC had sold rights to the landowner. It can be assumed that this database contains most sending transactions (no way to measure precisely) and almost all receiving transactions (435 of the 469 transactions).

For both databases, it was possible to “join” the vast majority of records with specific parcels in a Geographic Information Systems (GIS) program by using Assessors Parcel Numbers, or APNs. For the CTC database, 553 records, or 88%, were successfully “joined”.

The TRPA database was more difficult to deal with. TRPA had organized the database by sending site. In many instances, the sending site was not identified by APN. The database had no field to record the receiving site APNs; however, in many instances the receiving site APN was included in the “notes” field. When this data was available, Solimar entered it into a new, separate field for receiving sites. Eventually, Solimar created 882 different records for sending sites and 685 different records for receiving sites, for a total of 1,667 different records. Of these, only 1,109 had sufficient information to attempt to “join” to the parcel-based GIS system. Of these 1,109, 807, or 73%, were successfully joined. Even so, however, the TRPA database provided no information regarding what

type of marketable right was being traded or what quantity of that right was being traded for these 807 different records.

The TRPA has been upgrading its project tracking software and technical support staff to better manage projects with the recent migration from the TEGIS to PTS system and hiring of a full –time programmer/analyst. Many of the desirable information fields have been in the TEGIS system for some time but were required and, therefore, the data were not routinely entered.

Thus, the maps that follow (Figures 5-3, 5-4 and 5-5), while they provide a general idea of the pattern of marketable rights transactions, do not provide an authoritative picture. It is important to note, however, that the CTC coverage transaction data showed approximately the same geographical patterns, suggesting that there is value in examining the TRPA database maps.

Figure 5-3: All Marketable Rights Transactions, South Shore

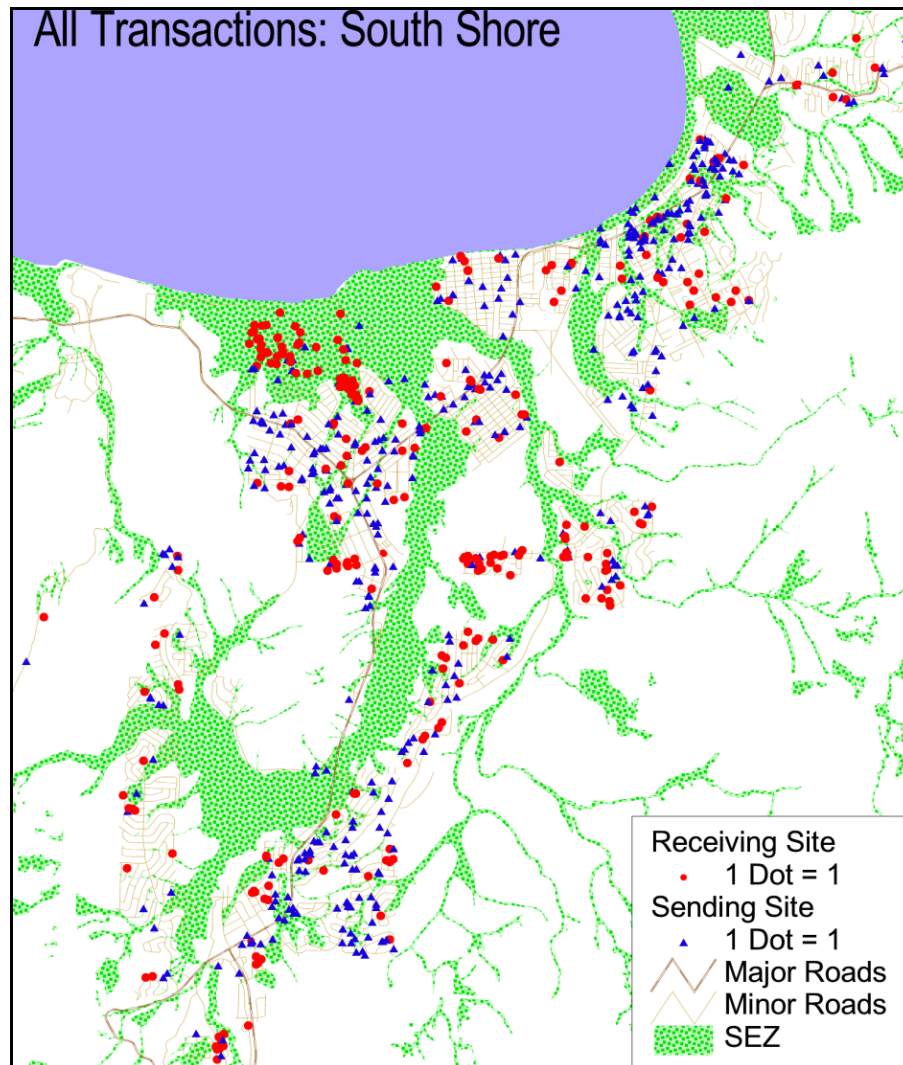


Figure 5-4: All Marketable Rights Transactions, North Shore

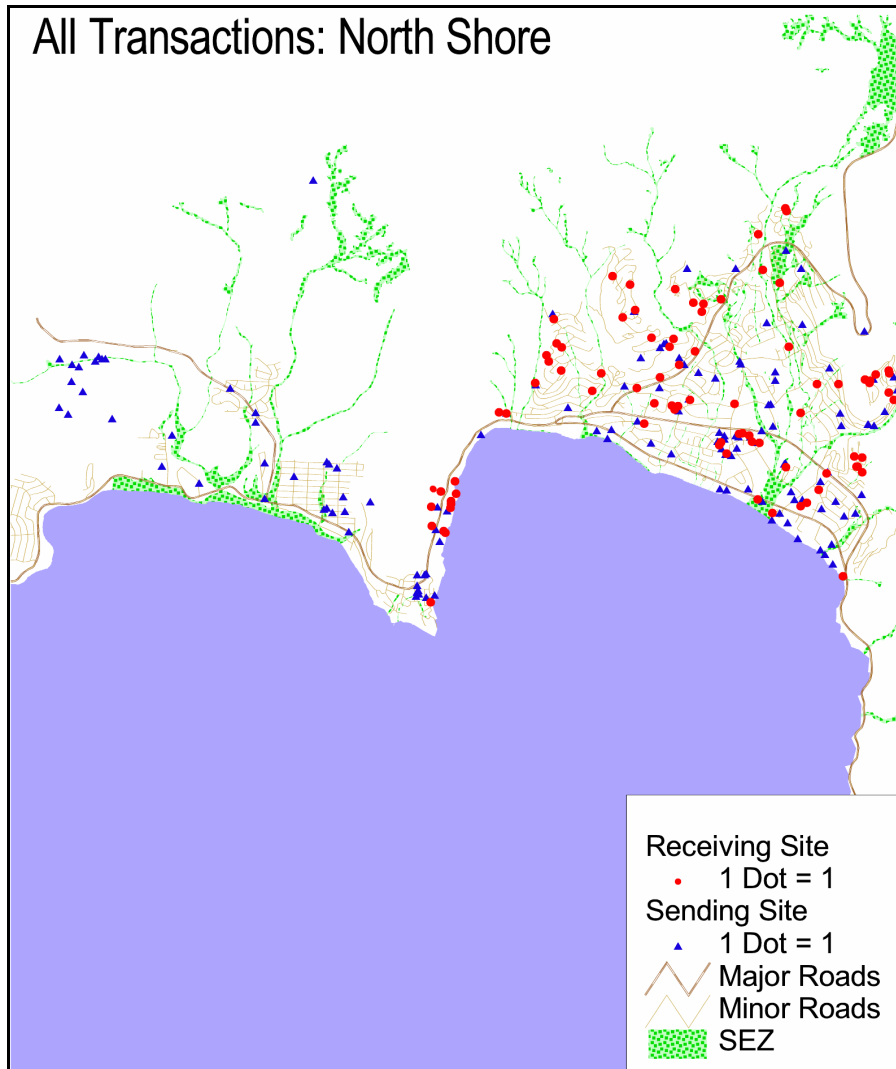
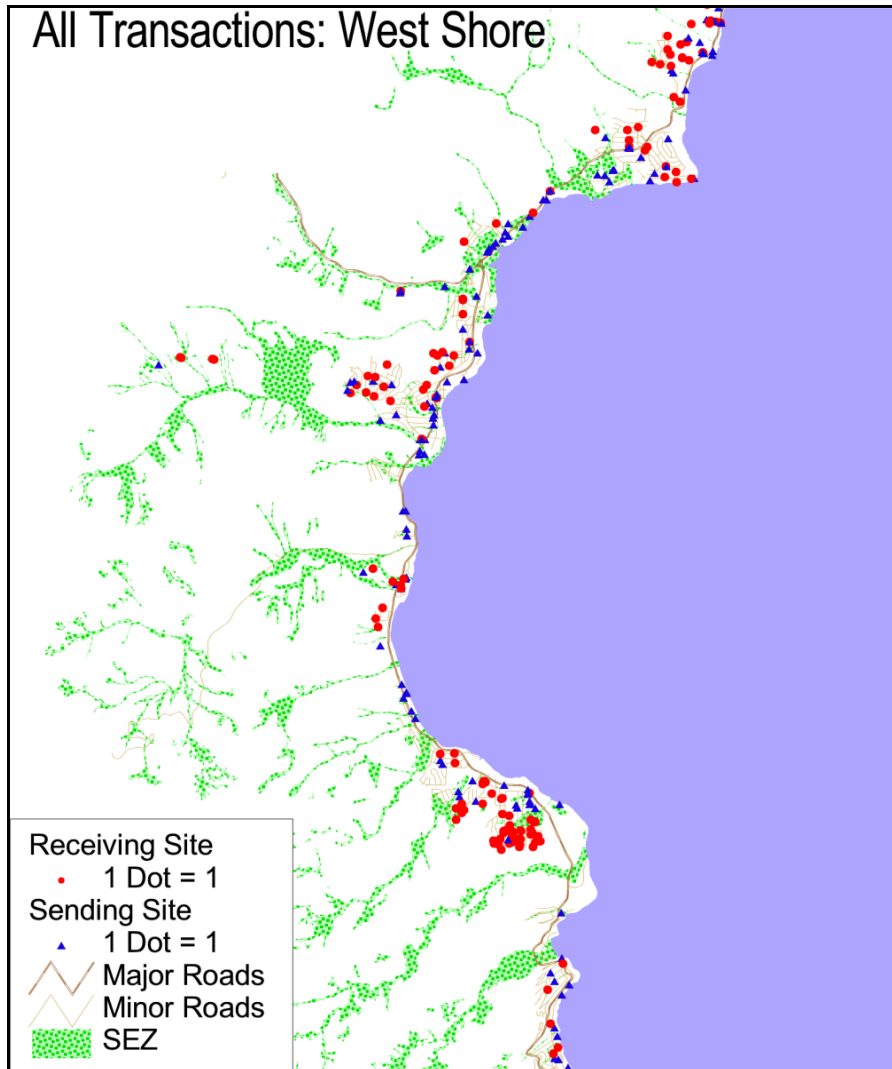


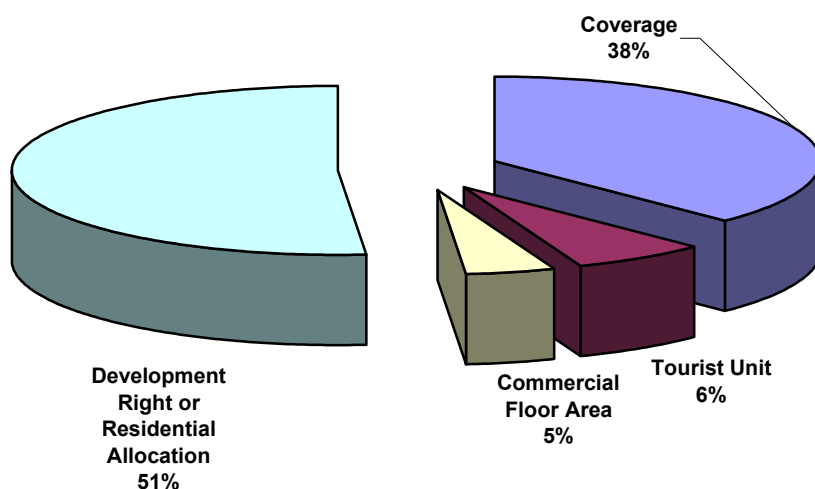
Figure 5-5: All Marketable Rights Transactions, West Shore

In an attempt to overcome this data deficiency, we requested and analyzed 201 random “paper file” records from TRPA in August 2001. Unfortunately, only about half of these files produced data that could be analyzed. About one-third of the files requested at random from TRPA’s database (74 in all) could not be located by TRPA staff.

Figure 5-6 shows the results of this data search and data analysis. The breakdown of types of marketable rights is shown in Figure 5-7. Unfortunately, it is not possible to inflate the sample data to a full estimate of all TRPA transfers with confidence.

Figure 5-6: Frequency of TRPA Transfer Program, Sample-Based

Transfer Program or Status of Sample File	Number of Projects	Total Rights Transferred	Percent of Projects
Coverage	41	205,875 sf	37.6%
Tourist Unit	7	604 units	6.4%
Commercial Floor Area	5	9,676 sf	4.6%
Development Right or Residential Allocation	56	136 units	51.4%
Total Transfer files	109		
Project Withdrawn	6		
Unable to locate file	74		
Not a transfer project	12		
Total Files Attempted	201		

Figure 5-7: Breakdown of Transfers by Marketable Right Based on 109 Files

About 38% of the projects involved the transfer of coverage and most all of these were residential. Nearly all CTC transfers reviewed in this study are coverage transfers, as the CTC primarily buys vacant undeveloped residential land and either retires, banks, and/or sells the coverage. Most all of the TAU activity involved the South Lake Tahoe Redevelopment Agency's activities in the early 1990s. About 51% of the sample TRPA project files involved either a Development Right, Residential Allocation, or the combined Existing Development Rights.

HARD, SOFT, AND POTENTIAL COVERAGE

In theory, transferring coverage always moves that coverage to land of equal or greater land capability. When a property owner sells coverage a deed restriction is filed on the property. If the lot is sensitive and/or has a low capability Bailey score, or with an IPES score less than 725, the deed restriction is permanent. If the lot is high capability, the restriction may be lifted if additional rights are transferred back, presumably from a site of lower land capability.

Our analysis of coverage transactions is drawn entirely from the CTC transaction database. In these cases, CTC purchased land (which was then retired from development potential) and subsequently sold the coverage rights from that land. Unfortunately, we were unable to analyze patterns of coverage transfers from the TRPA database because we could not isolate which transactions involved coverage as opposed to other kinds of rights.

GEOGRAPHICAL PATTERNS

Figures 5-8, 5-9, and 5-10 each show the geographical distribution of coverage transactions from the CTC's Land Coverage Bank in the three most developed areas of the Tahoe Basin (South Shore, North Shore, and West Shore). The blue dots represent parcels purchased by CTC whose coverage rights went into the Land Coverage Bank. The red dots represent parcels to which CTC's banked coverage rights were sold. These maps were shown to TRPA and advisory committee members who know relative Tahoe Basin real estate values by location.

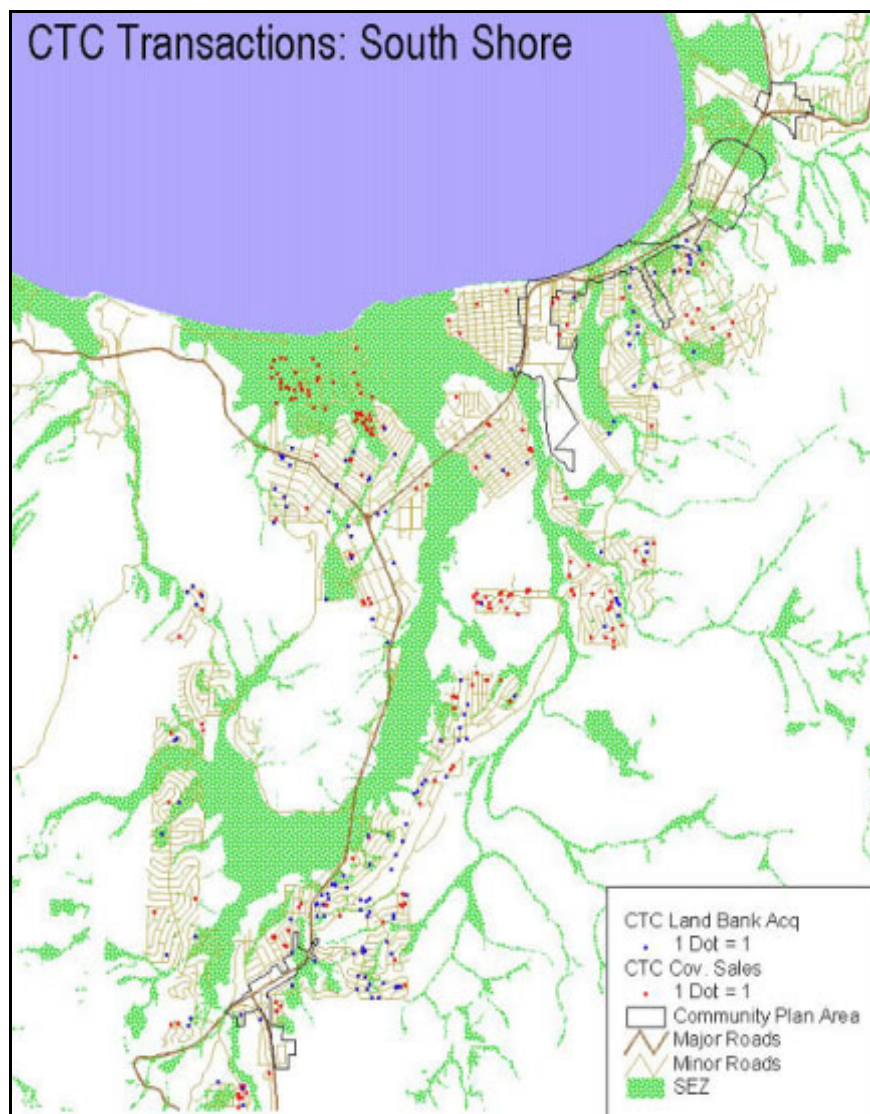
Figure 5-8: CTC Coverage Transactions, South Shore

Figure 5-8, a map of South Shore transactions, suggests that CTC acquisitions occurred mostly in City of South Lake Tahoe (upper right) and in the subdivisions to the Southwest along Route 50. Needless to say, CTC's acquisition of the land usually meant the property was not developed. Receiving sites (red dots) were clustered in the high-priced Tahoe Keys subdivision (which was a sensitive environmental area prior to the construction of the subdivision, in the City of South Lake Tahoe, and along Route 50. These patterns tend to suggest that CTC coverage transactions consolidated development on larger parcels and, in the case of the Keys receiving parcels, on higher-value parcels. These observations were analyzed more rigorously through other methods described below.

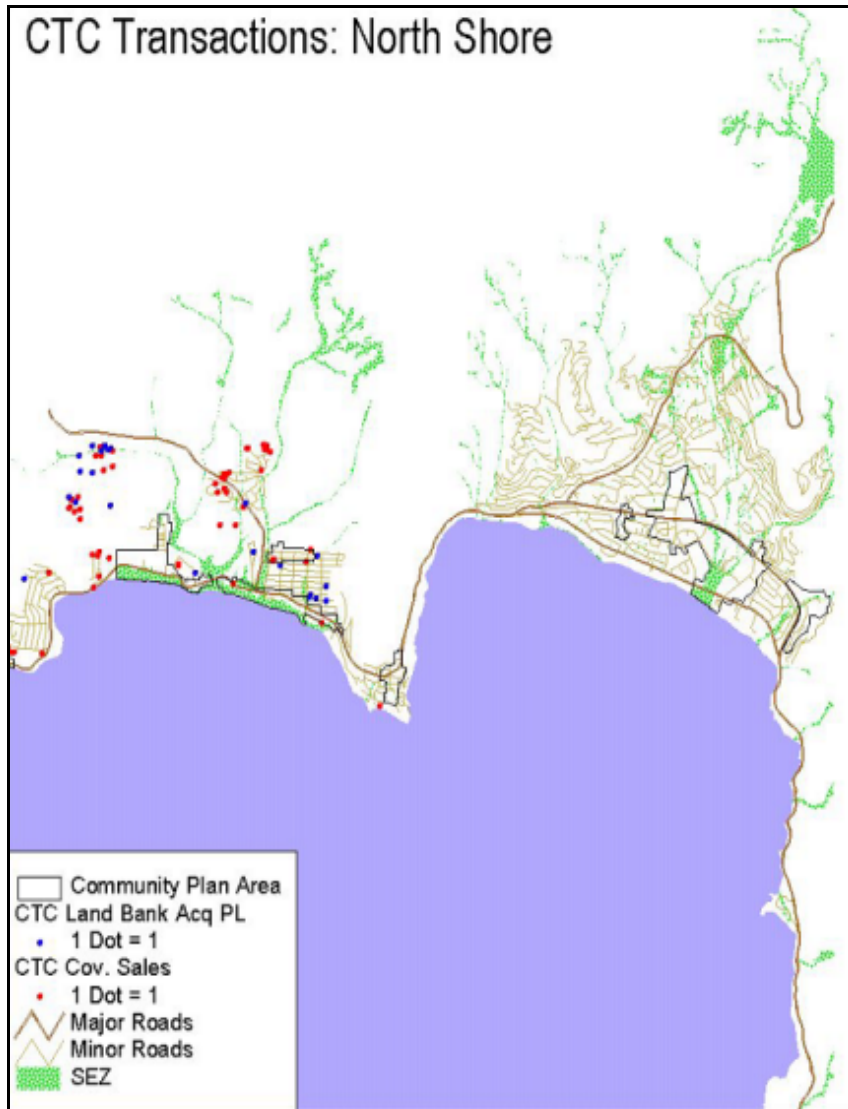
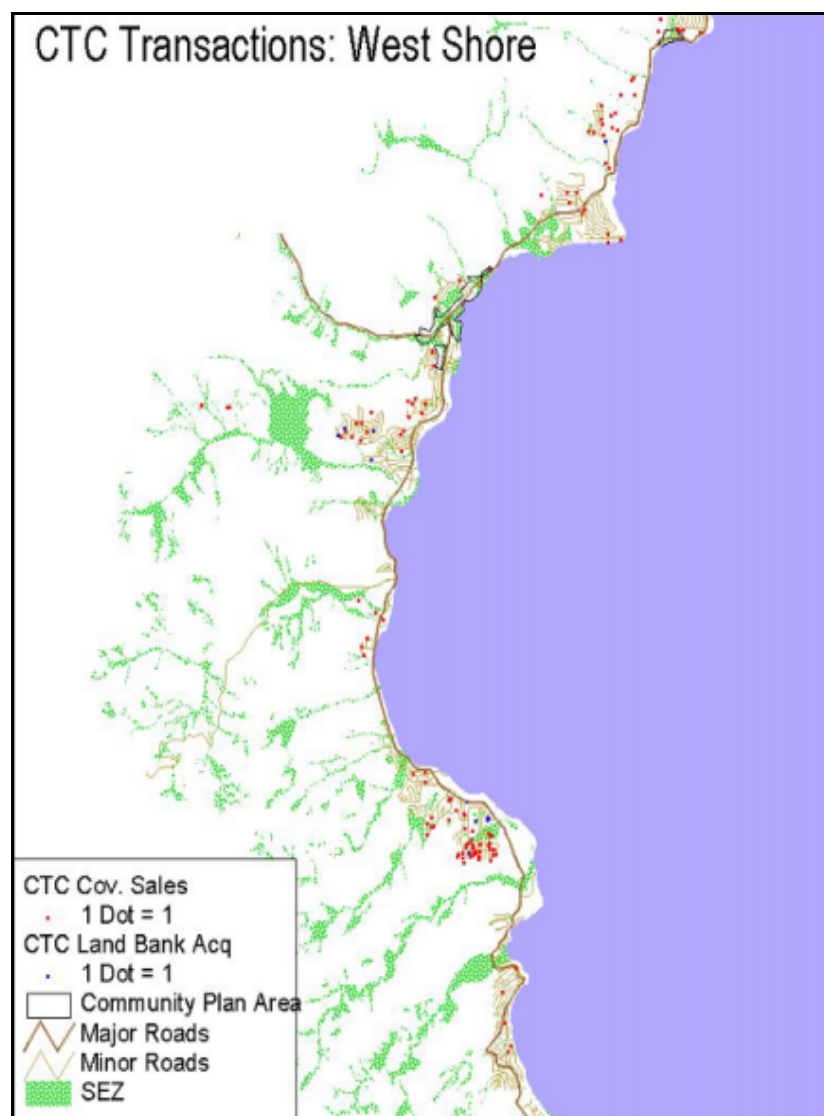
Figure 5-9: CTC Coverage Transactions, North Shore

Figure 5-9 shows CTC activity in the North Shore. The right half of the map is in Nevada where CTC cannot operate under its authorizing legislation. CTC land acquisition occurred in the King's Beach area and northwest of King's Beach in the Tahoe Vista area, an area characterized by large, newer homes.

Figure 5-10. CTC Coverage Transactions, West Shore

The West Shore (Figure 5-10) is less developed than the South Shore. The data suggest that there was a cluster of CTC sales in the Sunnyside area and Tahoma. There appear to be far fewer acquisitions than sales, suggesting fewer undeveloped residential lots compared to the South Shore and, to a lesser extent, the North Shore.

ENVIRONMENTAL VALUES AND CONSOLIDATION OF DEVELOPMENT

Coverage transactions are supposed to be permitted only when the coverage is transferred from a higher to lower capability or to a parcel with equal capability potential. We attempted to determine whether this was really occurring, by matching CTC coverage sending and receiving parcels to the basinwide Bailey land capability map by matching the Assessor's Parcel Numbers (APNs) in our GIS system.

We conducted this analysis using several different methods, none of which was perfect. First, we statistically compared the sending and receiving site Bailey scores using only those parcels which fell completely within one Bailey classification (72%) of all parcels. Parcels that straddled different Bailey classifications (28%) were not included. We conducted this analysis twice, using two different analysts to do the work.

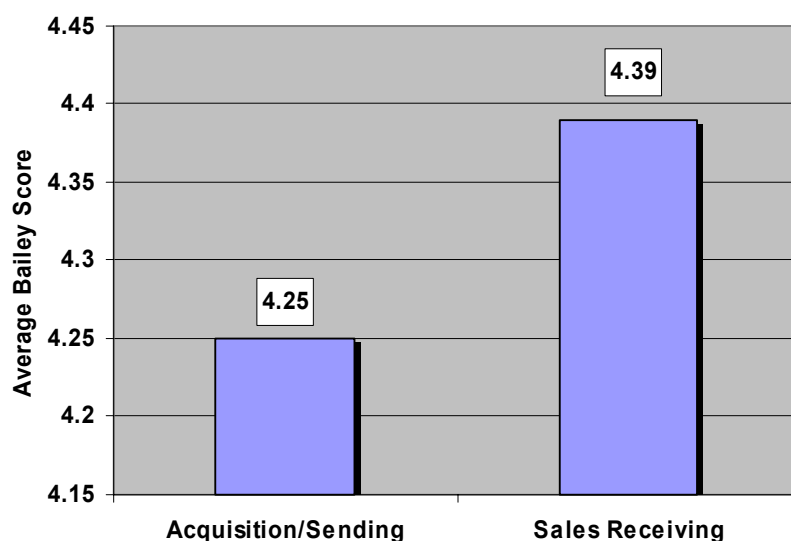
We then sought to refine our analysis by using a somewhat different technique designed to include the 28% of the parcels that straddled Bailey classifications. To create a Bailey score for each parcel, we selected the Bailey score assigned to the centroid of the parcel. This process is still not perfect but we believe it to be the most precise of the methods we used.

To double-check our work, we matched sending and receiving parcel IPES scores for private vacant parcels when they were available. We also conducted an analysis for this sub-set using Bailey scores.

Although there were minor differences, all these analyses produced approximately the same result: The environmental classification of the sending and receiving parcels were approximately the same.

Our most valid method yielded the conclusion that the average Bailey score was 4.25 for sending sites and 4.39 for receiving sites – in other words, a slight increase in the aggregate. (Figure 5-11.)

Figure 5-11: Average Bailey Score for Sending and Receiving Sites, CTC Database



As stated above, other methods yielded virtually the same results (see Figure 5-12.)

Figure 5-12: CTC Sending and Receiving Scores (All Results)

	Sending Parcels	Receiving Parcels
Method 1: Full Bailey Parcels (1st run)	4.59	4.60
Method 1: Full Bailey Parcels (2d run)	4.62	4.52
Method 2: Centroids	4.25	4.39
Method 3: Vacant Parcels	4.40	4.36
Method 4: Vacant Parcels, Using IPES	779	763

These results may seem surprising, given the requirement that coverage transactions in particular – which make up the vast majority of CTC transactions – must move the coverage from a lower capability parcel to a higher capability parcel or, at the very least, a parcel with an equal capability value. However, it is important to note that these results do not necessarily mean that individual transactions are violating this requirement. In all likelihood, each individual transaction is sending coverage from a lower capability parcel to a higher capability parcel. In addition, it may be that the program is successfully seeking out parcels that are desirable to preserve but would not ordinarily be retired through existing acquisition programs.³⁶

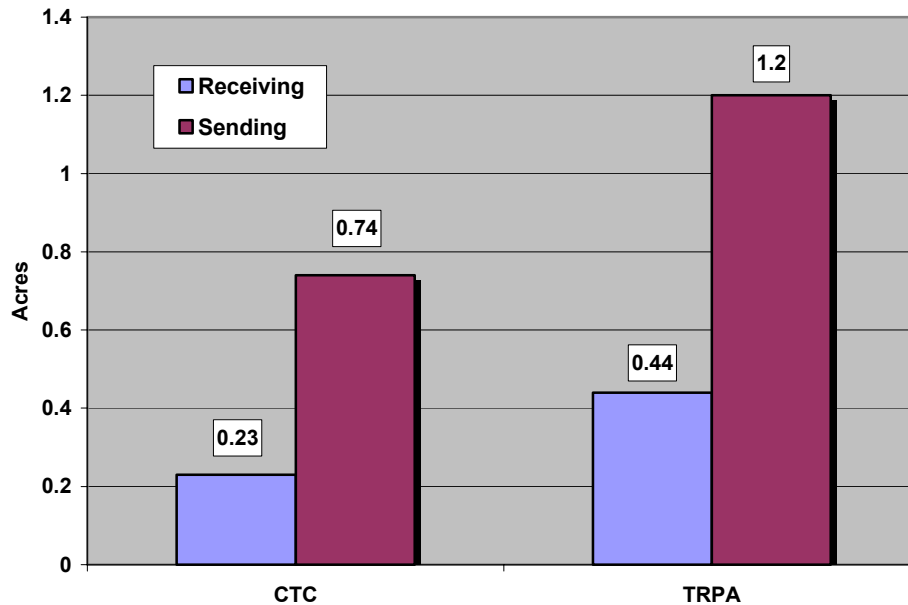
Rather, these results suggest that in the aggregate coverage is not being transferred to less environmentally sensitive land. For example, many transactions could be moving coverage from a Bailey 4 to a Bailey 5 parcel. Indeed, it is extremely unlikely that coverage transactions are moving much coverage off of low-capability land – given the fact that low-capability land is allocated very little coverage (1-5%) to begin with. The way the system is set up, most sellers and buyers will likely be owners of high-capability land.

We also analyzed the Bailey scores of both CTC and TRPA sending and receiving areas to determine whether coverage (and, in the case of the TRPA database, a small number of other rights) has been consolidated on larger parcels – a major goal of the transfer program.

Again, our methodology was not perfect, because Bailey classifications did not line up perfectly with parcel boundaries in our GIS system. However, in the aggregate, we concluded that coverage and other development rights are being consolidated on smaller parcels, just as the Regional Plan calls for. CTC sending sites averaged 0.74 acres while the receiving sites averaged 0.23 acres in size. TRPA coverage transfer data are similar with sending sites averaging 1.2 acres and receiving sites averaging 0.44 acres. (Figure 5-13)

³⁶ In addition, TRPA regulations direct landowners to use transferred coverage rights on the non-sensitive areas of their receiving parcels.

Figure 5-13: Average Parcel Size of Sending and Receiving Parcels in Coverage Transactions



One final point about coverage and consolidation of development: the TRPA planning system would appear to encourage concentration of development in community plan areas. But the coverage system appears to create disincentives for this very concentration of development. First, newly developing parcels in community plan areas are permitted a higher percentage of coverage than existing parcels, thus discouraging recycling of already urbanized land. Second, the cost of each square foot of coverage rises inside a community plan area as coverage approaches the maximum, thus creating a disincentive to build to higher densities inside Community Plan Areas. TRPA's requirement that commercial facilities mitigate additional projects with "hard" coverage is an attempt to reduce existing hard coverage in these areas. Much of the Conservancy's supply of hard coverage has originated within Community Plan Area.

COVERAGE TRANSFERS AND ECONOMIC VALUE

From our geographical analysis we had determined that, no matter whether coverage is being transferred from low capability land to high capability land, it is likely being transferred from low value land to high value land. In other words, coverage transactions appear to be facilitating economic processes more visibly than environmental goals. At a preliminary presentation of these results, the assessment advisory committee asked for an attempt to measure the economic values of the sending and receiving sites.

It proved infeasible to obtain accurate economic data on each individual sending and receiving parcel. Therefore, we estimated the value and sales of CTC sending and receiving parcels by using economic data from the UC Berkeley Redistricting database.³⁷

The Berkeley database summarized assessed and sales value³⁸ for all properties within each census block (approximately 100 parcels) as defined by Census 2000. Given the likelihood that most parcels in a census block will have a similar value, we estimated the value of each sending and receiving parcel by using the average value of all properties in that parcel's census block as a proxy. This analysis could only be completed for El Dorado County.

We found that, for both sales price and assessed value, the estimated value of receiving parcels was approximately two-thirds higher than the estimated value of sending parcels, and this is not due to time lag. This strongly suggests that CTC is acquiring coverage from relatively lower valued parcels, probably undeveloped or older homes, and selling coverage to higher value parcels, probably newer development of larger homes.

To illustrate the dramatic nature of these results, we also calculated the number of housing units in each census block where there were clusters of sending and receiving parcels (a proxy for the number of parcels themselves) and determined how those quantities were distributed over a variety of value categories (0-\$20,000, \$20,000-\$50,000, and so forth.) These results are graphed in Figures 5-14 (sales prices) and Figure 5-15 (assessed value).

³⁷ UC Berkeley Redistricting Database. In 2001, these data were used for both the state legislative and local redistricting, mandated by law after the next census. (<http://swdb.berkeley.edu/>)

³⁸ Neither is a perfect measurement of value. But they are imperfect for somewhat different reasons. Sales prices will be reflective only of those parcels sold recently. Assessed value will reflect not only recent sales but also recent construction.

Figure 5-14: Estimated Sales Prices for CTC Sending and Receiving Parcels, El Dorado County

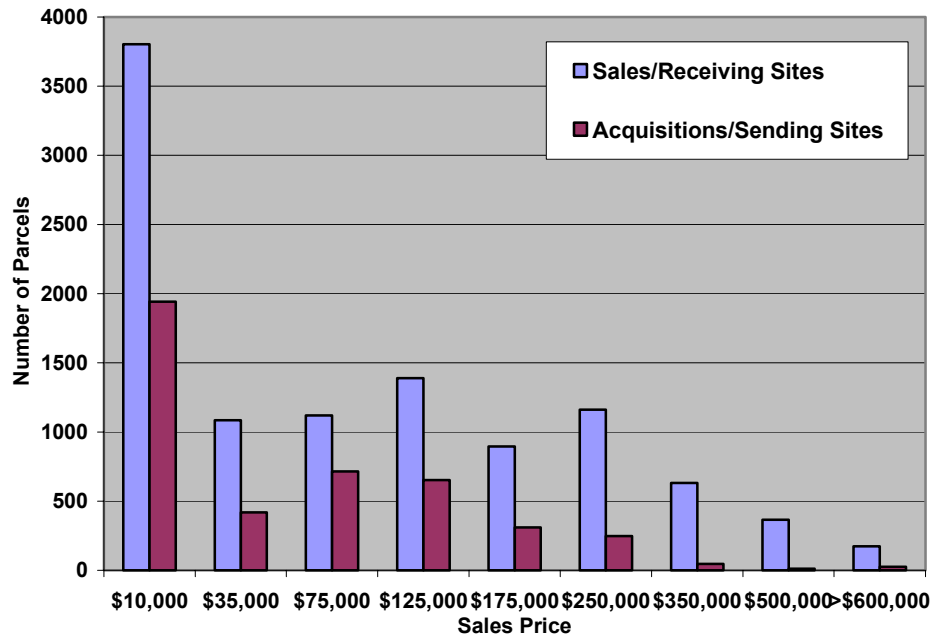
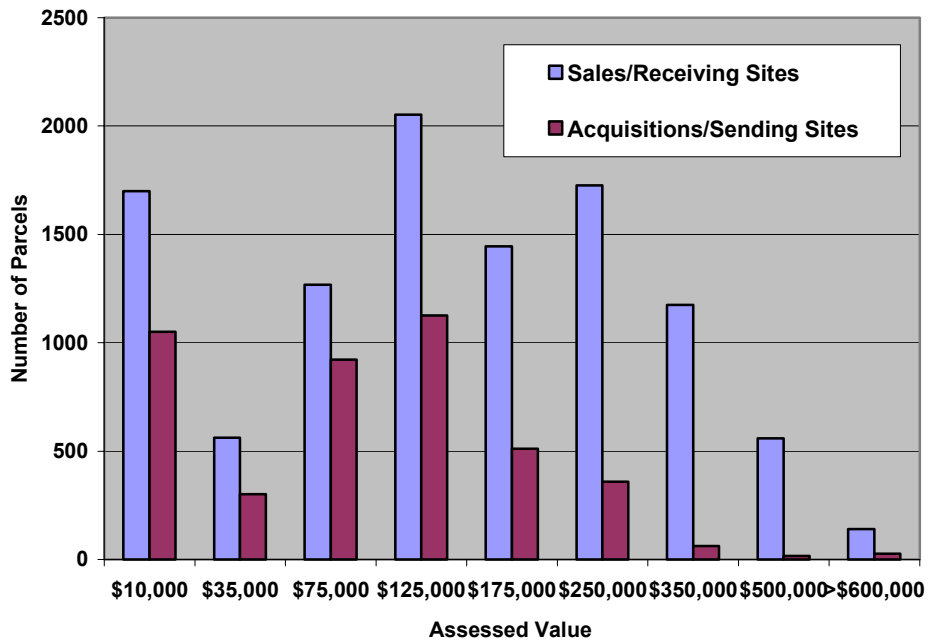


Figure 5-15: Estimated Assessed Value for CTC Sending and Receiving Parcels, El Dorado County



HARD COVERAGE

Community Plans are areas where most commercial uses should be concentrated. TRPA rules allow property owners with vacant high capability land (Bailey class 4–7) in a community plan area up to 70 percent coverage on their property. In addition, within a community plan, TRPA allows existing development up to 50 percent coverage. To build above an allowed hard (for commercial uses) or soft (for residential) coverage, a developer must purchase coverage from an existing source of coverage or the CTC. A sliding-scale transfer ratio makes coverage more expensive the closer a developer gets to 70% coverage.

A large sample of hard coverage projects could not be analyzed. Three of the case studies presented later in this chapter suggest that the hard coverage requirements raise development costs and may, in effect, favor larger investors that can absorb the relative higher costs.

REMAINING POTENTIAL COVERAGE

Vacant land this is zoned for residential is said to have “potential coverage.” Even though the Tahoe Basin is “over-covered” – that is, total coverage exceeds allowable limits under the Regional Plan – owners of vacant property are still permitted to create more coverage when and if they develop their property, up to the coverage quotients permissible for their land capability. In addition to this potential coverage, under limited circumstances set forth in the TRPA Code of Ordinances, they may create coverage in excess of their parcel’s coverage quotients by transferring in coverage from another parcel.

This is a major reason why the coverage transfer program exists – to allow landowners to add coverage in excess of the amount that would normally be allotted to their parcel – while maintaining the overall “cap” of actual plus potential coverage for each watershed in the Lake Tahoe Basin. As stated in Chapter 4, property owners may cover between 1% and 30% of their property depending on the Bailey or IPES classification of the land. Also as stated previously, there are about 8,500 acres of private undeveloped land remaining in the basin.

As Figure 5-16 shows, this translates into the potential for approximately 1,069 additional acres of coverage on private undeveloped land. About 94% of that coverage (1,004 acres) is from land classified as high capability land (Bailey scores 4-7). Only 6% of the coverage (65 acres) is from land classified as low capability land (Bailey scores 1-3).³⁹

Given the fact that coverage transfers are permitted only from lower capability land to higher capability land, it would appear that the potential for the coverage trading system

³⁹ Solimar, 2001, calculated from TRPA GIS data

to transfer potential coverage off of low capability land (Bailey 1-3) is extremely limited. Many of these lands are the target of acquisition programs. More potential exists to transfer potential coverage off of Bailey 4 and 5 land, but this land is classified as “high capability” in the TRPA system. Thus, the main potential benefit would appear to be the transfer of coverage from Bailey 4 and 5 lands to Bailey 6 and 7 lands.

Figure 5-16: Potential Coverage on Private Vacant Land

Bailey Classification from GIS	Acres Vacant	Acres Permitted Coverage	Bailey Score % of total
1a	2,371	24	2.2%
1b	687	7	0.6%
1c	623	6	0.5%
2	311	3	0.3%
3	499	25	2.3%
4	1,058	212	19.8%
5	1,613	403	37.7%
6	936	281	26.3%
7	361	108	10.1%
Totals	8,461	1,069	

DEVELOPMENT RIGHTS AND RESIDENTIAL ALLOCATIONS

General Transaction Patterns

As of 2000 there were more than 2,100 vacant parcels in the Tahoe Basin with IPES scores below the development threshold. These parcels are the largest component in the DR and RA market and act as TDR sending sites. There are 17 areas (some made up of several of the 175 planning areas) that are designated as DR and RA receiving areas, supposedly encouraging multi-residential development. (Three other receiving areas are located on Forest Service and State Park land for employee housing.)

TRPA automated records were not intended for an in depth analysis of their Transfer Programs. As a result there is no comprehensive database of DR and RA transfers. The 105-case sample of TRPA transfer projects suggests a geographic pattern similar to that of the coverage transfers where sending parcels are largely in older existing subdivisions and receiving parcels are in relatively higher value areas. Figure 5-17 shows this pattern

for the only area where the sample has a relatively large number of records, South Lake Tahoe. Again, red dots represent sending parcels and blue dots represent receiving parcels.

Figure 5-17: DR and AR Transfers in South Lake Tahoe Area (Sample of 109 Paper files)



Buildout Scenario

In the 17 receiving areas, there are approximately 1,200 parcels with buildable IPES scores. There are about 400 lots that do not have IPES scores, based on available data. However, there appear to be approximately 2,100 sending sites with unbuildable IPES scores. The net result is that there are nearly two sending sites for every one receiving site. By contrast, most successful TDR programs appear to require at least two receiving sites for each sending site. Figure 5-18 illustrates the relative 2 to 1 ratio of sending to receiving parcels, by county.

However, two other circumstances would suggest that the market for Development Rights and Residential Allocations is in better balance.

The first is the fact that the vast majority of the lots that have been acquired by public agencies were environmentally sensitive and therefore usually sending parcels. As a result of these past purchases and continuing acquisition by CTC and other agencies, the ratio between the number of sending and the number of receiving lots is moving towards 1 to 1 as the supply decreases and housing development remains constant at 300 units per year, albeit slowly as the rate of public land acquisition slows.

Furthermore, while the ratio of sending to receiving parcels may be almost 2:1, the ratio of sending to receiving residential development capacity is quite different. As stated above, there are 2,137 low-capability sending parcels, each with one development right, there are 1,209 high-capability receiving parcels, each of which also currently has one development right.

However, most of the receiving parcels are zoned for more than one unit. Based on a review of community plans, it is our estimate that the theoretical maximum buildout of the receiving parcels is 3,360. Given the fact that these parcels already have 1,209 development rights, the receiving areas could, in total, accept 2,151 development rights in transfers without violating the current community plans. Comparing this with the total of 2,137 sending parcels suggests a market that is at least theoretically in balance, assuming that public agencies have not retired the development potential of too many receiving parcels. Figure 5-19 illustrates this analysis.

Figure 5-18. Private Sending and Receiving Lots in the Tahoe Basin

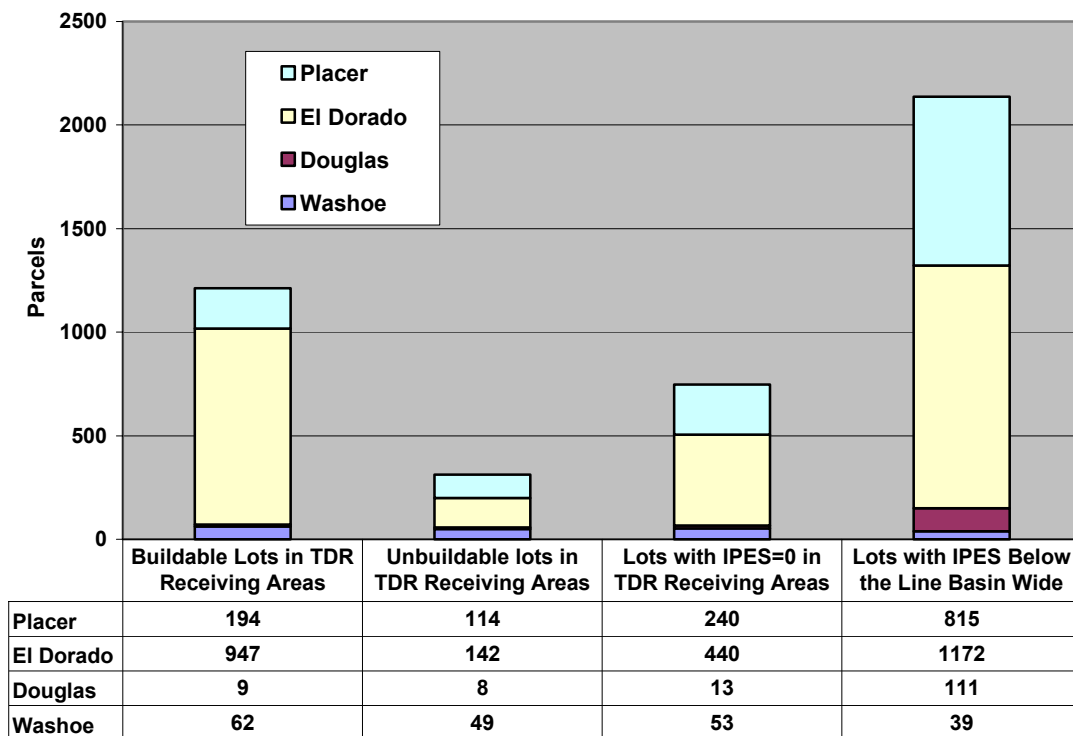
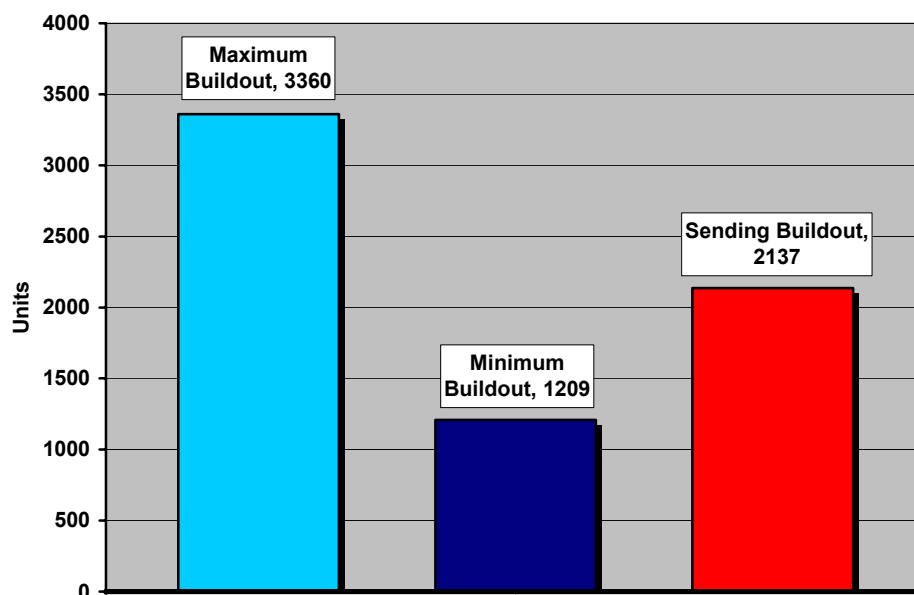
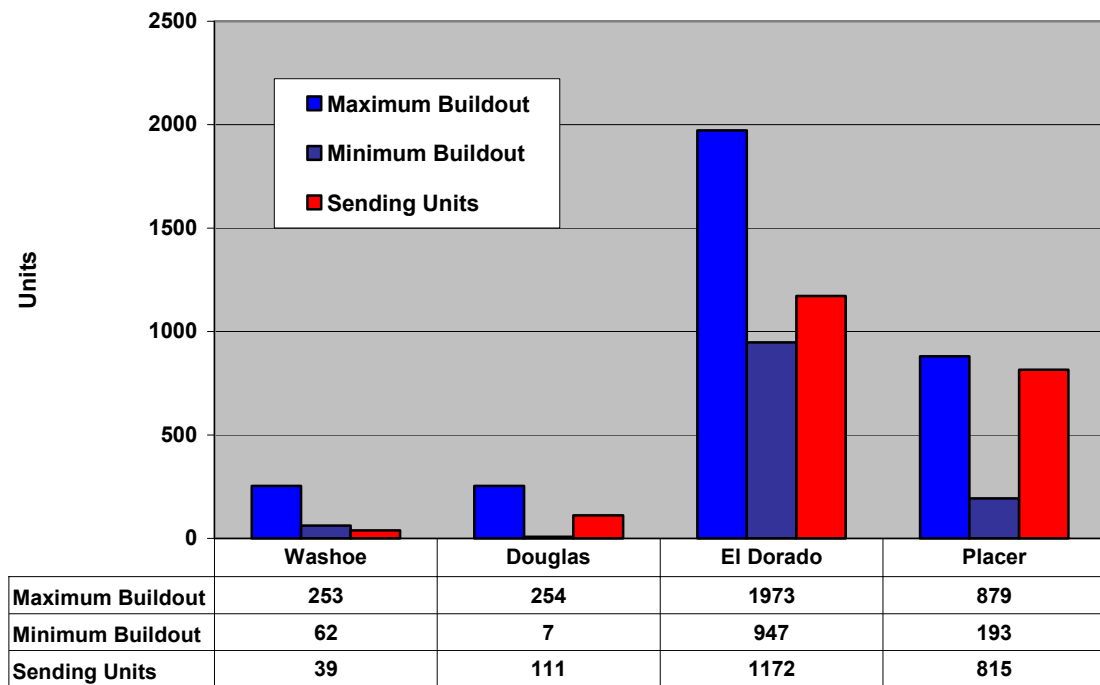


Figure 5-19: Sending and Receiving Parcel Buildout

When broken down by county, the situation varies, as Figure 5-20 shows. Placer and El Dorado counties have a DR surplus (129 in Placer and 146 in El Dorado) while Washoe and Douglas have a shortage (i.e. minimum buildout and sending parcels combined is less than the maximum buildout). El Dorado faces the largest potential increase in housing, between 1,000 and 2,000 units. The graphs also show that most possible future development in Washoe, Douglas, and Placer counties is in community plan and relies on multifamily housing.

It is possible that the theoretical buildout will not occur at the maximum level. First, there has not been a strong market for multi-family development in recent years. Second, CTC and other public agencies may have retired development potential on some receiving parcels. And third, actual projects may not be approved at the same densities as Community Plans call for. However, assuming that owners of private undeveloped property inside community plan areas are motivated to build more than one unit on their parcel, they should provide a market for owners of selling parcels.

Figure 5-20: Buildout by County

The Development Rights program also provides an additional incentive, at least in theory, for property owners through the Bonus Unit Incentive Program. Under this program, TRPA grants additional development rights to Community Plan Areas, which can be used by multi-residential applicants if they achieve a high score on a list of criteria that includes contributing to the Environmental Improvement Program and retiring residential lots elsewhere.

This program has not been widely used for a variety of reasons, including: (1) the market for multi-residential projects has been soft; (2) the "receiving areas" for the Bonus Unit program have been limited to only a few locations in the basin; (3) even if they obtain a Bonus Unit under the Development Rights program, multi-residential applicants still require additional Residential Allocations. In 2002, TRPA altered the Bonus Unit program to create a basinwide pool of bonus units, so that the program would not be hamstrung by the need to stick to a specified number of bonus units in a particular Community Plan Area, or by the bureaucratic requirements of moving bonus units from one Community Plan Area to another.

TRPA has also created more flexibility within the Residential Allocation program by creating a pool of unused allocations. Although 300 Residential Allocations are awarded each year, market demand in recent years has totaled less than that amount. Residential Allocations that are unused after five years are returned to a pool at TRPA; applicants

may then qualify to obtain one of the unused Residential Allocations by retiring an environmentally sensitive lot anywhere in the basin.

TOURIST ACCOMMODATION UNITS AND COMMERCIAL FLOOR AREA

Some marketable items, such as the Coverage and Development Right, are rights conferred on all property owners by TRPA. Others, such as Residential Allocations, are conferred on some property owners but not others, although they are still clearly rights. But Commercial Floor Area and Tourist Accommodation Units fall into a gray area. Most CFA and TAU “rights” were conferred by virtue of the fact that the landowners owned developed land on which such commodities already existed. Few landowners have been awarded new CFA and TAU rights since the passage of the Regional Plan in 1987. This is especially true of TAU, as the Tahoe Basin is limited to a small (3%) increase in this commodity during the 20-year life of the plan and so far TRPA has not released any of these additional TAU to landowners. For all practical purposes, therefore, the TAU is a mitigation requirement. Any landowner wishing to construct new hotel or motel rooms must buy and demolish old ones. Thus, a TAU is essentially a mitigation credit that may be bought, sold, or banked on the open market.

With numerous low-quality and outdated hotels in the Tahoe Basin, the market for TAUs largely languished until the South Lake Tahoe Redevelopment Agency began buying TAUs for their redevelopment projects. Early redevelopment projects were, in fact, required to obtain one and half TAUs for each new room constructed. Today, redevelopment efforts only require one TAU per new room.

Recent changes in the TRPA codes have dramatically affected the TAU market. Mounting pressure from local interests led TRPA to pass an ordinance permitting hotel and motel owners to “convert” their TAUs to CFA under certain circumstances.

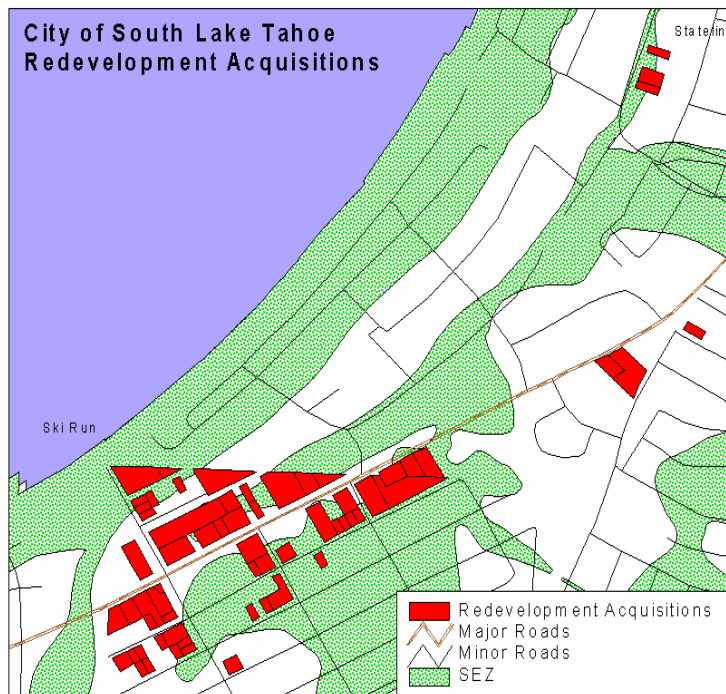
In general, the Redevelopment Agency has “banked” TAU by purchasing and demolishing small older motels and then using the TAUs in larger hotel projects several years later. The next chapter contains a case study of the Embassy Suites project, which used this technique. In the history of the program, the Redevelopment Agency has been by far the most active participant, having purchased 781 TAUs and used all but 85 of those as of 2001. Figure 5-21 depicts the location of the TAUs acquired by the South Lake Tahoe Redevelopment Agency.⁴⁰

⁴⁰ Several acquisitions made by the agency do not appear in Figure 4-17. In addition, the following APNs did not match an APN in the GIS.

APN	Name	APN	Name
27-040-06	Echo Motel	27-063-41	Foto Fast
27-040-06	New Chevron	29-095-01	King Franklin
27-040-31	Vacant Land (Beach & Ski)	29-095-02	Pine Motel

There are some obvious environmental benefits. The TAU Bonus Unit Incentive Program offers developers additional TAU if the “sending” site is located in a SEZ (although this program has seen little use as well, given the cost of SEZ sites; the limited number of receiving areas; and the hassle of obtaining TRPA approval for an extra unit). The maximum rate allowed is one bonus unit for each TAU transferred. Many older motels had large poorly paved parking areas and/or were located in SEZ areas, contributing to runoff into Lake Tahoe. Many of those SEZ parcels were restored to a natural condition and the new hotels and motels include retention basins that manage and reduce run-off.

Figure 5-21: Redevelopment in South Lake Tahoe



Overall a significant portion of the acquired property came from environmentally sensitive sites. While a portion of the properties acquired south of US Highway 50 were restored and used to treat urban runoff, most of the other land was redeveloped into tourist serving uses.

The TAU and CFA markets will be discussed in more detail in the case studies contained in Chapter 6.

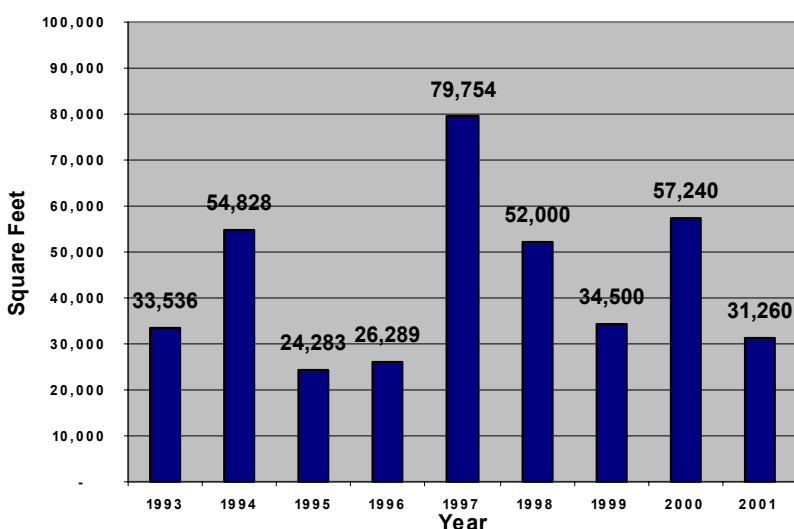
THE EXCESS LAND COVERAGE MITIGATION FEE AND THE SEZ/WATERSHED RESTORATION CREDIT PROGRAM

In its role as operator of the Land Coverage Bank, the California Tahoe Conservancy operates two programs that are, essentially, mitigation banks: the Excess Land Coverage Mitigation Fee Program (essentially a part of the coverage trading program) and the SEZ/Watershed Restoration Credit Program. The Excess Land Coverage program has been far more active, while the SEZ/Watershed Restoration Credit Program has become more active in the last three years. Neither was designed to affect large amounts of land, and indeed so far they have not⁴¹.

EXCESS LAND COVERAGE MITIGATION FEE PROGRAM

As stated in the last chapter, under this program the CTC collects fees from TRPA permit applicants if their property is already “over-covered,” and then uses the funds to purchase land whose coverage rights are then retired (including restoration of the land, in the case of hard or soft coverage). This program accounts for approximately 50 percent of the Land Coverage Bank’s overall activity.⁴²

Figure 5-22: CTC Excess Coverage Mitigation Allocations, 1993-2001



⁴¹ All of the information in this section was compiled from the CTC’s annual Land Coverage Bank Allocation report, 1992-2001.

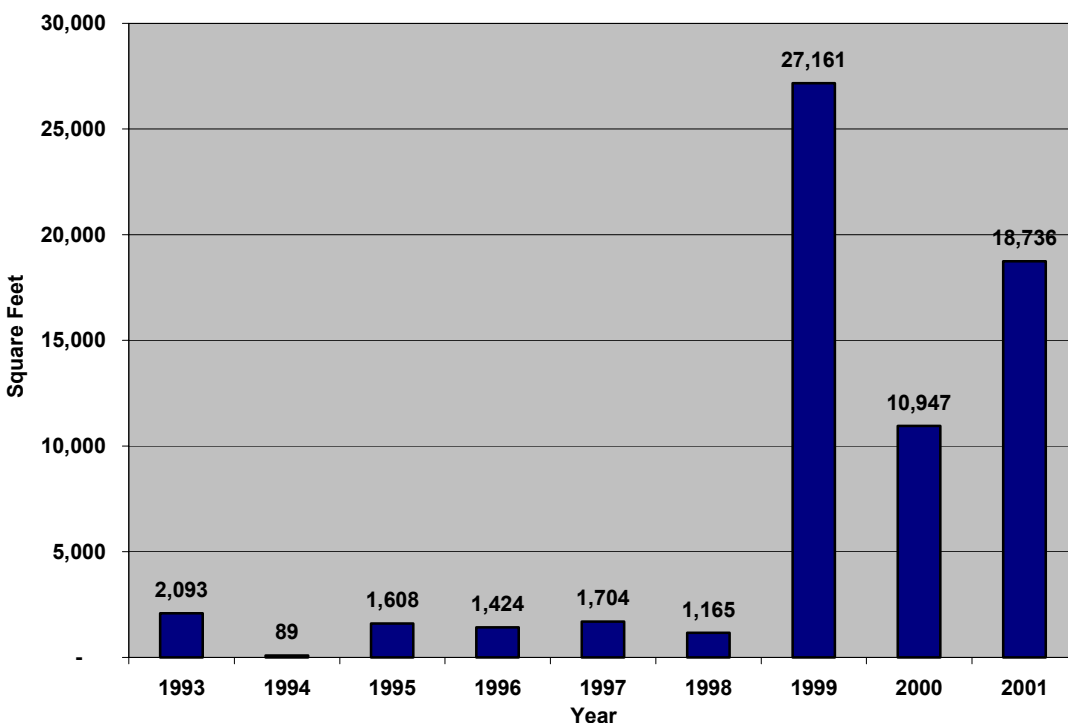
⁴² This mitigation concept created by TRPA is quite unusual. Under this program, applicants for permits to remodel properties with existing over-coverage must mitigate a portion of their over-coverage each time they apply to modify the property. In this way, older built properties are not required to mitigate all at once, but there is a mechanism in place for achieving coverage reductions over time.

Over the life of Excess Land Coverage program, more than 3,400 permit applicants have paid approximately \$2.2 million in mitigation fees to the Conservancy. In return, the Conservancy has provided those permit applicants with mitigation credit for 475,000 square feet (10.5 acres) of potential coverage and 75,000 square feet (1.7 acres) of hard coverage. Once again, potential coverage consists of a landowner's right to create impervious surface on his or her property. Hard coverage means existing impervious surface.

These funds were deposited in CTC's Land Coverage Bank, where they were used to buy other land, which was removed from the development market (although rights from that land were also placed in the bank and perhaps sold). As Figure 5-22 reveals, coverage sold through the collection of Excess Coverage Mitigation Fees has bounced up and down over the last decade, reaching a high of 79,000 square feet (1.8 acres in 1997). This stands in contrast to the coverage sold by CTC on the open market, which has risen steadily over the last decade (see Figure 5-2). In 2001, open market coverage sales exceeded coverage sold through the Excess Coverage Mitigation Program for the first time.

The Conservancy's restoration credit program has been far less active. (Figure 5-23.) As stated above, the Conservancy commits both land bank funds and other funds to restore both coverage and non-coverage parcels, including environmentally sensitive land. In a few cases, it then sells "credits" for these restorations, on a square-footage basis. These credits have been applied to 25 public and private projects.,

To date, the Conservancy has expended more than \$6 million to facilitate over 4,000 projects that led directly to the preservation of 189 of the most sensitive of the higher capability parcels involving over 200 acres, and restoration of more than 20 acres of both coverage and noncoverage parcels. Included in these efforts are restoration of 142,000 square feet (3.5 acres) of SEZ land and 87,000 square feet (2 acres) of low-capability land (land rated 1, 2, or 3 under the Bailey system).

Figure 5-23: CTC Restoration Credit Allocation, 1993-2001(In Square Feet)

Since the current program was established in 1991, the Conservancy has sold restoration credits totaling only 73,588 square feet (approximately 1.6 acres) for 25 different projects, including 14 public projects and 11 private projects. As Figure 5-22 shows, few restoration credits were doled out by the Conservancy prior to 1999. Activity has picked up considerably in the last three years, but this is almost entirely due to two projects undertaken by the Tahoe City Public Utilities District: the Lakeside Bike Trail (36,410 square feet of SEZ restoration credit) and Commons Beach (13,070 square feet of low-capability land credit). In the entire history of the program, the Conservancy has received \$62,000 in cash and \$15,000 in in-lieu site management service in exchange for these credits.

CHAPTER 6. MARKETABLE RIGHTS IN ACTION: CASE STUDIES OF TRANSFERS IN THE TAHOE BASIN

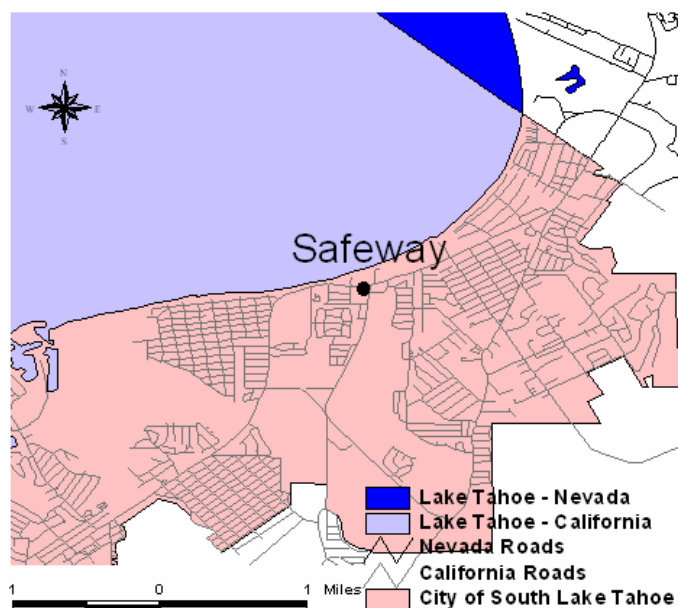
Transfers of small amounts of residential coverage, development rights, and allocations make up the larger share of TRPA transfers. These are fairly routine. Commercial and subdivision transfer programs are less frequent and likely to be just one part just of a project development and approval process. Review and analysis of actual projects is a useful way to assess the day to day implementation reality of the TRPA transfer programs verses the way they are designed to work. Three projects were identified and researched using public records, newspaper stories, TRPA project files, interviews with knowledgeable parties, and site visits. Not all desired information was found for each project, but sufficient information is presented in this section to allow for several assessments.

The three case studies are: Replacement Safeway store, Embassy Suites Stateline Hotel, and the Bitterbrush and Country Club Estates. The first two are located in the city of South Lake Tahoe (CA), the fourth in Incline Village (NV). Each case study includes a location and project description, financial characteristics (that were made available), outcome, and assessment.

Safeway, South Lake Tahoe

LOCATION AND DESCRIPTION

The Safeway grocery and general merchandise store is located at 1020 Johnson Lane about two miles west of the Nevada state line along Lake Tahoe Boulevard (Rt. 50) in the city of South Lake Tahoe. To the immediate north and west are motels, camping, bike trails, and other resort uses. To the east and west are single family homes.

Figure 6-1: Location of Safeway

The Safeway site is composed of four parcels with the following previous uses:

Parcel	Square Feet	Previous Use
A	34,645	Safeway and parking
B	43,186	undeveloped
C	3,418	Frontage landscaping
D	911	Well house

This project involved the demolition of the existing 29,740 sf Safeway store and construction of a new 55,542 sf store, an increase of about 87 percent. The new store is set back 380 feet from Lake Tahoe Boulevard (Rt. 50), removing the store from the 300 foot wide scenic corridor. Access is from Lake Tahoe Boulevard and from Johnson Street on the east frontage. There are 322 parking spaces, a screened loading dock, heavy frontage landscaping, and three on-site detention ponds with an overflow to Parcel D. The structure has an Alpine motif frontage with a screened flat roof.

Figure 6-2: Front Elevation



Figure 6-3: On-site Retention and Settling Basins



DEVELOPMENT PROCESS

This project was represented by Midkiff and Associates, a local Tahoe planning and entitlement consultant. The City of Lake Tahoe Zoning Administrator coordinated the city's review process which focused on access, parking, screening of side walls, creation of a meandering sidewalk along Lake Tahoe Drive, and the safety and design of the drainage basins. The project needed to acquire or earn Commercial Floor Area (CFA) credits for 25,802 sf, the difference between the new store and the demolished old store. Safeway obtained 12,861 sf from private sources (probably arranged with the assistance

of Midkiff and Associates); 1,180 sf credit based on the value of Safeway's street light improvements along the frontages and restoring the Fairway SEZ; 3,000 sf credit for moving the store out of the 300 ft. scenic corridor, and 8,800 sf purchased from the city.

ASSESSMENT

Midkiff and Associates, the local planning consultant, played a key role in facilitating this project. The need to acquire CFA rights was an additional cost and procedure on top of the routine design review, entitlement, and environmental review process. The two CFA credits (totaling 4,180 sf) were allowed because the project met specific land use and economic strategy objectives listed in the Bijou/Al Tahoe Community Plan that assigned CFA credits for specific site improvements. The city sold CFA to Safeway at \$30 per sq. ft. for a total of \$264,000. If the privately acquired CFA cost the same amount, the total direct cost for CFA was just under \$650,000. The estimated \$30,000 in lighting and frontage improvements would arguably have been required anyway as a condition for approval, while the larger store required more parking and a deeper setback anyway. Land for the three settlement basins and overflow parcel could be considered another added cost, that of having enough land to mitigate peak run off.

This project was subject to a higher level of design and environmental review than the previously existing commercial structure, which was built before the current regulatory framework was established. TRPA policies require capture of runoff into settling basins, allowing some of the contaminants to be filtered from the runoff before it enters Lake Tahoe. Prior development on the site utilized little, if any, drainage improvements, and as a result, runoff from the site carried sediment directly into the storm drainage or natural drainage channels and, presumably, onto the lake. This sediment is known to contribute to the loss of water quality in Lake Tahoe. In this sense, the higher initial capital cost required by water quality management policies contribute to a long-term incremental reduction in sediment load carried into Lake Tahoe – a positive effect that would not have likely occurred had the previous use remained.

On the economic side, this project occupied an existing commercial site and had to purchase marketable rights that came from presumably closed businesses. The larger store should have about double the employees compared to the previous Safeway that was roughly half its size. And, maintenance of the retention and overflow basins and landscaping possibly created one or two additional jobs. The use of two previously undeveloped parcels for runoff mitigation permanently removed those parcels from possible development, although their development potential may have been small anyway given their location and size. The city and unknown private parties shared about \$650,000 in CFA sale proceeds. And, finally, the scenic quality of this stretch of Lake Tahoe Boulevard was upgraded, contributing to the gradually improving scenic corridor that rings the lake.

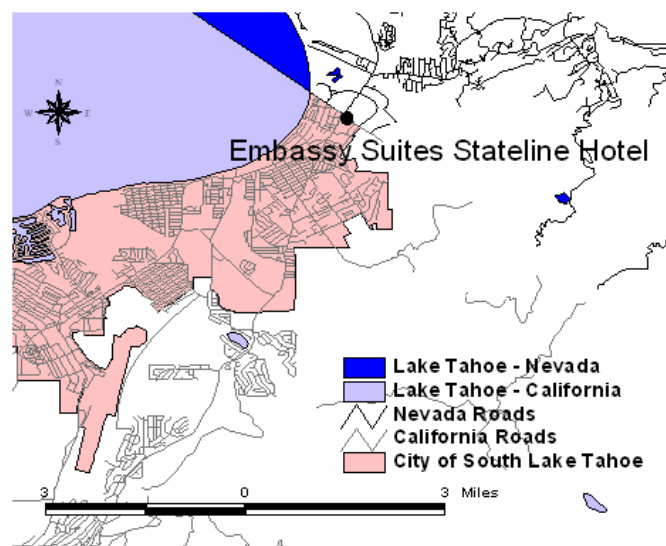
This case study presents several conclusions:

1. Developers of complex projects, especially those unfamiliar with the TRPA marketable rights programs, must rely on local consultants in order to understand and navigate the marketable rights system.
2. The requirement to purchase CFA is an additional cost to development both in terms of actual purchase price of rights and staff and consultant costs of figuring out how to locate and purchase rights. A well organized marketable rights system and having banked rights in place and available minimizes the added costs.
3. For large projects with corresponding large parking lots, the need to mitigate runoff may require additional adjacent land, an added capital and ongoing maintenance cost that, when coupled with the purchase of marketable rights, increased the cost of this project. The amount of land required for parking is, of course, a function of the zoning code that specifies housing ratios related to the square footage of commercial development.
4. The cost of marketable rights, possibly displacing existing uses, and including high-quality on-site environmental mitigation along with other routine development costs and fees have the cumulative effect of increasing up-front investment costs.

Embassy Suites Hotel, South Lake Tahoe

LOCATION AND DESCRIPTION

The Embassy Suites Stateline Hotel is located at the eastern edge of the City of South Lake Tahoe (SLT) along the south shore of Lake Tahoe. The area is bounded by the state of Nevada on the east, the Heavenly Ski Resort on the south (up the mountain), and Lake Tahoe to the west.

Figure 6-4: Location of Embassy Suites Hotel

There are about 2,200 rooms in the south shore's main resort corridor and about 6,000 more on the California side of the lake – including several thousand rooms in north Lake Tahoe. In the late 1980's, the community and SLT Redevelopment Agency (Agency) reached consensus on a conceptual plan to redevelop the Stateline area along Highway 50 which was dominated by 1960's era seasonal motels with relatively low revenues. The initial project and anchor for redevelopment project (Project 1) was the Embassy Suites Hotel, a 400- hotel at 4130 Lake Tahoe Boulevard. The Hotel, which opened for business in December 1991, has 6,000 sf of meeting space, underground parking, a public restaurant and lounge, indoor pool and fitness center, a large public plaza used for art exhibits and music performances, and about 170 employees. The hotel is the last parcel on the California side of the Nevada-California border and abuts the Harrah's casino located to the east on the Nevada side of the state line. The hotel has an alpine motif that sets the tone for the City's redevelopment project that essentially begins with the project and moves west along Lake Tahoe Boulevard (Route 50). At the time of its development, the hotel represented a significant upgrading of the quality and size of non-casino hotels and related uses in the City and in the Lake Tahoe area in general.

Figure 6-5: Embassy Suites Entrance



DEVELOPMENT PROCESS

The Agency must operate under the regulatory structure of the 1987 Tahoe Regional Plan (Plan) and the various restrictions on new Tourist Accommodation Units (TAU) Commercial Floor Area (CFA), and impervious coverage. One of the Agency's goals was to remove small older motels that were the predominant tourist development and replace them with higher-quality larger-scale destination resorts. The large supply of low-cost motel and hotel rooms also tended to drive room rates downward, further discouraging new higher-quality hotel investment.

Usually, a new hotel developer in the Lake Tahoe Basin would need to purchase Tourist Accommodation Units (TAU) and Commercial Floor Area (CFA) marketable rights as part of the entitlement process. This entitlement requirement is unique to the Tahoe Regional Planning Agency (TRPA) and may have discouraged major hotel chains, working with the casinos, from investing in the area. Lake Tahoe is at a disadvantage compared to Las Vegas, Reno and, in some cases, to Indian reservations that have opened casinos in areas with easier entitlement procedures and year-round and larger customer pools. However, the many recreational opportunities and renowned natural environment give Tahoe resorts significant advantages when compared to other gaming facilities in the West.

Figure 6-6: Older Motel Development

Beginning in the late 1980's, the Agency began banking TAU and CFA marketable rights by condemning and/or purchasing existing motels paying in a range of \$15,000 to \$25,000 per room. Most of the older motels were demolished. The Agency acquired motels that were both low cost and that needed to be cleared for other parts of their overall redevelopment plan, focused mostly along Highway 50 between the state line to just west of Ski Run Boulevard. In addition, some sites were selected through environmental criteria – and later used to improve the regional drainage and water quality treatment system. Some of the removed motel sites acquired for environmental purposes were later used for parkland and habitat restoration and housing, but most were designated for future hotel and commercial development.

Overall redevelopment investment is on the order of \$230 million to rejuvenate a gaming and tourism economy that has stagnated since 1990. The agency issued a bond based on future hotel occupancy tax revenues and other tax increment revenues to be generated by future Agency developments (mostly hotels and commercial). The estimated total cost to the Agency was over \$8,000,000 for the TAU's alone, of which the Agency recovered at least \$3,800,000 when it sold 400 TAU's and 6,000 square feet of CFA to Embassy Suites for this hotel. Since the successful development of the Embassy Suites project, the Agency has frequently acted as a TAU and CFA broker, drawing on its bank of TAU and CFA marketable rights.

The hotel project cost about \$70 million and was completed and financed just prior to the Recession of the early 1990's. It's value remained stagnant and room rates constrained until the last four years. The owner, KOAR, Inc. of Los Angeles, went into Chapter 11 bankruptcy in 1998 and the property was sold in December 2000. It will probably be renovated and remains managed by Hilton Hotel, Inc. Room rates now range from a weekend in-season high of \$249 to an off-season weekday rate of \$169. There is a 12.05

percent room tax, some of which is used to pay off the Agency bond that acquired the TAU and CFA rights.

ASSESSMENT

Before the Embassy Suites Stateline project, there was hesitation and probably confusion on the part of private developers on how transferable development rights, administered by the TRPA, worked in conjunction with the redevelopment and city entitlement process. The Agency's role in facilitating and underwriting the transfer proved a 'deal' could be completed, although the reality is that the need to acquire transferable development rights increases the cost of development. The Agency, in effect, wrote-down the cost of the TAU's in a manner similar to writing down land costs in a redevelopment project and facilitated the TDR portion of the entitlement process.

Subsequent to this project, TRPA adopted a TAU/CFA conversion ordinance that permits TAU's to be translated into CFA, thus encouraging commercial developers to acquire TAU's for commercial development.

General consensus is that the Agency first purchased and removed older motels to further its redevelopment plans (and based somewhat on price opportunities) rather than on the older motels' negative environmental impacts on Lake Tahoe clarity – a primary environmental goal of the TDR process. As new development projects have significantly higher design standards for run-off mitigation, compared to the older motels, the net environmental impact is almost certainly positive, although there is limited quantitative evidence to support the direct improvement to environmental thresholds.

There are four conclusions from this case study:

1. The Agency acquired marketable rights and wrote down their cost in much the same way redevelopment agencies acquire and write down land costs. In this sense, the marketable rights became another routine aspect of the redevelopment process.
2. Acquiring TRPA marketable rights adds to the cost of development. If the Tahoe Basin is competing with other areas for resort development, marketable rights are a competitive disadvantage that must either be outweighed by Lake Tahoe assets or subsidized in some manner.
3. The Agency's goals were as much economic as environmental. Small motels were purchased and demolished for economic reasons as much as for environmental mitigation. In the sense that maintaining and improving the Lake Tahoe environment leads to tourism and economic activity, the two goals begin to merge into one – creating and marketing a higher quality Lake Tahoe environmental experience.

4. The Agency acted as a marketable rights bank and consultant that facilitated the Embassy Suites development. Navigating the marketable rights program may have been a disincentive to outside investors, compared to other investment opportunities with fewer regulatory requirements.

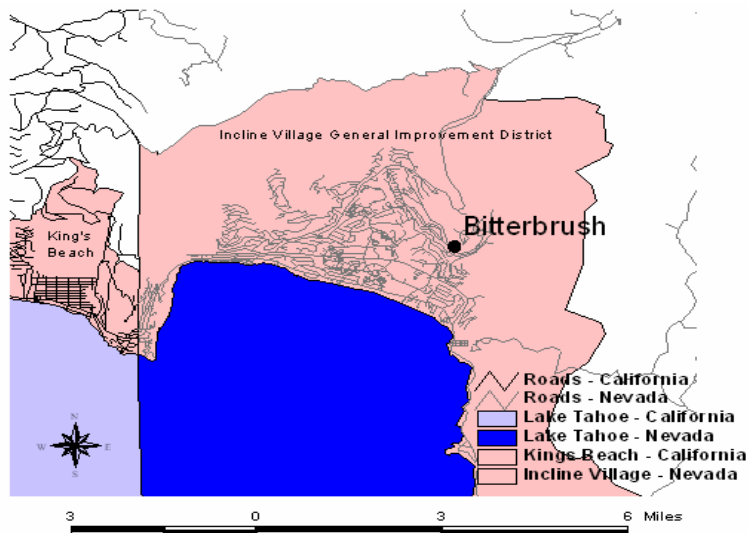
Bitterbrush and Country Club Estates

This case study is of a pair of projects linked by the transfer of development rights.

LOCATION AND DESCRIPTION

Bitterbrush is a second-home and/or resort-rental development located in the northeast corner of the Lake Tahoe basin. Bitterbrush is one of several similar projects located on the northeastern hillside above the flat lakeside commercial, hotel, and upscale housing area that is the ‘downtown’ of Incline Village. The Incline Village General Improvement District (IVGID), founded in 1961, is a Nevada local government chartered to provide basic utility and recreations services, similar to a California contract city in that remaining services are provided by Washoe County. Incline Village was named for the steep 4,000 foot rail tramway, the “Incline,” that shuttled logs over the eastern summit for use in the silver mines in Virginia City. In the late 1950’s, the Crystal Bay Development Company began developing the area with a golf course and seasonal housing. The IVGID was formed in 1961 to provide utilities and later expanded to purchase and operate recreational resources that many residents used themselves and/or considered important to sustaining their recreation-based property investments. Incline Village is now redeveloping and infilling with high-valued single-family homes, many with year-round residents.

Figure 6-7: Bitterbrush Location



The Bitterbrush development is composed of two parallel curvilinear connected townhouses set into the hillside with garages and tuck-under parking lining both sides of the street. The typical unit is two bedrooms, 2 baths, and has large windows taking advantage of the mountain and lake views. Recent sales are in the low to mid \$200,000, depending on the view and interior condition. Most units are time-shares and/or seasonal rentals and are owned by out-of-town owner/investors who may also use the units several weeks during the year. Similar developments were later built adjacent to Bitterbrush, creating a relatively high density area on a steep slope with limited access, a concern for fire and emergency access. The Incline Village area is seeing significant gentrification of existing residential properties that is likely to continue. Residential properties are increasingly being utilized by year-round residents and available land is limited due to state and federal government buy-out programs and limitations on lots that are in TRPA delineated Stream Environmental Zones.

Figure 6-8: Earlier Phase of Bitterbrush



DEVELOPMENT PROCESS

The Bitterbrush development history began in 1971 and 1972 when TRPA approved the first phase of the project. After the adoption of the amended Compact in 1980, TRPA asserted regulatory jurisdiction over the unbuilt portion of the development and attempted to prevent further development for environmental and safety reasons. Litigation ensued and after several years, Bitterbrush and TRPA entered into a settlement agreement where the intent was to reduce the level of future development as much as possible by transferring development rights to more environmentally sound sites.

In 1993, TRPA approved transfer of 56 units already approved for a subsequent Bitterbrush phase to a single-family detached development near the Incline Village mall called Country Club Estates. Under Chapter 35 of the TRPA Code of Ordinances,

transfer and retirement of the existing Bitterbrush residential unit development rights qualified the receiving site (in this case, the Country Club Estates project) to be assigned 560 Bonus Unit points. In essence, the Country Club project was approved using Bitterbrush development rights and the Country Club Estates project received 560 Bonus Unit points originally earmarked for multifamily bonus density for projects within community plan areas.

Figure 6-9: Country Club Estates



Under the Chapter 35 Bonus Unit program, additional points (and therefore, units) could be earned if the qualifying receiving site was within a Community Plan (50% increase) and/or the project provided affordable housing (100% increase). On the other hand, the Bonus Unit points would be reduced by one-third if the project was subdivided for sale at higher than low and moderate income affordability categories. Bonus Unit points must be used within five years, although TRPA may reissue the points for an additional five years.

EVALUATION

TRPA staff later ran into problems when it discovered that the Chapter 35 program did not allow for transferring Bonus Points, although TRPA had explicitly included the ability to transfer Bonus Points in its 1993 Conditions of Approval for Country Club Estates. A “special one-time only accommodation” was made to allow the remaining (as of May 1995) 440 points to be ‘used’ on other projects by reserving a like number of points in other qualifying planning areas from the ‘pool’ of available but unassigned bonus points, originally set at 1600 for the entire Basin. By late 1996, Bitterbrush had 131 remaining bonus points and applied for a reinterpretation of the 1993 Conditions so

that the remaining Bonus Points could be used for subdivisions rather than multi-family housing. The petition was denied by the TRPA Board.

The Chapter 35 Multifamily Bonus Point program was not designed to be a marketable right that could be reassigned (i.e. moved or transferred) from a qualifying project parcel, even though this was the de facto Bitterbrush project experience. No multi-family housing was built with the Bitterbrush Bonus Points, even though the Chapter 35 program was explicitly designed to encourage multi-family housing. The market for upscale single-family housing was strong enough to absorb the cost of the bonus units at 2/3rds their value for multi-family housing, if there even was a viable market for multi-family housing.

The Bitterbrush experience did, however, prevent further development of the hillside. Tracing the exact sequence, or ripple effect, of where the development rights (in the form of Bonus Points) went and what was developed, or is yet to be developed, was not possible for this case study. TRPA staff suggest that most of the Bitterbrush bonus points and subsequent transferred development rights were used in the Incline Village area for upscale single family homes that were developed on appropriate sites.

There are four conclusions from this case study:

1. If development rights are vested, a TDR system should prevent litigation and costly delay as opposed to regulatory denial or severe restrictions on development.
2. A TDR system works better from the developer's standpoint if the rights can be disaggregated and dispersed in response to market conditions.
3. An affordable housing bonus of '2 for 1' is not competitive with a strong single-family for sale market where development rights are in high demand.
4. A better system for tracking TDR's should be developed other than project and parcel specific.

CHAPTER 7. CONCLUSIONS AND RECOMMENDATIONS

7A. Overview

The Tahoe Basin Marketable Rights Transfer Programs are the most complicated and difficult to understand TDR-type programs in the United States. They operate in the context of a very complex regulatory system, which was not designed with marketable rights trading in mind, and a strong and well-funded public land acquisition program, which is not typical.

Furthermore, the Marketable Rights Programs operate, in a certain way, on the margin. Almost 90% of the land in the Tahoe Basin is already owned by public agencies; only 4% (8,500 acres) is private and undeveloped. The regulatory system already restricts future development significantly, with or without marketable rights trading, especially in Stream Environment Zones and on low capability land. Major players such as the California Tahoe Conservancy spend far more money and attention on land acquisition than on rights trading.

Yet if they are re-tooled to be more effective, the marketable rights programs could play a crucial role in the Tahoe Basin in the future. Despite public ownership and restrictions on development, Lake Tahoe's clarity has continued to decline. Future environmental policies are likely to focus on mitigating the problems created by existing development, rather than seeking to alter future development patterns. As the Tahoe Basin's policies shift from prevention to mitigation, the Marketable Rights Programs are well-positioned to make a major contribution to this effort, especially if the lessons of mitigation banking as well as TDR programs elsewhere are brought to bear.

With this in mind, this chapter will:

1. Review the goals and criteria against which these programs have been measured.
2. Discuss conclusions about the marketable rights trading “system” overall.
3. Discuss market trends involving these rights.
4. Attempt to measure the success of these programs against the environmental protection goals they are intended to promote.
5. Discuss the role of banking entities in making these programs successful.
6. Make a series of recommendations for how to re-tool and improve the marketable rights programs.

7B. Goals/Criteria

In our review of the Regional Plan and the origins of the Marketable Rights Programs in Chapter 4, we noted that the programs are primarily authorized and designed by the Development and Implementation Priorities Subsection of the Implementation Element of the General Plan. This subsection has four goals. These are:

1. Direct development to the most suitable areas.
2. Manage growth in tandem with progress towards meeting environmental thresholds.
3. Encourage consolidation through transfer of development rights and coverage.
4. Condition approvals on improved off-site erosion run-off control and air quality.

These goals can be applied to the Marketable Rights Programs in the following way:

Figure 7-1: Transfer Program Goals, Benefits, and Thresholds

Transfer Program	Principal Goals	Primary Benefit
Residential Allocations Existing Residential Units Development Rights	Manage the growth of development consistent with progress toward meeting environmental thresholds Direct residential growth to existing residential high-capability lots, reducing pressure to expand urban boundaries and/or create new subdivisions Offer transfer opportunities to owners of sensitive residential lots and encourage the transfer of development rights off of such lots	Water quality, limits on new development
Tourist Accommodation Units	Manage the growth of development consistent with progress toward meeting environmental thresholds. Encourage consolidation of development.	Water quality, limits on new development , encourage redevelopment
Commercial Floor	Area Promote projects that result in the construction of Threshold related environmental improvements, to promote transfer of development that results in environmental benefits, and to rehabilitate substandard development	Manage growth of development consistent with progress towards environmental thresholds Water quality,
Coverage -Hard -Soft -Potential -Over	Increase coverage opportunities for land developers without increasing net coverage or allowing the relocation of coverage to more sensitive lands. Mitigate existing excess coverage situations without necessarily requiring the removal of existing coverage. Direct commercial development to community plan areas.	Regulatory flexibility

7C. The Marketable Rights Trading “System”

The marketable rights trading “system” suffers from many flaws in design, especially as compared with TDR programs elsewhere in the nation that have been more successful. These flaws include:

1. *The goals of the Marketable Rights Programs are not always clear.* It took our research team a great deal of effort to find and interpret the goals in the Regional Plan and connect them to the Marketable Rights Programs. These goals are not consistently part of the discussion in the Tahoe Basin about the Marketable Rights Programs.
2. *The Marketable Rights Programs were laid on top of the regulatory system in an incremental fashion.* The Marketable Rights Programs were not designed as a system with specific goals at one point in time. Rather, they were created and implemented incrementally over a long period of time, often without revisiting the underlying regulatory system to see whether the regulations and the markets fit together. The most obvious example can be found in the interplay of regulations and markets for coverage. Landowners are encouraged to buy and sell coverage. But, the owners of the most sensitive land are given very little coverage rights by the regulatory system, so they have little incentive to participate in the transfer programs.
3. *The system is cumbersome and complicated.* Designers of markets often face the stark choice of whether to make the systems simple, which should encourage brisk trading activity, or complicated, which will create a “brake” on the market but could protect certain interests from exploitation. Intentionally or unintentionally, the TRPA programs are complicated rather than simple. Because they were created incrementally over time, the TRPA programs are hard to explain and understand and are subject to many constraints, both formal and informal, that require detailed local knowledge to overcome.
4. *The Marketable Rights Programs are hindered by inadequate routine capture of transfer information.* A recurring theme throughout this report was the difficulty in analyzing digital databases and project files. TRPA’s information system, which is required by code, did not systematically contain the basic information required to truly understand and analyze market activity, even though the record layouts allow for the data. Transfer information is awkwardly captured as part of a parcel-based project-tracking system where the transfer information is not a high priority. Without good information, it remains very difficult to determine whether the program goals are being met. CTC record-keeping is better, but does not reflect all market activity. Poor record-keeping may also harm the market itself by making it difficult for landowners and others to obtain information about the market.

7D. Market Trends

One undeniable conclusion – even from the incomplete data sources that we relied on – is that the markets for Tahoe Basin rights do function. Clearly, at least 800 different trades have occurred – and perhaps as many as 1,500 or 2,000, though it is hard to be precise.

More specific conclusions about market trends include the following:

1. The general trend in transactions appears to be from lower-value to higher-value parcels. Absent a strong incentive to focus on environmentally sensitive parcels (see below), this is not surprising. Landowners with a strong economic incentive to develop their property are understandably more willing to spend money to acquire the various rights required to do so.

2. The Coverage market is very active. There is little question that Coverage is the most frequently traded commodity in the Tahoe Basin. Our small sample of TRPA trades showed that more than half of all transactions involved Coverage, while the CTC deals almost exclusively in Coverage. It is especially encouraging to note that CTC’s “Open Market Transactions” have grown in quantity each year. In this regard, the Coverage market does appear to be achieving its objective of providing landowners with alternatives to harsh regulation.

3. The Development Rights market is also very active and there appears to be sufficient development capacity in receiving areas to encourage more activity. Again, our small sample suggested that almost 40% of all market activity involved Development Rights. Furthermore, our breakdown of the “buildout capacity” suggested that receiving areas have almost the same capacity (approximately 2,100 units) as sending areas. Whether or not landowners in receiving areas are motivated to actually buy sending-area Development Rights, however, depends on whether they think higher-density projects on their property will actually be approved. This concern about “receiving-area receptivity” to transfer-facilitated higher density facilitated is a common, sometimes controversial, issue in many TDR programs. Overall, however, the transfer programs do appear to be achieving their objectives of providing landowners with alternatives to harsh regulation.

4. The CFA and TAU markets are functioning well, thanks in large part to the efforts of the South Lake Tahoe Redevelopment Agency. As will be discussed in more detail below, the Redevelopment Agency has done a good job of using redevelopment powers to buy, bank, and re-allocate CFA and TAUs. Other CFA/TAU transactions would likely not have occurred without the Redevelopment Agency’s involvement. This new robustness has allowed these programs too to achieve their objectives of providing landowners with alternatives to harsh regulation.

5. *Jurisdictional veto power may be a brake on the market.* Though the impact of jurisdictional veto power is hard to quantify, it appears likely that more transactions would occur if landowners could trade across jurisdictional lines without this concern.

7E. Impact on Environmental Protection

The fundamental purpose of the Marketable Rights Programs is to help implement the Regional Plan in order to maintain and improve environmental quality in the Tahoe Basin, especially as regards runoff into and water quality in the lake. This purpose is translated by the plan's Implementation Element into two specific and land-oriented goals: First, to consolidate development and, second, to protect and restore environmentally sensitive land. It is reasonable to assume that "cost-effectiveness" should be a criterion as well. Given the amount of money and effort that goes into the marketable rights programs, does the Tahoe Basin receive "bang for its buck" in terms of environmental improvements?

Our analysis finds that the Marketable Rights Programs have a mixed record. Specifically:

1. *The Marketable Rights Programs do appear to consolidate development on smaller parcels.* Our analysis showed persuasively that both TRPA and CTC activity resulted in coverage and other rights being transferred from large to small parcels by a factor of three – that is, on average, the sending parcels were three times the size of the receiving parcels. It is worth noting, however, that there is no particular evidence that rights are being transferred from outside Community Plan Areas to inside those areas, and in fact there are disincentives to do so. Spotty data has consistently made it difficult to assess the impact of consolidation in a meaningful way.

2. *The Marketable Rights Programs do not appear to consistently transfer rights from more sensitive land to less sensitive land.* It proved difficult to estimate this trend accurately. But using four different and admittedly imperfect methodologies on the CTC database (mostly Coverage transactions), we found that, on average, sending and receiving parcels have about the same Bailey and IPES scores. In general, even the sending parcels are high capability (although they are among the more sensitive of the high capability pool). In other words, the Marketable Rights Programs move development around, but it is hard to say that they always move development off less sensitive land. In part, this appears to be due to the way the Coverage program is designed. Low capability landowners have few rights to begin with, so they have little motivation to transfer their rights to high capability land.

7F. The Role of Bankers

Experience from around the nation suggests that TDR and mitigation banking programs work best when there is a strong entity with considerable financial resources serving as a banker to both “make” the market and bring stability to the market when necessary. The Tahoe Basin has been fortunate to have two different entities take on the banking role, the California Tahoe Conservancy and the South Lake Tahoe Redevelopment Agency. Based on our analyses of the banking functions, we find:

1. In general, both bankers function as “mitigation bankers” in the sense that they protect the environment “up front” and then sell those mitigation credits later. This is a plus for environmental protection, in that it ensures that this protection is before the development activities generating the need for mitigation occur.

2. The CTC sometimes buys and sells different commodities in ways that make it difficult to assess the agency’s effectiveness. The CTC’s Land Coverage Bank does not buy and sell the same commodity. Rather, the bank purchases land with marketable rights; retires the land; and then may sell some or all of the rights. (Sometimes the rights are retired.) Therefore, it is sometimes difficult to determine what are the net environmental benefits of the bank’s activities.

3. The SEZ/Watershed Restoration Credit Program is not very active. This program operates like a classic mitigation bank, but it is active primarily when public agencies are engaged in constructing linear facilities. It suffers from the same design “flaw” as the coverage program: Most owners of environmentally sensitive land are already restricted from development via regulation, so they have little incentive to participate in a program to retire or restore land they own.

4. The Memorandum of Understanding between TRPA and CTC gives CTC’s Land Coverage Bank considerable flexibility. The MOU delegates some of the administration of both the Excess Coverage Mitigation Fee Program and the SEZ/Watershed Restoration Credit Program to CTC. In the case of the Restoration Credit Program, CTC has some flexibility to interpret the MOU in order to initially determine when its own efforts have led to the creation of credits, which they are then enabled to sell or allocate to qualifying agencies or landowners. The Conservancy does seek regulatory approval for transfer of credits, following the usual TRP project approval process.

5. The South Lake Tahoe Redevelopment Agency has done an excellent job of “making the market” for TAU and CFA in South Lake Tahoe. Redevelopment agencies in California have a particular set of powers that are designed to permit them to serve as “market makers” in traditional land and development markets. In particular, they use their eminent domain power and financial resources to buy, bank, and then resell land to developers, sometimes at a loss. At a time when the CFA and TAU markets were

sluggish in ways that were preventing the upgrading of tourist accommodations in South Lake Tahoe, the Redevelopment Agencies used these same techniques to stimulate the “market” for marketable rights and, hence, the market for new hotel units. It is unclear, however, whether any other location in the Tahoe Basin would lend itself to such an intense concentration of activity in banking and allocating rights.

6. There is no existing entity in Nevada capable of performing the banking function. Nevada has not had not have the small-lot parcelization problem on the same scale as California. Nevertheless, the rights markets are not as active in Nevada simply because there is no entity capable and/or willing to perform the banking function. The Nevada Division of State Lands has recently received statutory authority, and has acquired an initial inventory of coverage, both of which will allow it to operate as a land bank under the Excess Coverage Mitigation Program. The Division is also developing a capability to facilitate land coverage transfers.

7G. Recommendations for Improving the Marketable Rights Trading Programs.

It is clear that the Tahoe Basin is entering a new era in environmental protection, one in which remediation and mitigation of existing problems on the landscape will take precedence over the effort to preserve undeveloped areas. As stated above, the Marketable Rights Programs can serve as an effective set of implementation tools if they are re-tooled with this objective in mind. More specifically, we make the following recommendations regarding altering and improving the Marketable Rights Programs:

1. The goal of the Marketable Rights Programs should be streamlined and clarified.

Given the uncertainties of science and the indirect relationship between water quality, runoff, and land use it is difficult to tie Marketable Rights Program activity to actual water quality improvements. Some of the current goals, including consolidation of development, are clearer and easier to measure because they involve the use of land. TRPA should consider not only clarifying, but narrowing or changing the purpose of the Marketable Rights Program to reflect simpler and more clearly measurable goals. For example, TRPA could alter the purpose of the program to simply increasing the amount of preserved and restored environmentally sensitive land (specifically SEZ and low capability land) in the Tahoe Basin. This goal ties in readily to the larger system of goals in the Regional Plan.

2. The goals and objectives of the Marketable Rights Programs should reflect the reality that the Tahoe Basin will be moving from preservation to a mitigation environment.

The current set of marketable rights involves, essentially, a mixture of preservation and mitigation, and sometimes implementation involves blurring the line between these two concepts. But given the fact that only 8,500 acres remains privately owned and undeveloped, preservation is a short-term goal. TRPA should declare one of the purposes

of the Marketable Rights Program is to facilitate mitigation of existing degraded conditions on SEZ and low capability land and to gradually implement best practices on already developed land.

3. The goals and objectives of the program should be quantified in ways that are easily measurable.

One reason that it was difficult to measure the effectiveness of the Marketable Rights Programs is that, although they are tied to implementing certain goals in the regional plan, there are no quantifiable objectives. If the goal of the program is simplified to be an increase in the amount of environmentally sensitive land preserved and restored in the Tahoe Basin, then it would become much easier to quantify. For example, a goal could be to ensure that a target percentage of the 8,500 acres of private undeveloped land is ultimately preserved or that a certain number of developed or disrupted acres are enhanced and restored each year.

4. The actual operation of the Marketable Rights Programs should be as transparent as possible.

It is currently difficult for outsiders and landowners to understand how the Marketable Rights Programs operate. TRPA should initiate an effort to monitor the rules and operations of the programs and make simple and easy-to-understand explanations available to the public and to landowners.

5. Incentives for landowners to participate in marketable rights transactions should be re-tooled to ensure maximum environmental benefit from each transaction.

This report has found that while market activity moves the marketable rights from place to place, it does not necessarily enhance the environment in all cases. Furthermore, some aspects of the Marketable Rights Programs do not appear cost-effective.

The Marketable Rights Programs should be restructured to increase incentives for landowners to engage in transactions that enhance the environment, rather than merely fulfill requirements that will enhance their own economic conditions. The most obvious change in this regard would be to provide meaningful bonus credit to landowners who preserve – or, better yet, restore – sensitive environmental areas. This can be done without increasing the overall amount of development in the basin by taking advantage of new or underperforming programs, such as the bonus unit program and the unused allocation pool, as well as other opportunities to create environmental benefits that result from related (but separate) programs such as the Environmental Improvement Program and the Best Management Practices program.

Most other successful TDR programs provide sending-area landowners with powerful incentives to participate in the program rather than develop their property. King County and Boulder County both provide landowners with at least 4:1 credit to participate – that

is, they receive at least four times as much development potential if they sell their rights than they do if they attempt to develop.

In the Tahoe Basin, almost all landowners are already greatly restricted in their ability to develop property in sensitive environmental zones. As stated above, one of the reasons that current programs (including Coverage and TAU/CFA) do not lead to measurably enhanced environmental protection is that fact that SEZ landowners have virtually “nothing to sell”.

Thus, in practical terms, virtually all existing undeveloped SEZ land is already protected. The “problem areas” that need attention are:

- A. SEZ areas and low capability land that are already developed and are in need of restoration and/or remedial best practices, including not just private land but public land with extensive roads.*
- B. Undeveloped SEZ areas that are subject to development by public agencies, which are sometimes permitted to build on such areas.*
- C. High capability land that exceeds current standards, especially for Coverage.*

Some of the current marketable rights and mitigation programs already address these issues. But they do not provide strong incentives to landowners to participate. TAU purchasers, for example, have no particular incentive to purchase TAU from SEZ or low capability land rather than high capability land, except for a bonus unit program that is not working well. However, environmentally destructive TAU (and CFA) development on such land is clearly a major environmental problem, especially in South Lake Tahoe. TAU and CFA owners should be provided with large bonuses – perhaps as much as 4:1, using the model of other programs – if they restore their land to its natural state and transfer their rights to high capability land.

Similarly, landowners who have excess land coverage are required to mitigate this problem when they apply for a TRPA permit, and they can pay a fee rather than mitigating onsite. But the vast majority of landowners, including public agencies, with excess coverage never come into contact with TRPA on this matter because they never seek a TRPA permit. (In some cases, they may choose not to seek permits because they do not want to encounter this mitigation requirement.) They, too, should be given powerful incentives to remove their excess coverage or participate in excess coverage mitigation in some way. Once again, a greater than 1:1 bonus system (as high as to 4:1) would provide such an incentive. Landowners with excess coverage, especially in SEZs and on low capability land, could restore their excess coverage to a natural state, and then sell credits to high capability landowners on a basis greater than 1:1. Such an approach might require TRPA to revisit the question of how much development should occur in the basin and where, but a new look at such questions would probably be part of the 2006 Regional Plan update anyway.

The biggest challenge will be to provide landowner with a credit greater than 1:1 without increasing the overall amount of development in the basin under the Regional Plan. But there are several opportunities within existing programs to create such incentives without increasing the overall amount of development. These include the following:

- A. Providing SEZ landowners who restore their land with Residential Allocations that are not subject to the annual Residential Allocation Process, or with TAUs that would not otherwise be allocated.*

Under the current system, only 300 Residential Allocations per year are awarded by TRPA. However, landowners who restore their SEZ could be awarded a tradable Residential Allocation exempt from this process (though not from the overall cap). That is, landowners who restore their SEZ would be given a Residential Allocation that is available to trade and to use immediately by the receiving-area landowner, thus increasing the value of the sender's allocation.

This same process could also be used in the TAU context by providing motel owners who restore their SEZ property with some of the 400 bonus TAUs that have never been allocated by TRPA.

- B. Providing SEZ landowners who restore their land with Residential Allocations from the unused pool.*

TRPA is currently holding a pool of unused allocations, which applicants can qualify for if they retire a residential lot. TRPA is considering a variety of alterations to the allocation and/or unused pool process. One possible change would be to provide SEZ landowners who restore their land with additional Residential Allocations out of the pool of unused allocations, so that they might accumulate 2 to 4 tradable credits if the SEZ land is restored, rather than just 1 if the land is vacant or not restored.

- C. Create credits for Best Management Practices and contributions toward the Environmental Improvement Program, and work those credits into the Marketable Rights Program.*

Among the tools used by TRPA to improve environmental quality in the Tahoe Basin are Best Management Practices (BMPs) and the Environmental Improvement Program (EIP). BMPs are defined as "structural and nonstructural practices proven effective in soil erosion control and management of surface runoff in the Lake Tahoe Region." They often take the form of online detention basins and similar techniques. The EIP is an integrated set of public improvements designed to increase overall environmental quality -- essentially, a set of basinwide BMPs too large for one landowner to undertake.

TRPA often requires onsite BMPs or financial contributions toward the EIP program as a condition of development. These obligations could be turned into credits and then bought and sold as part of the overall trading system. For example, an SEZ landowner who

restores his land might be rewarded with EIP mitigation or BMP "credits" that could be sold to receiving-area landowners, who would then be relieved of an equivalent quantity of BMP or EIP obligations.

All these programs could be linked together into a modified and streamlined system of marketable commodities designed to create a powerful system of incentives to encourage owners of degraded SEZ and low capability land to restore their property. This system would become even more powerful when combined with Recommendations #6 and #7 below into a general streamlining of commodities and banking.

6. Some programs should be restructured to encourage true mitigation banking, and the role of bankers should be clarified.

As we have emphasized throughout this report, some of the Marketable Rights Programs in the Tahoe Basin function somewhat like mitigation banks, especially under the guidance of the CTC's Land Coverage Bank. These include the Excess Land Coverage Mitigation Fee Program, the SEZ/Watershed Restoration Credit Program, and the TAU program (essentially a mitigation program because there is virtually no additional TAU supply). The environmental benefits of these programs need to be further demonstrated.

These programs could be more active and provide greater environmental benefit if they were modified to operate more in the manner of traditional permit mitigation banks. Under such a re-structuring, TRPA would issue guidelines for CTC and other public and private entities to create mitigation banks. These banks would buy or otherwise acquire significant chunks of SEZ or low capability land to use as their "stock of currency". This land could either be undeveloped (in which case it would be a conservation bank trading in potential coverage) or developed and in need of restoration (in which case it would be a mitigation bank whose credits would not be created under restoration was completed). The important point is that, unlike the CTC's current Land Coverage Bank but similar to the mitigation and conservation banks described earlier in this report, the banks would be tied to specific geographical areas where environmental protection is a high priority because it is an SEZ or low capability land. These banks could also trade in the high-incentive bonus credits discussed in recommendation #5.

As an additional safeguard, TRPA as the regulatory agency should take more responsibility for determining program requirements for these mitigation banks, such as what their "service areas" are, when and how credits are created, and other operational concerns. This would be consistent with the practice of state and federal mitigation banks, which are typically overseen by regulatory agencies such as the California Department of Fish & Game and the U.S. Fish & Wildlife Service.

CTC and private bankers would be motivated to set up and operate banks if the incentives described in the previous recommendation were implemented. Owners of high capability land would be motivated as well by the bonus credits they could acquire.

Buying already developed SEZ or low capability land and restoring it would be very expensive, so conservation banks would probably predominate in the early years. However, when the small amount of remaining private, undeveloped SEZ and low capability land has been conserved through banking (as well as public purchase), owners of high capability land would have to go elsewhere for coverage and other rights and would pay higher prices. This would presumably stimulate bankers to invest in setting up and operating mitigation banks involving land that is already disturbed.

7. Once incentives are in place to ensure that transactions automatically lead to environmental protection, programs should be restructured to encourage more market activity.

The Marketable Rights Programs currently have several aspects that discourage market activity, including the cumbersome nature of the process, the difficulty in obtaining market information, and the jurisdictional veto. Another such aspect is the fact that there are so many different rights, no one of which gives a landowner the right to build.

Assuming the previous recommendations are adopted – meaning that the system is structured so that each transaction produces maximum, cost-effective environmental benefit – TRPA should remove all possible impediments to market activity. This would mean streamlining the process so it is not so cumbersome and considering the possibility of eliminating the jurisdictional veto.

TRPA might also consider further steps, similar to the TAU/CFA conversion ordinance, to make marketable rights more fungible as a means of increasing market activity. The conversion ordinance clearly stimulated more TAU/CFA market activity in South Lake Tahoe.

Specifically, TRPA might consider eliminating Coverage as a separate category, combining Development Rights with Potential Coverage, and/or combining TAU/CFA with Hard Coverage. Thus, residential landowners would require only one right (as well as a Residential Allocation) to build, while commercial landowners would require only one right to build as well. These rights could be multiplied or added to with the bonus ideas contained in Recommendation #5.

Such fungibility⁴³ would not be possible under the current system. To consider combining these categories and creating more fungibility among marketable rights, TRPA have to re-examine the overall supply of residential and commercial development to craft a system that would meet market needs and also enhance environmental protection. Another alternative would be to make it easier to “convert” different marketable rights without opening up the system entirely.

In any event, such efforts should be more effective once all incentives are directed toward environmental benefit and an improved banking system gives the programs’

⁴³ Fungible: “designate...any unit or part of which can replace another unit” Webster’s New World, 4th ed.

implementation more focus. Wherever possible, the transaction system's oversight by TRPA should be streamlined and automated. TRPA should oversee the system for compliance, but permit the market to let individual transactions occur, so as not to discourage market players from participating out of fear of encountering "red tape."

8. Systems of record-keeping and monitoring progress toward goals should be improved.

TRPA's project-tracking records allow for key data needed to monitor and assess the marketable rights programs but the data was inconsistently entered by staff. Many hardcopy project files could not be located. Recent TRPA software and technical support improvements are steps in the direction. TRPA should explore requiring entry of marketable rights data during routine project processing procedures. Such improved record-keeping would then make it possible for TRPA to monitor progress toward the programs' quantifiable objectives, as proposed in Recommendation #3.

GLOSSARY

Environmental Protection Agency (EPA)

Development Rights Transfers (TDRs)

California Legislative Analyst's Office (LAO)

California Tahoe Conservancy (CTC)

Commercial Floor Area (CFA)

Development Right (DR)

Individual Parcel Evaluation System (IPES)

Pineland Development Credits (PDC)

People One At A Time (PAOT)

Tahoe Regional Planning Agency (TRPA)

Tourist Accommodation Unit (TAU)

Regional Clean Air Markets program (RECLAIM)

South Coast Air Quality Management District (SCAQMD)

Stream Environment Zone (SEZ)

Urban Growth Boundaries (UGB)

Mitigation Bank means a system in which the creation, enhancement, restoration, or preservation of (wetlands) is recognized by a regulatory agency as generating compensation credits allowing the future development of other (wetland) sites.

Bank Sponsor is any public or private agency responsible for establishing a mitigation bank.

Onsite Mitigation means creating, enhancing, or restoring adjacent (wetlands) in an amount sufficient to mitigate for the specific development project needing regulatory

approval but not producing "surplus" compensation credits available for use in mitigating other activities.

In Lieu Fee System means a program in which a regulatory agency collects fees in lieu of requiring a developer to compensate for (wetland) losses through onsite mitigation or acquiring credits generated by a mitigation bank. The fees are accumulated for use in future mitigation projects by the agency.

Compensation Credit means the unit of (wetland) value that is recognized as the basis for comparing the destroyed (wetland) to the banked (wetland) offered in compensation. Credits are expressed in units such as acres, habitat units, or numbers.

Creating (wetlands) means to alter environments to produce (wetlands).

Restoring (wetlands) means to return (wetland) values and functions to a former (wetland) or degraded (wetland) where human activities have diminished or destroyed such values and functions.

Enhancing (wetlands) means to alter an existing (wetland) to add, or increase, particular (wetland) values and functions to levels not present under previous natural conditions, or to slow the natural impairment of existing values and functions.

Preserving (wetlands) means to provide legal protection to natural (wetlands) that would otherwise be lost to lawful activities.

Hard Coverage: CTC has sold more than 9,000 square feet of hard coverage. Prices for hard coverage range from \$5.50 to \$11 per square foot.

Potential Coverage: The price of potential coverage from the CTC varies by hydrologic area ranging from \$5.00 to \$8.00 per square foot. The CTC has sold more than 131,000 square feet of potential coverage facilitating the development of hundreds of projects on the California side of the Basin.

Over-Coverage Mitigation: The price of coverage mitigation – set by TRPA code – is based on project cost and number of square feet that the parcel is over-covered. On average, the CTC has sold Over-Coverage Mitigation for about \$5 per square foot.

Building Allocation (Allocation): In the past, the number of allocations issued each year by TRPA actually exceeded the demand. As a result, there was a limited market for allocations, as property owners interested in building could simply purchase an allocation from their local building department. Today however, the rate of new home construction has risen sharply. Not surprisingly, there is suddenly a market for allocations, and according to local realtors, some property owners have paid nearly \$25,000 in recent months.

Existing Residential Development Rights Transfers: This transfer program encourages the elimination of existing structures from sensitive land capability areas. The program

allows property owners to, in effect, "create" rights through the demolition of inappropriately located structures.

Development Rights Transfers from Vacant Land (DR): To date the CTC has sold 28 DR – mostly to Fallen Leaf Lake property owners – for \$1,000 each. The CTC will not sell DR out of the State of California. Further, local realtors indicate that the demand for DR is much higher in Nevada than California. Not surprisingly, some local realtors have provided DR for Nevada projects for between \$4,000 and \$5,000.

Commercial Floor Area (CFA): In recent months the price of CFA in South Lake Tahoe has risen dramatically to \$45 per square foot. Over the last 10 years, the CTC has sold 1,866 square feet of CFA at a price of \$27 per square foot.

Tourist Accommodation Unit (TAU): Commodity that refers to the limited number of hotel and motel rooms permitted under the General Plan. The Regional Plan also restricted TAUs more severely than any other commodity, essentially limiting the Tahoe basin to the then-existing total of approximately 12,000 units.

Sewer Unit: Over the last 10 years, the CTC has sold 9 sewer units for an average price of roughly \$6,600 each

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APPENDIX A. DOCUMENT AND DATA LIST

Document	Summary	Location
Regional Plan Goals and Policies	Broad based goals for the Lake Tahoe Basin, 1987	Bookshelf
Regional Plan Code of Ordinance	Planning Code based on the Goals and Policies, 1987	Bookshelf
1996 Threshold Evaluation	5 Year review of the 9 Thresholds of carrying capacity.	Bookshelf
EIS on Regional Plan	NEPA doc for 1987 Regional Plan	Relevant sections in files, “outside reports”
Ski Run/Stateline Community Plan	One of ~27 community based plans for the Basin	Bookshelf
208 Plan	CWA requirements for Basin	Very large document, do we want?
Barbara Ingram’s Maters Thesis	Summary of CW process, good history	Files, “outside reports”
Bob Twiss TSPC v TRPA trial testimony	Info about the TDR programs	Files, “outside reports”
Urban Land Institute Tahoe Study	Mid ‘80’s study that confirms TRPA’s role as an appropriate vehicle to address Basin concerns	Files, “outside reports”
Minutes from, the Bill Morgan lead ‘84-87 Consensus Workshops.	Broad agreements from CW	Relevant sections in files, “TRPA reports”, not very helpful
Plan Area Statements	Zoning maps and descriptions	Bookshelf
Summary of Malibu Program, Betty Wiechec	Review of Malibu TDR program	Limbo, Bill’s warehouse
TRPA CFA/TAU conversion ordinance	1998 TRPA ordinance allowing the conversion of TAU to CFA	Files, “TRPA reports”

Pineland evaluation, Peter Pizor “Making TDRs Work”, APA Journal, Spring 1986	Review of the Pinelands TDR program	Files, “outside reports”
TRPA Staff summary on IPES line movement	Dec. 1999 recommendation to TRPA board re. IPES line movement	Files, “TRPA reports”
Redevelopment summary	Summary of CSLT Redevelopment activities	Files, “outside reports”
Land Capability Report	1972 Report by Bailey that describes the land capability system, important	Files, “TRPA reports”
Trial Summaries	Law briefs from Suitum case	Files, “outside reports”
Lake Tahoe Watershed Assessment, Socioeconomic Assessment	Summary of socioeconomic conditions in the Basin, 1999 Study, Draft	Files, “outside reports”
CTC Land Bank Staff Recommendations, 1992-99	Summary of CTC land bank activity	Files, “CTC staff recs”

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APPENDIX C. REGIONAL PLAN ELEMENTS

The 1986 Regional Plan for the Lake Tahoe Basin outlines six planning Elements that are intended to provide for the achievement and maintenance of the Thresholds while providing for orderly growth and development. Each of these six Elements outlines a general philosophy for the Element, then goals followed by specific methods that TRPA should employ to achieve those goals. The following is a summary of those goals and methods that relate – albeit in some cases rather indirectly – to land use planning.

Element Philosophy	Element or Sub-element Goals	Methods
Land Use Direct development to the most suitable location. Maintain environmental, social and economic well-being. Coordinate the Regional Plan with local, state, and federal requirements	Restore, Maintain, and Improve the Quality of the Lake Tahoe Region for the Visitors and Residents of the Region	• Strike balance between economic health and the environment
	Direct the amount and location of new land uses in conformance with the environmental threshold carrying capacities and the other goals of the Tahoe Regional Planning Compact	• Plan Area Statements • Community Plans • No new subdivisions rule • Restoration • Redevelopment
	All new development shall conform to the coefficients of allowable land coverage as set forth in Bailey	• Coverage Program • IPES Program • Restoration and rehabilitation shall be a high priority for improving environmental quality and community character of areas designated for redirections but not included in a redevelopment plan. • Redevelopment shall be encouraged in areas designated for redirection to improve environmental quality and community character.
	Provide to the greatest possible extent, within the constraints of the environmental thresholds, a distribution of land use that ensures the social, environmental, and economic well-being of the Region.	

Element Philosophy	Element or Sub-element Goals	Methods
	Coordinate the regulation of the land uses within the region with the land uses surrounding the region.	• Mitigate adverse impacts • Attempt to not export problems to surrounding areas • Coordinate with other agencies • Joint review agreements
Housing sub-element	To the extent possible, affordable housing will be provided in suitable locations for the residents of the region	• Bonus development units • Fair Share
Water Quality sub-element	Reduce loads of sediment and algal nutrients to Tahoe; meet sediment and nutrient objectives for tributary streams, surface runoff, and sub-surface runoff, and restore 80% of the disturbed land	• BMP program • Restoration • Limit off-road vehicles
	Reduce or eliminate the addition of other pollutants which affect, or potentially affect, water quality in the Tahoe Basin	• Snow storage BMPs • Eliminate sewer discharge • Minimize impact of motorized watercraft on water quality
Community Design sub-element	Insure preservation and enhancement of the natural features and qualities of the region, provide public access to scenic views, and enhance the quality of the built environment	• Scenic Quality Ratings • Incentives for scenic restoration
	Regional building and community design criteria shall be established to ensure attainment of the scenic thresholds, maintenance of desired community character, compatibility of land uses, and coordinated project review.	Design review programs

Element Philosophy	Element or Sub-element Goals	Methods
Transportation The regional transportation plan shall establish a safe, efficient, and integrated transportation system which reduces reliance on the private automobile, provides for alternative modes of transportation, and serves the basic transportation needs of the citizens of the Tahoe Region, supports the economic base of the Region in the movement of goods and people, and minimizes adverse impacts on man and the environment	Plan for and promote land use changes and development patterns which will encourage the use of alternative transportation modes and minimize impacts on the existing transportation system.	• Community Plans • Infill Projects • Parking standards • Requires a 10% decrease in VMT from 1981 base year • Promote mass transit • Encourage pedestrian and bicycle facilities • Limit improvements to the regional highway system • Encourage waterborne transit and air service
Conservation Plan for the preservation, development, utilization, and management of scenic and other resources. Minimize threat that increasing urbanization has on the ecological values of the Region and the public opportunities for use of public lands.		
Vegetation sub-element:	Provide for a wide mix and increased diversity of plant communities in the Tahoe Basin	• Timber harvest • Prescribed burning
	Provide for the maintenance and restoration of such unique eco-systems as wetlands, meadow, and other riparian vegetation. And conserve threatened, endangered, and sensitive plant species and uncommon plant communities of the Lake Tahoe Basin.	
Wildlife sub-element	Maintain suitable habitat for all indigenous species of wildlife without preference to game or non-game species through maintenance of habitat diversity.	
	Preserve, enhance and where feasible, expand habitats essential for threatened, endangered, rare, or sensitive species found in the Basin.	
Fisheries sub-element:	Improve habitat for existing and threatened fish resources in the Basin	• Monitor • Maintain in-stream flow.

Element Philosophy	Element or Sub-element Goals	Methods
Soils sub-element:	Minimize soil erosion and the loss of soil productivity	• Coverage program • IPES • Sensitive land exceptions • Erosion control • SEZ non-degradation
	Provide for appropriate shorezone uses, while preserving natural and aesthetic qualities.	• Setbacks • Development standards in shorezone
Scenic sub-element:	Maintain and restore the scenic qualities of the natural appearing landscape	• Scenic Resource Evaluation
	Improve the accessibility of Lake Tahoe for public viewing	• View corridors • Sign regulations
Open Space sub-element:	Manage areas of open space to promote conservation of vegetation and protection of watersheds.	• Restrict vehicular access • Protect SEZ
SEZ sub-element:	Provide for the long-term preservation and restoration of SEZ	• Restore 90% of disturbed SEZ • SEZ land use exceptions • Mitigation requirements
Cultural sub-element:	Identify and preserve sites of historical, cultural and architectural significance within the region	• Identify and list sites
Energy sub-element:	Promote energy conservation programs and development of alternative energy sources to lessen dependence on scarce and high cost supplies.	• Energy efficiency standards • Recycling • Don't build dams
Recreation		
Preserve and enhance the high quality recreational experience including preservation of high-quality undeveloped shorezone and other natural areas. Establish and ensure a fair share of the total Basin capacity for outdoor recreation is available to the general public		
Dispersed Recreation sub-element:	Encourage opportunities for dispersed recreation when consistent with environmental values and protection of natural resources	• Build trails • Preserve areas for study and research

Element Philosophy	Element or Sub-element Goals	Methods
	Provide high quality recreation experience	• Separate conflicting uses (Nordic skiing and snow mobiles)
Developed Recreation sub-element:	Provide a fair share of total basin capacity for outdoor recreation	• PAOTs (6,114 overnight facilities, 6,761 in summer day use, 12,400 in winter day use)
	Provide for the appropriate type, location, and rate of development of outdoor recreation uses	• Bike trails • Restrict parking in scenic corridors • Transit to service recreation facilities and attractions • Ski area expansion guidelines
	Protect natural resources from overuse and rectify incompatibility between uses	• Regulate
	Provide for the efficient use of outdoor recreation	
Urban Recreation sub-element:	Provide sufficient capacity for local-oriented forms for outdoor and indoor recreation in urban areas	• Reserve sufficient capacity • Don't build on sensitive land.
Public Service Provide an adequate level of public service consistent with the Thresholds and the elements of the Plan.		
Implementation This section coordinates the implementation provisions and time schedules of each Plan Element to achieve and maintain adopted environmental thresholds.		
Institutional sub-element:	Coordinate all planning and development review activities with the affected jurisdictions and agencies	• Projects in the region must obtain permits from TRPA • Projects must comply with the Regional Plan and ordinances, codes, rules and regulations • TRPA will designate planning and review responsibilities
	Identify and seek commitments from agencies to implement the capital improvements and remedial programs identified in this plan	• Develop MOUs
Implementation Sub-element:	Direct all residential development first to those areas most suitable	• Evaluation and ranking of all vacant residential parcels by IPES

Element Philosophy	Element or Sub-element Goals	Methods
	Provide high quality recreation experience	• Separate conflicting uses (Nordic skiing and snow mobiles)
Developed Recreation sub-element:	Provide a fair share of total basin capacity for outdoor recreation	• PAOTs (6,114 overnight facilities, 6,761 in summer day use, 12,400 in winter day use)
	Provide for the appropriate type, location, and rate of development of outdoor recreation uses	• Bike trails • Restrict parking in scenic corridors • Transit to service recreation facilities and attractions • Ski area expansion guidelines
	Protect natural resources from overuse and rectify incompatibility between uses	• Regulate
	for development in accordance with environmental thresholds and other considerations	• Encourage mitigation of existing water quality problems by individual owners. • A project on a parcel rated and ranked by IPES the parcel must first be served by a paved road, water service, sewer service, and electric
	Manage the growth of development consistent with progress toward meeting environmental thresholds.	• Threshold evaluations • Use Thresholds to change regulations, allocations, financial programs, capital improvement programs if not in attainment • Residential allocations, 300 per year • Max of 200 new TAU in the first 10 years, 200 in the next 10 years. • Max of 400,000 new CFA over first 10 yrs of plan • Max of 400,000 new CFA in next 10 years of plan
	Encourage consolidation of development through separate transfer of development rights and transfer of land coverage programs	• Residential development rights, up to 1,400 bonus units for multi-residential units • TAUs, buildings shall be removed and the site restored, 200 additional units may be granted as bonus units • Land coverage may be transferred in hydrologic area as long as coverage limits are not exceeded, should be 1:1 or greater • Residential permit allocation shall permit the transfer of building allocations from parcels located on

Element Philosophy	Element or Sub-element Goals	Methods
	Provide high quality recreation experience	• Separate conflicting uses (Nordic skiing and snow mobiles)
Developed Recreation sub-element:	Provide a fair share of total basin capacity for outdoor recreation	• PAOTs (6,114 overnight facilities, 6,761 in summer day use, 12,400 in winter day use)
	Provide for the appropriate type, location, and rate of development of outdoor recreation uses	• Bike trails • Restrict parking in scenic corridors • Transit to service recreation facilities and attractions • Ski area expansion guidelines
	Protect natural resources from overuse and rectify incompatibility between uses	• Regulate
		sensitive lands to more suitable parcels. • Before transfer of any development right or land coverage the transferor lot shall be appropriately restricted or retired. • Transfers of development rights, other than coverage, shall be limited to equivalent uses with no increase in parameters.
	Condition approvals for new development in Tahoe on positive improvements in off-site erosion and runoff control and air quality.	• New residential, commercial and public projects shall completely offset their water quality impacts • All projects shall offset the transportation and air quality impacts of their development
Sub-element philosophy Financing: Adequate long-term financing is essential to meet the Thresholds and protect the values of the Tahoe Region.	In cooperation with other agencies, provide funds to carry out the programs and project outlined in Plan. Provide revenue sources	• Develop revenue sources • First use, Burton Santini, sales taxes, and TOT • Examine utility tax, assessments, automobile registration, property transfer fees, USFS special use fees. • Make sure costs are shared among property owners, businesses, visitors, transportation users, and local, state and federal government.

Element Philosophy	Element or Sub-element Goals	Methods
	Utilize regional revenue to solve high-priority water quality and transportation problems.	• Establish list of water quality and transportation projects • Develop region-wide revenue sources
	Provide funding to monitoring, and other efforts	
Sub-element Monitoring and Evaluation:	Evaluate progress toward attaining and maintaining the Thresholds through detailed monitoring and performance standards	• Use “reasonable progress lines” • Adjust reasonable progress lines every 5 years to reflect best science • Adjust Regional Plan based on progress (allocations, development priorities, CIP, enforcement, financial)
	Improve understanding of cause-effect relationships for Lake and Region	• Studying nitrogen loading, runoff and atmospheric deposition • Develop information re. the exact source of sediments and nutrients in watersheds. • Evaluate BMPs • Study impact of coverage • Study cause-effect between economic indicators and TRPA policies.
	Improve monitoring program	• Monitor lake, groundwater, air quality continuously • Occasionally monitor, noise, vegetation, scenic, recreation, wildlife, socioeconomic data • Monitor allocation programs • Establish a socioeconomic advisory panel to assist TRPA in consideration of adjustments to Regional Plan

APPENDIX D. HOW THE TRPA PROJECT CASE STUDY SAMPLE WAS CREATED

TRPA's database of transactions conducted under the Marketable Rights Transfer Programs was originally provided by TRPA to Solimar in five different Excel files:

1. New Codes post-1995 (539 records)
2. Old Transfers (347 records)
3. CFA Allocation 'new in 97' (36 records)
4. Old commercial (94 records)
5. TAU and Bank (748 records)

Once Solimar received these files, we spent considerable time deleting duplicates and ensuring that data entry was consistent. For example, we had to create fields to ensure that both sending and receiving APN numbers were separately recorded. We also deleted CFA allocations from the database. The files were merged into one sorted by TRPA case number and/or date.

When it became clear that these records did not contain all the data required to do a meaningful analysis (specifically, the type and quantity of right being traded), Solimar decided to survey a sample of TRPA's case files to obtain more specific information.

We decided on a 100 case sample, due mostly to time and cost constraints of having to physically locate files (by TRPA at TRPA), review them, and capture key information.

The total record count was divided by 100 for the 'take every' and a random number selected for the 'start with.' We compiled a list of 100 file numbers with 20 substitute files to replace any unlocatable files. The substitute files were the first 20 files immediately following the first 20 sample files (i.e. 'take every +1) under the assumption that older files were the most likely not to be located.

The sample file of case numbers was sent to TRPA in July 2001. When we arrived to manually review the sample, only about 50% of the case files had been located. We then expanded the substitute list and continued using substitute cases until TRPA found 100 case files. We drew about 200 cases from the sample before finding 100 case files. Key information was manually copied and then entered into an excel spreadsheet.

From sample excel file:

Records 2-26 are from the Transfers Worksheet

Records 27-29 are from the Old Commercial Worksheet

Records 30-46 are from the Transfers Old worksheet

Records 47-98 are from the TAU and Bank worksheet

Records 99-101 are from the CFA Track worksheet

APPENDIX E. TRPA CODE OF ORDINANCES

Chapter 20

LAND COVERAGE STANDARDS

Chapter Contents

20.0 Purpose

20.1 Applicability

20.2 Land Capability System

20.3 Land Coverage Limitations

20.4 Prohibition Of Additional Land Coverage In Land Capability Districts 1a, 1c, 2, And 3 And 1b (Stream Environment Zones)

20.5 Excess Land Coverage Mitigation Program

20.6 Land Coverage Requirements For Redevelopment Projects

20.0 Purpose: This chapter sets forth regulations for the permissible amount of land coverage in the Region. It implements provisions of the Goals and Policies concerning the land capability system, land capability districts, prohibition of additional land coverage in certain land capability districts, and transfer and mitigation of land coverage.

20.1 Applicability: All land coverage shall be regulated pursuant to the provisions of this chapter.

20.2 Land Capability System: The land coverage limitations set forth in this chapter are based on the land capability system established in the report entitled, Land Capability Classifications of the Lake Tahoe Basin, Bailey, R. G., 1974.

20.2.A Implementation Of Land Capability System: The land capability system is implemented through land capability districts depicted on land capability overlay maps referred to in Subsection 20.2.B. The accuracy of the land capability districts is subject to field verification pursuant to Subsection 20.2.C. A land capability challenge pursuant to Subsection 20.2.D may be initiated to reclassify lands inaccurately mapped. The land capability overlay maps may also be amended by an amendment of the Regional Plan pursuant to Subsection 20.2.E or by

demonstration pursuant to Subsection 20.2.F that the land has been man-modified.

20.2.B Establishment Of Districts: The land capability districts and the geomorphic groups established by the report referred to in Section 20.2 are made part of this ordinance. For purposes of this land capability system, stream environment zones, as defined in Chapter 2, are treated as Land Capability District 1b. The boundaries of each land capability district are established as depicted on the TRPA Land Capability Overlays, (January, 1987), as amended, at 1" equals 400' and 1" equals 2000' scale. Subject to the provisions of Subsections 20.2.C, 20.2.D, 20.2.E and 20.2.F, all land is classified as to land capability in accordance with the land capability districts depicted on the overlays.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-2

20.2.C Field Verification: Field verifications shall be conducted and regulated as follows:

- (1) Classifications Subject To Field Verification: Land capability classifications established pursuant to Subsection 20.2.B are subject to field verification by TRPA.
- (2) Procedure For Site Visit: At the request, or with the permission, of the owner, TRPA shall inspect the pertinent parcel.
- (3) Report: Upon completion of the inspection, TRPA shall prepare a report setting forth the observed slopes of the parcel, the fieldlocated boundary of any stream environment zone thereon and any other information pertinent to the proper land capability classification of the parcel.
- (4) Results Of Field Verification: As a result of the report prescribed by Subparagraph 20.2.C(3), TRPA may take one or more of the following actions:
 - (a) Verify that the parcel is accurately classified pursuant to Subsection 20.2.B.
 - (b) Make a minor boundary line adjustment of land capability districts within the parcel.
 - (c) Determine the boundary of a stream environment zone within the parcel, whether previously mapped or not.
 - (d) Reclassify all or part of the parcel to a different land capability district, if the reclassification can be based solely upon percentage of slope.
 - (e) Determine that the land capability district cannot be verified, in which event TRPA shall complete a land capability challenge pursuant to Subsection 20.2.D prior to the approval of any project on the parcel.

(5) Supersession Of Actions Under Subparagraph 20.2.C(4): Any of the actions authorized by Subparagraph 20.2.C(4) may be superseded by an action pursuant to Subsections 20.2.D, 20.2.E, or 20.2.F. Any action by TRPA pursuant to Subparagraph 20.2.C(4) shall not commit, or be construed as committing, TRPA to approve any project on the pertinent parcel.

(6) Procedure After Verification: Once TRPA has completed its action under Subparagraph 20.2.C(4), it shall:

(a) Give written notification to the owner of the parcel of the action taken;

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-3

(b) Include the information set forth in the report prepared pursuant to Subparagraph 20.2.C(3) and the action pursuant to Subparagraph 20.2.C(4) in TRPA's data base for purposes of Chapter 38;

(c) Recognize the action pursuant to Subparagraph 20.2.C(4) as superseding the TRPA Land Capability Overlays with respect to the pertinent parcel; and

(d) Affix a symbol to the land capability overlays denoting the action pursuant to Subparagraph 20.2.C(4) as applicable to the pertinent parcel.

(7) Special Procedure for TRPA Designated Land Banks: TRPA designated land banks may perform field verifications on parcels owned by the land bank. Field verifications shall be performed by qualified personnel pursuant to the requirements of this Subsection. A report pursuant to Subparagraph (3) above shall be submitted to TRPA with a recommendation for action pursuant to Subparagraph (4). TRPA shall take the proper action and complete the verification process as set forth in Subparagraph (6).

20.2.D Land Capability Challenge: In the event TRPA or the owner of a parcel is of the opinion it is not properly classified pursuant to Subsection 20.2.B, either may initiate a land capability challenge with respect to such parcel. The person or entity initiating the challenge shall bear the cost thereof. For parcels one acre or less in size, the cost to be charged an owner initiating the challenge shall not exceed an amount prescribed by resolution of the Governing Board.

(1) Team Of Experts: A team of experts retained by TRPA shall evaluate the land capability challenge. Depending on the nature of the challenge, the team may include, but need not be limited to, a geomorphologist, soil scientist, geologist and hydrologist, selected

by TRPA. Such persons shall be recognized as possessing special qualifications to evaluate soils, land forms, hydrology and other characteristics of land in the Tahoe Region. TRPA shall consider data provided by experts retained by the owner, and TRPA's team of experts shall comment on the accuracy of the owner's data. No expert retained by the owner shall be a member of TRPA's team.

(2) Land Capability Report: TRPA's team of experts shall prepare a land capability report analyzing the land capability challenge. The report shall include:

- (a) A description of the parcel;
- (b) Identification of the soil series, geomorphic unit, slopes and any SEZ found on the parcel;
- (c) A soil profile description of the site, based on a test pit, auger hole or cut bank;

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-4

- (d) A contour map prepared by a registered surveyor or engineer on sites with complex topography if necessary to determine land capability; and
- (e) A recommendation and map of the proper land capability for the parcel.

(3) Review And Approval Of Report: The Executive Director shall review the land capability report and, if it recommends no change in land capability, may deny the land capability challenge, subject to an appeal to the Governing Board. If the report recommends a change in land capability, the change shall be approved or denied by the Governing Board. The challenge may be approved if the Governing Board finds that the pertinent land, due to natural characteristics specifically identified, properly belongs in a land capability district other than that in which it is presently classified.

(4) Notification Procedure: An appeal of the Executive Director's denial of a land capability challenge and the action by the Governing Board upon a report recommending a change in land capability shall be pursuant to notification to affected property owners in accordance with TRPA's Rules of Procedure.

(5) Procedure After Action On Land Capability Challenge: Once TRPA has completed its action on the land capability challenge, it shall follow the procedure set forth in Subparagraph 20.2.C(6) as though it applied to a land capability challenge pursuant to Subsection 20.2.D, including, but not limited to, the report prepared for and action on the challenge.

(6) Special Procedure for TRPA Designated Land Banks: TRPA designated land banks may initiate a land capability challenge on any parcel owned by the land bank. A team of experts pursuant to Subparagraph (1) above, accepted by TRPA and the land bank, may be retained by the land bank. The team shall prepare a report pursuant to subparagraph (2) above. The TRPA Executive Director shall review the land capability report and approve or deny the proposed change in land capability. Upon completion of its action, TRPA shall follow the procedure set forth in Subparagraph (5).

20.2.E Amendment Of Land Capability Overlays By Amendment Of The Regional Plan: The TRPA Land Capability Overlays may be amended through an amendment of the Regional Plan in the manner set forth in Subsection 20.2.E. The amendment may be initiated by TRPA.

(1) Minimum Area Of Land: An amendment of the Regional Plan pursuant to Subsection 20.2.E shall be limited to an area of land five or more acres in size.

(2) Team Of Experts: An amendment of the Regional Plan pursuant to Subsection 20.2.E shall be evaluated by the team of experts referred to in Subparagraph 20.2.D(1) under the conditions set forth in that Subparagraph.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-5

(3) Land Capability Report: The team of experts shall prepare a land capability report analyzing the proposed plan amendment. The report shall contain information concerning the environmental and use capacity of the pertinent land, as well as detailed information concerning topography, soils capabilities and limitations, surface and ground water conditions, geomorphology, vegetation characteristics and related environmental factors pertinent to the land.

(4) Amendment: An amendment of the Regional Plan pursuant to Subsection 20.2.E shall be processed, both procedurally and substantively, in the manner of amendment to the Regional Plan generally. The amendment may be approved if TRPA finds that the pertinent land, due to natural characteristics specifically identified, properly belongs in a land capability district other than that in which it is presently classified.

(5) Other Matters Considered Plan Amendments: The following actions are considered amendments to the Regional Plan pursuant to Subsection 20.2.E, and applications therefor shall be processed accordingly:

(a) Line Adjustments: Area wide adjustments of land capability district boundaries, other than minor adjustments pursuant to Subsections 20.2.C or 20.2.D, which line adjustments, while not creating new land capability districts, may substantially affect permitted land coverages and apply to more than one parcel; and

(b) Creation Of New Land Capability Districts Or Geomorphic Units: Creation of a new land capability district on the Land Capability Overlays, which new district shall be five contiguous acres or more in area, or creation of a new geomorphic unit, which new unit shall be one square mile or more in area, unless smaller, more precise mapping units are adopted by TRPA, in which event the smaller units may be used.

(6) Procedure After Amendment: Once TRPA has completed its action on an amendment to the Regional Plan pursuant to Subsection 20.2.E, it shall follow the procedure set forth in Subparagraph 20.2.C(6) as though it applied to an amendment to the Regional Plan pursuant to Subsection 20.2.E, including, but not limited to, the report prepared for and action on the amendment.

20.2.F Amendment Of Land Capability Overlays For Man-Modified Areas: The TRPA Land Capability Overlays may be amended for man-modified areas through an amendment of the Regional Plan in the manner set forth in this Subsection. The amendment may be initiated by TRPA or the owner of the pertinent land, provided there is sufficient information demonstrating a reasonable possibility the requirements of this Subsection can be met.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-6

(1) Team Of Experts: An amendment of the Regional Plan pursuant to this Subparagraph shall be evaluated by the team of experts referred to in Subparagraph 20.2.D(1) under the conditions set forth in that Subparagraph.

(2) Man-Modified Report: The team of experts shall prepare a man-modified report analyzing the proposed plan amendment. The report shall contain information showing that the land in question was modified by man's placement of fill, dredging or grading, in so substantial a fashion as to generally exhibit the characteristics of a land capability district other than the one depicted for said land on the TRPA Land Capability Overlays. In addition to the foregoing information, the man modified report shall contain the

following concerning the pertinent land:

- (a) A statement of geomorphic characteristics;
 - (b) An analysis of surface and subsurface hydrology;
 - (c) A statement of physical and chemical soil characteristics;
 - (d) An analysis of erosion hazard;
 - (e) An analysis of vegetation;
 - (f) A statement identifying the land capability characteristics resulting from the modification and an opinion by the team identifying the land capability district generally exhibiting those characteristics; and
 - (g) Additional information reasonably required by TRPA to properly assess the merits of the application.
- (3) Action on Amendment: An amendment of the Regional Plan pursuant to Subsection 20.2.F shall be processed, both procedurally and substantively, in the manner of amendments to the Regional Plan generally. The amendment may be approved if TRPA finds that:
- (a) The land was modified prior to February 10, 1972;
 - (b) Further development will not exacerbate the problems resulting from the modification of the land and will not adversely impact sensitive lands adjacent to or nearby the man-modified area;
 - (c) The land no longer exhibits the characteristics of land bearing the same, original land capability classification;
 - (d) Restoration of the land is infeasible because of factors such as the cost thereof, a more positive cost-benefit ratio would be achieved by offsite restoration, onsite restoration would cause environmental harm, restoration onsite would interfere with an existing legal use, and the land is not identified for restoration by any TRPA program;

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-7

- (e) Further development can be mitigated offsite; and
 - (f) Mitigation to offset the losses caused by modification of the land and pertinent land capability district, shall be as follows:
 - (i) Onsite and offsite mitigation;
 - (ii) Pursuant to a maintenance program, including schedule of maintenance, proposed by the owner and approved by TRPA; and
 - (iii) Collection of a security, if deemed necessary by TRPA, to guarantee mitigation.
- (4) Effect Of Approval: If the amendment is approved, the land

coverage limitations of the land capability district, whose characteristics are exhibited by the pertinent land, shall apply to the land.

(5) Conditions Upon Amendment: Approval of an amendment of the Regional Plan pursuant to Subsection 20.2.F may be granted subject to reasonable conditions in addition to those otherwise referred to in such Subsection.

(6) Procedure After Amendment: Once TRPA has completed its action on an amendment to the Regional Plan pursuant to Subsection 20.2.F, it shall follow the procedure set forth in Subparagraph 20.2.C(6) as though it applied to an amendment to the Regional Plan pursuant to Subsection 20.2.F, including, but not limited to, the report prepared for and action on the amendment.

20.3 Land Coverage Limitations: No person shall create land coverage in excess of the limitations set forth in this chapter. The means to determine base land coverage, the manner to transfer land coverage and prohibitions of certain land coverage are set forth in this Section.

20.3.A Base Land Coverage Requirements: The allowable base land coverage ("base coverage") shall be determined by using the coefficients set forth in the report entitled, Land Capability Classifications of the Lake Tahoe Basin, Bailey, R. G. 1974. These coefficients are:

Lands Located in Land Capability District* Base Coverage

1a, 1b, 1c 1%

2 1%

3 5%

4 20%

5 25%

6, 7 30%

* Lands located in Geomorphic Group I are classified land capability district 1 and are permitted one percent coverage.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-8

(1) General Rule: Except as provided in subparagraphs 20.3.A (2), (3) and (4), the coefficients shall be applied to the project area in accordance with Subsection 20.3.D.

(2) Parcels In TRPA-Approved Subdivisions In Conformance With The Bailey Coefficients: In TRPA approved subdivisions where TRPA applied the coefficients on a subdivision-wide basis, and allowable coverages then were assigned to individual parcels, the assigned coverages shall be the base coverages for those

parcels. The list of TRPA-approved subdivision in conformance with Bailey coefficients is Attachment D to the Goals and Policies.

(3) **Parcels In Existing Planned Unit Developments (PUDs) Not In Conformance With The Bailey Coefficients:** To determine the allowable base coverage for parcels within an existing PUD, the coefficients shall be applied to the entire PUD. This total allowable coverage, minus existing the common area facilities coverage, shall be divided among the individual parcels in proportion to their respective sizes whether developed or not. Public rights-of-way shall not be included in the calculation. Accordingly, the method of calculation is as follows: first, the area of public rights of-way is not to be counted; second, allowable base coverage for the remaining area in the PUD is calculated; third, the amount of existing coverage of common areas is subtracted; fourth, the remaining coverage is divided among the individual parcels, in proportion to size. In no case shall parcels of individual ownership be assigned an allowable base coverage of less than zero.

Example of calculation:

PUD Example: Five acre PUD (not including public rights-of-way) with 10 individual 50 x 50 parcels located in Land Capability District 4. Existing common area improvements such as parking, tennis court, and recreation center = 30,000 square feet of land coverage

PUD size (217,800) x Coverage Coefficient (20%) = Allowable Base Coverage (43,560)

Allowable Base Coverage (43,560) - Existing Improvements (30,000) = Remaining Allowable Base Coverage (13,560)

Remaining Allowable Base Coverage (13,560) Number of Parcels (10) = Allowable Base Coverage Per Parcel (1,350)

(4) **Relationship To IPES:** Except as set forth in (2) and (3) above, the Individual Parcel Evaluation System ("IPES") ratings shall be used to determine allowable coverage for single family houses subject to IPES pursuant to Chapter 37.

20.3.B Transferred Land Coverage Requirements: In addition to the base coverage prescribed by Subsection 20.3.A, land coverage may be transferred to a parcel pursuant to Subsection 20.3.C. Parcels and uses eligible for transfer of land coverage are set forth in this Subsection. The aggregate of base coverage and coverage transferred shall not exceed the limits set forth below:

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-9

(1) **Residential Facilities (1 to 4 Units):** The maximum land coverage

(base coverage plus transferred coverage) allowed on a parcel for residential facilities of four units or less is the coverage allowed pursuant to the coefficients in Subsection 20.3.A, or as follows, whichever is greater:

(a) Maximum Parcel Coverages:

Project Area (Sq. Ft.) Maximum Land Coverage

0 - 4,000 Base Land Coverage Only

4,001 - 9,000 1,800 sq. ft.

9,001 - 14,000 20% of Project Area

14,000 - 16,000 2,900 sq. ft.

16,000 - 20,000 3,000 sq. ft.

20,001 - 25,000 3,100 sq. ft.

25,001 - 30,000 3,200 sq. ft.

30,001 - 40,000 3,300 sq. ft.

40,001 - 50,000 3,400 sq. ft.

50,001 - 70,000 3,500 sq. ft.

70,001 - 90,000 3,600 sq. ft.

90,001 - 120,000 3,700 sq. ft.

120,001 - 150,000 3,800 sq. ft.

150,001 - 200,000 3,900 sq. ft.

200,001 - 400,000 4,000 sq. ft.

(b) Planned Unit Developments: For parcels in planned unit developments, the maximum coverage allowed shall be 100 percent of the proposed building envelope or 2,500 square feet, whichever is less. Parcels in PUDs with five or more units per parcel are considered multi-residential and regulated pursuant to Subparagraph 20.3.B(3).

(c) Special Transfer Programs: Parcels in subdivisions with TRPA-approved transfer programs may be permitted the coverage specified by that approval. The only subdivision with such a program, as of the effective date of the Regional Plan, is Cave Rock Estates, Unit No. 3. The Cave Rock Estates, Unit No. 3 transfer program is set forth in the TRPA March 23, 1978 approval of that subdivision.

(d) Driveways: The maximum limits in Subparagraph 20.3.B(1)(a) may be increased by a transfer of land coverage for a driveway built in accordance with the standards in Chapter 24, which is to be created in connection with the construction of a single family house on an existing parcel, provided TRPA finds that:

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-10

- (i) The construction will not result in a residential structure with land coverage greater than that permitted in Subparagraph 20.3.B(1) minus 400 square feet; and
 - (ii) The single family house, as a direct result of the increased land coverage, will be located on the parcel at the site found by TRPA to cause the least harm to the natural environment through minimization of land alterations, grading, removal of vegetation and preservation of trees and other flora.
- (2) Commercial Facilities Within Community Plans: The maximum land coverage (base coverage plus transferred coverage) allowed on a parcel for commercial facilities located within community plans approved pursuant to Chapter 14 is as follows:
- (a) For parcels upon which there is no development legally existing as of the effective date of the Regional Plan, maximum land coverage is 70 percent of the project area, which area is located within land capability districts 4 through 7, inclusive; and
 - (b) For parcels upon which there legally exists development as of the effective date of the Regional Plan, maximum land coverage is 50 percent of the project area, which area is located within land capability districts 4 through 7, inclusive.
- (3) Tourist Accommodation Facilities Multi-Residential Facilities (Five Or More Units), Public Service Facilities, And Recreation Facilities Within Community Plans: The maximum land coverage (base coverage plus transferred coverage) allowed on a parcel for tourist accommodation facilities, multi-residential facilities of five units or more, public service facilities and recreation facilities is limited to 50 percent of the project area, provided the parcel is located within a community plan approved pursuant to Chapter 14. Such land coverage may be used only on the project area located within land capability districts 4 through 7, inclusive, referred to in Subsection 20.3.A. Subdivisions into parcels of 4 or less residential units shall not be eligible for the maximum permitted under this subparagraph. §
- (4) Linear Public Facilities And Public Health And Safety Facilities: The maximum land coverage (base coverage plus transferred coverage) for linear public facilities and public health and safety facilities is limited to the minimum amount needed to achieve their public purpose. Such transfer may be permitted, provided TRPA makes the following findings:
- (a) The project is on the list of additional public service facilities if required pursuant to Section 33.5;
- § Amended 06/27/99

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-11

- (b) There is no feasible alternative that would reduce land coverage;
 - (c) The project, because of its unusual configuration or service requirement, requires special consideration; and
 - (d) The facility primarily serves the needs of persons other than those who are, or will be, residents of the lands in question, or the owners of the land in question.
- (5) Highways, Streets and Roads: Transfer of land coverage for highways, streets and roads may be permitted, provided TRPA, in addition to the findings in paragraph (4) above, makes the following findings:
- (a) The highway, street, or road is required to provide access to property other than that owned by the applicant; and
 - (b) The highway, street, or road will be constructed or maintained by a public agency, or is required to be so constructed or maintained by the terms and in accordance with the boundaries of a lawfully created easement recorded prior to February 10, 1972, or is required or approved by TRPA for a project approved after the effective date of the Regional Plan.
- (6) Other Public Service Facilities Outside Community Plans: The maximum land coverage (base coverage plus transferred coverage) for other public service facilities located outside of an approved community plan is 50 percent of the project area. Transfer of land coverage for public service facilities located outside a community plan is limited to projects for which TRPA has made the following findings:
- (a) The project is on the list of additional public service facilities if required pursuant to Section 33.5;
 - (b) There is no feasible alternative that would reduce land coverage; and
 - (c) There is a demonstrated need and requirement to locate the facility outside a community plan.
- (7) Facilities For Public Safety And Access Of The Handicapped: Transfer of land coverage may be permitted for the addition of facilities for access of handicapped persons and for compliance with public safety laws, to facilities legally existing on the effective date of the Regional Plan. The maximum land coverage (base coverage plus transferred coverage) shall be the minimum amount required to provide access to handicapped persons

occupying a residence or as required by local, state or federal law.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-12

(8) Water Quality Control Facilities: Transfer of land coverage for water quality control facilities, such as erosion control projects, habitat restoration projects, wetland rehabilitation projects, stream environment zone restoration projects and similar projects, programs and facilities, may be permitted the minimum amount of land coverage needed to achieve their purpose provided there is not reasonable alternative, including relocation, which avoids or reduces the land coverage.

20.3.C Manner Of Transferring Land Coverage: Land coverage may be transferred to eligible parcels for eligible uses, in accordance with the percentage limitations, as set forth in Subsection 20.3.B, and the requirements of this subsection. A transfer of land coverage shall be from one parcel or project area to another and shall only be transferred in conjunction with a project approved by TRPA. Land coverage banks may be designated by TRPA pursuant to Section 38.8, to provide land coverage for transfer purposes.

(1) Land Coverage Transfer Ratios: Land coverage transferred from one parcel ("sending parcel") to another parcel ("receiving parcel") shall be in accordance with the following ratios:

(a) General: Except for transfers relating to commercial uses within approved community plans, the transfer of one square foot of land coverage to a receiving parcel requires the retirement of one square foot of land coverage on the sending parcel (1:1 transfer ratio).

(b) Commercial Uses Within Approved Community Plans: Receiving parcels within approved community plans, upon which there exist commercial facilities, shall be eligible to receive transferred land coverage at the ratio prescribed by Subparagraph 20.3.C(1)(a), up to the maximum 50 percent land coverage prescribed by Subparagraph 20.3.B(2)(b).

Undeveloped receiving parcels within approved community plans, eligible for the maximum 70 percent land coverage prescribed by Subparagraph 20.3.B.2(a), shall be eligible to receive transferred land coverage at the ratio prescribed by Subparagraph 20.3.C(1)(a), until the total land coverage reaches 50 percent of the project area. Undeveloped parcels shall be eligible to receive additional transferred land coverage in excess of the 50 percent limit, until the total land

coverage reaches the maximum 70 percent, provided the additional coverage over 50 percent shall be transferred at the ratio set forth in the following chart:

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-13

Percent of Final Coverage Transfer Ratio

51 1.05:1

52 1.1:1

53 1.15:1

54 1.2:1

55 1.25:1

56 1.3:1

57 1.35:1

58 1.4:1

59 1.45:1

60 1.5:1

61 1.55:1

62 1.6:1

63 1.65:1

64 1.7:1

65 1.75:1

66 1.8:1

67 1.9:1

68 1.95:1

70 2:1

Transfer Example:

Five Acre Parcel = 217,800 sq. ft.

Allowable Base Coverage = 30% = 65,340 sq. ft.

Proposed Project Coverage = 60% = 130,680 sq. ft.

Transfer Requirement

0 to 30% - None = 0

30 to 50% - 1:1 = 43,560 sq. ft.

50 to 60% - 1.5:1 = 32,670 sq. ft.

Total Coverage to be

Transferred

76,230 sq. ft.

(2) Types Of Land Coverage Eligible For Transfer: The following types or classes of legally established land coverage are eligible for transfer to receiving parcels in accordance with the provisions of this Chapter:

(a) Hard Coverage: Hard land coverage may be transferred in all cases.

(b) Soft Coverage: Soft land coverage may be transferred in all cases, except for transfers relating to commercial or tourist accommodation uses or facilities.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-14

(c) Base Coverage: Unused allowable base land coverage referred to in Subsection 20.3.A may be transferred in all cases, except for transfers relating to commercial uses or facilities. Land coverage transferred as mitigation for excess coverage associated with commercial and tourist accommodation projects shall be existing hard coverage except as provided in Subparagraph 20.3.C(6)

(d) Coverage For Single Family House: Coverage transferred for a single family house, including, but not limited to, a house to be constructed pursuant to IPES, shall be from a sending parcel as environmentally sensitive as, or more environmentally sensitive than, the receiving parcel. If both sending and receiving parcels have not received IPES rating scores, relative environmental sensitivity shall be determined by comparing the land capability classification of each parcel. If both parcels have IPES rating scores, sensitivity shall be determined by comparing the scores of each. If one parcel has an IPES rating score and the other does not, TRPA shall determine sensitivity.

(e) Coverage for Water Quality Control Facilities: Land coverage transferred for water quality control facilities pursuant to Subsection 20.3.B(8) shall be in accordance with (a) through (c) above, or shall be mitigated through restoration in accordance with Subsection 20.4.C, in the amount of 1.5 times the area of land covered or disturbed for the project beyond that permitted by the coefficients in Subsection 20.3.A.

(3) Sending Parcels Classified As Sensitive Lands: If land coverage is transferred from a sending parcel, or a portion thereof, that is located in Land Capability Districts 1 through 3, inclusive, or is at or below the initial level defining the top rank under IPES (i.e., 725), the coverage transferred shall be permanently retired as set forth in Subparagraph 20.3.C(7) below, and may not be returned to the sending parcel.

(4) Sending Parcels Classified As Non-Sensitive Lands: If land coverage is transferred from a sending parcel, or a portion thereof, that is located in Land Capability Districts 4 through 7,

inclusive, or is above the initial level defining the top rank under IPES (i.e., 725), the coverage transferred shall be retired as set forth in Sub paragraph 20.3.C(7) below, but the land coverage may be returned to the sending parcel subject to the limitations of Subsections 20.3.A and 20.3.B.

(5) Hydrologically Related Area Transfer Limitation: For all land coverage transfers, the receiving parcel and the sending parcel shall be in the same hydrologically related area. The hydrologically related area boundaries are depicted upon the TRPA Plan Area Overlays and are incorporated herein. Transfer across said boundaries is prohibited.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-15

(6) Inadequate Supply Of Land Coverage: If TRPA, after conducting a review of the cost of land coverage available at the land bank, finds there is an inadequate supply of hard land coverage for commercial or tourist accommodation uses at a reasonable cost within a given hydrologically related area, TRPA may authorize an increase in the supply of land coverage for transfer in the order of priority set forth below. In determining "reasonable cost," TRPA shall consider: whether there is no market for the coverage due to its cost, limited supply or simple absence of transactions actions; and other pertinent factors. Prior to authorizing an increase in supply of land coverage, TRPA also shall consider the effect of the increase on the inventory in the land bank and the value of investments made by the bank in hard or soft land coverage. If TRPA authorizes an increase in the supply of land coverage, it shall do so in the following order of priority:

- (a) Existing soft coverage as described in the definition of "land coverage."
- (b) Unused base coverage, referred to in the Goals and Policies as "potential coverage."
- (c) Through redefinition of the boundaries of the hydrologically related area to increase the supply of coverage.

(7) Restoration And Retirement Of Land Coverage: Land coverage shall be restored and retired pursuant to Section 34.5 and the following:

- (a) Transfers: TRPA shall ensure that land coverage transferred pursuant to Subsection 20.3.C shall be retired permanently pursuant to the following requirements:
 - (i) In the event land coverage is removed from the sending parcel, the applicant or a public agency shall

restore the sending parcel to a natural or near natural state;

(ii) Provisions for future maintenance and protection of the parcel from further soil disturbance shall be made, whether or not the parcel is undisturbed or subject to restoration; and

(iii) For parcels in private ownership, deed restrictions, or other covenants running with the land, permanently assuring the accomplishment of the requirements of Subparagraphs 20.3.C(7)(a)(i) and (ii) shall be recorded by the owner. TRPA shall obtain binding assurance from a public agency that the requirements of Subparagraphs 20.3.C(7)(a)(i) and (ii) are permanently met.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-16

(b) Removal Of Land Coverage For Credit: In the event land coverage is removed on one parcel, but is not proposed for immediate transfer to another parcel, the applicant shall comply with Subparagraphs 20.3.C(7)(a)(i) and (ii), to assure credit for the removed coverage in accordance with Chapter 38.

(8) Land Bank: Land coverage transfers and land coverage retirement programs may use a land bank pursuant to Chapter 38.

20.3.D Method Of Calculation Of Land Coverage: Land coverage requirements shall be implemented by application of the percentage coverage figures set forth in Subsections 20.3.A and 20.3.B to the area of the project. Determination of the project area and the method of applying the percentage coverage figures to the project area are set forth in this Subsection.

(1) Determination Of The Project Area: The project area shall be calculated as follows:

(a) Boundaries Or Area Of Land Involved:

(i) For a project on a single parcel, the area of the project is the area of the parcel.

(ii) For a project on or comprising two or more contiguous parcels, the project area is the total combined square footage of the parcels, provided the parcels are permanently consolidated. If the parcels are not permanently consolidated, the owner shall record against the parcels a deed restriction, or other covenant running with the land, permanently assuring

that the land coverage calculations for the parcels shall always be made as if the parcels had been legally consolidated.

(iii) Where the proposed activity or project, for which land coverage is to be calculated, is a use accessory to an existing primary use located on or comprising one or more adjacent parcels, the project area for the accessory use is the total combined square footage of all of said parcels, owned or controlled by the same person, provided the parcels are permanently consolidated. If the parcels are not permanently consolidated, the owner shall record against the parcels a deed restriction, or other covenant running with the land, permanently assuring that the cover age calculations for the parcels shall always be made as if the parcels had been legally consolidated.

(iv) For a project on a single parcel in excess of 20 acres, or on an area of land not consisting of a parcel, TRPA shall determine the project area based upon the following factors, among others, appropriate for this

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-17

purpose: the area impacted by or the sphere of influence of the project; the area to be actually used for the project; whether the project is located in one or more hydrologically related areas; and the extent of land coverage and land disturbance for the project.

(b) Land Not Included In The Project Area: The project area shall not include lands lake ward of the high-water lines of bodies of water, such as lakes and ponds, lands under lying covered surfaces associated with existing linear public facilities, highway, streets, and roads, referred to in Subsection 20.3.B, and easements or rights-of-way allowing potential land coverage for linear public facilities, high ways, streets, and roads. Land coverage associated with existing linear public facilities, highway, streets and roads shall not be considered in the calculation of land coverage, except as pertinent to the review by TRPA of the facilities, highway, streets or roads, or as required pursuant to Subsection 20.3.D(2)(c).

(c) Separate Calculation For The Area Within Each Land Capability District: With the exception of land coverage for

IPES pursuant to Chapter 37, land coverage shall be calculated by reference to the square footage area of each, separate land capability district located within the project area, applying the applicable percentage coverage figures set forth in Subsections 20.3.A and 20.3.B to the square footage within each respective land capability district.

(2) Application of Percentage Coverage Figures To The Project Area:

The percentage coverage figures shall be applied to the project area as follows:

(a) Base Coverage: The amount of base land coverage shall be calculated by applying the percentage coverage figures set forth in Subsection 20.3.A to the project area determined pursuant to Subsection 20.3.D(1). Base land coverage placed upon the portions of the project area within Land Capability Districts 1 through 3, inclusive, shall not exceed, as to each such portion, the maximum amount of land coverage determined by applying the corresponding percentage coverage figure to the area of each such portion. With respect to an area of the project containing land within Land Capability Districts 4 through 7, inclusive, the following rules apply:

(i) For a parcel or other project area up to and including one-third (1/3) of an acre, base coverages attributable to all land capability districts on the parcel may be aggregated and the resulting total coverage placed at any location on the parcel lying within Land Capability Districts 4 through 7, inclusive, but not within Land Capability Districts 1 through 3, inclusive.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-18

(ii) For a parcel or other area of the project over one-third (1/3) of an acre, base coverages attributable to land within Land Capability Districts 4 through 7, inclusive, may be placed upon the pertinent land, up to the maximum amount of land coverage determined by applying the corresponding percentage coverage figure. Aggregate base coverages attributable to portions of the parcel or other project area within Land Capability Districts 1 through 3, inclusive, also may be placed at any location on the parcel or such other area lying within Land Capability Districts 4 through 7, inclusive. No overage shall be placed on any land

within Land Capability Districts 1 through 3, inclusive, except as provided in Subsection 20.3.A.

(iii) As an alternative to Subparagraph 20.3.D(2)(a)(ii), the percentage coverage figure corresponding to the lowest land capability district number of Land Capability Districts 4 through 7, inclusive, that exists on the parcel or other project area, may be applied to the total area encompassed by Land Capability Districts 4 through 7, inclusive, to determine the amount of coverage, to which amount may be added the aggregate of base coverages attributable to portions of the parcel or other project area within Land Capability Districts 1 through 3, inclusive. No coverage shall be placed on any land within Land Capability Districts 1 through 3, inclusive, except as provided in Subsection 20.3.A.

(b) Transferred Coverage: In the event additional coverage is permitted by transfer of land coverage pursuant to Subsection 20.3.B, the amount of total coverage shall be calculated by applying the percentage coverage figures set forth in Subsection 20.3.B to the project area determined pursuant to Subparagraph 20.3.D(1).

(c) Land Coverage In Right-Of-Way: Existing or proposed land coverage in a public street or highway right-of-way shall be attributable to the owner of the right-of-way. Proposed coverage in such right-of-way shall be pursuant to a transfer of land coverage based upon a ratio of one square foot of land coverage retired for each square foot of new coverage proposed. Transfer of such coverage shall be pursuant to the requirements of Subsection 20.3.C. The owner of the right-of-way may arrange the transfer of land coverage with the person, if any, benefiting from the proposed land coverage in the right-of-way.

(3) Calculation Of Permissible Land Coverage Under IPES: Calculation of permissible land coverage for parcels subject to IPES shall be in accordance with Chapter 37.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-19

(4) Overhang Allowance: For every three feet off of the ground surface, one foot of the horizontal overhang dimension shall be excluded from land coverage calculations. The remainder of the overhang shall be counted.

20.4 Prohibition Of Additional Land Coverage In Land Capability Districts 1a, 1c, 2 And 3 And 1b (Stream Environment Zones): No additional land coverage or other permanent land disturbance shall be permitted in Land Capability Districts 1a, 1c, 2, and 3 and Land Capability District 1b (stream environment zones) except as follows:

20.4.A Exceptions For Land Capability Districts 1a, 1c, 2 And 3 Prohibition:

The following exceptions apply to the prohibition of land coverage and disturbance in Land Capability Districts 1a, 1c, 2 and 3:

(1) IPES: Land coverage and disturbance for single family houses may be permitted in Land Capability Districts 1a, 1c, 2 and 3, when reviewed and approved pursuant to IPES in accordance with Chapter 37.

(2) Public Outdoor Recreation Facilities: Land coverage and disturbance for public outdoor recreation facilities, which includes public recreation projects on public lands, private recreation projects through use of public lands, and private recreational projects on private lands that are depicted or provided for on a public agency's recreational plan, may be permitted in Land Capability Districts 1a, 1c, 2 and 3 if TRPA finds that:

(a) The project is a necessary part of a public agency's longrange plans for public outdoor recreation;

(b) The project is consistent with the Recreation Element of the Regional Plan;

(c) The project, by its very nature, must be sited in Land Capability Districts 1a, 1c, 2 or 3, such as a ski run or hiking trail; in accordance with the Guidelines Regarding Public Outdoor Recreation Facilities and Activities Which Create Additional Land Coverage or Permanent Disturbance and Which By Their Very Nature Need Not Be Sited in Sensitive Lands (1a, 1b, 1c, 2, 3, or SEZs), Water Quality Management Plan for the Lake Tahoe Region, Volume I, Table 16, dated November, 1988.

(d) There is no feasible alternative which avoids or reduces the extent of encroachment in Land Capability Districts 1a, 1c, 2 and 3; and

(e) The impacts of the coverage and disturbance are fully mitigated through means including, but not limited to, the following:

(i) Application of best management practices; and

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-20

(ii) Restoration, in accordance with Section 20.4.C, of land

in Land Capability Districts 1a, 1c, 2 and 3 in the amount of 1.5 times the area of land in such districts covered or disturbed for the project beyond that permitted by the coefficients in Subsection 20.3.A.

(3) Public Service Facilities: Land coverage and disturbance for public service facilities may be permitted in Land Capability Districts 1a, 2c, 2 and 3 if TRPA finds that:

(a) The project is necessary for public health, safety or environmental protection;

(b) There is no reasonable alternative, including relocation, which avoids or reduces the extent of encroachment in Land Capability Districts 1a, 1c, 2 and 3; and

(c) The impacts of the coverage and disturbance are fully mitigated in the manner prescribed by Subparagraph 20.4.A(2)(e).

(4) Water Quality Control Facilities: Land coverage and disturbance may be permitted in Land Capability Districts 1a, 1c, 2 and 3 for erosion control projects, habitat restoration projects, wetland rehabilitation projects, stream environment zone restoration projects, and similar projects, programs and facilities if TRPA finds that:

(a) The project, program or facility is necessary for environmental protection; and

(b) There is no reasonable alternative, including relocation, which avoids or reduces the extent of encroachment in Land Capability Districts 1a, 1c, 2 and 3.

(c) Impacts are fully mitigated and, if applicable, transferred land coverage requirements pursuant to 20.3.C(2)(e) are met.

(5) Tyrolian Village: Land coverage and disturbance for single family houses may be permitted in Land Capability Districts 1a, 1c, 2 and 3, when reviewed and approved in accordance with Chapter 36, on parcels in Tyrolian Village, Units #1 through 5, inclusive, for which complete applications were filed and accepted by TRPA pursuant to the "Agreement Between The Tyrolian Village, Inc. And The Tahoe Regional Planning Agency Regarding Erosion Control Improvements And Reclassification Of Upper Tyrolian Village" dated May 26, 1983."

20.4.B Exceptions For Land Capability District 1b (Stream Environment Zone): The following exceptions apply to the prohibition of land coverage and disturbance in land capability district 1b (stream environment zone):

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-21

(1) Stream Crossings: Land coverage and disturbance for projects to effect access across stream environment zones to otherwise buildable sites, if such projects otherwise comply with applicable development standards in Chapter 27, may be permitted in Land Capability District 1b (stream environment zones) if TRPA finds that:

(a) There is no reasonable alternative, including relocation, which avoids or reduces the extent of encroachment in the stream environment zone, or that encroachment is necessary to reach the building site recommended by IPES; and

(b) The impacts of the land coverage and disturbance are fully mitigated in the manner set forth in Subparagraph 20.4.A(2)(e), with the exception that the restoration requirement in such Subsection shall apply exclusively to stream environment zone lands and shall include coverage and disturbance within the permitted Bailey coefficients.

(2) Public Outdoor Recreation: Land coverage and disturbance for public outdoor recreation facilities may be permitted in Land Capability District 1b (stream environment zones) if TRPA finds that:

(a) The project is a necessary part of a public agency's long range plans for public outdoor recreation;

(b) The project is consistent with the Recreation Element of the Regional Plan;

(c) The project, by its very nature must be sited in a stream environment zone, such as bridges, stream crossings, ski run crossings, fishing trails, and boat launching facilities; in accordance with the Guidelines Regarding Public Outdoor Recreation Facilities and Activities Which Create Additional Land Coverage or Permanent Disturbance and Which By Their Very Nature Need Not Be Sited in Sensitive Lands (1a, 1b, 1c, 2, 3 or SEZs), Water Quality Management Plan for the Lake Tahoe Region, Volume I, Table 16, dated November, 1988.

(c) There is no feasible alternative which would avoid or reduce the extent of encroachment in the stream environment zone; and

(e) The impacts of the land coverage and disturbance are fully mitigated in the manner set forth in Subparagraph 20.4.A(2)(e), with the exception that the restoration requirement in such Subsection shall apply exclusively to stream environment zone lands and shall include coverage

and disturbance within the permitted Bailey coefficients.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-22

(3) Public Service: Land coverage and disturbance for public service facilities may be permitted in Land Capability District 1b (stream environment zones) if TRPA finds that:

- (a) The project is necessary for public health, safety or environmental protection;
- (b) There is no reasonable alternative, including a bridge span or relocation, which avoids or reduces the extent of encroachment in the stream environment zone; and
- (c) The impacts of the land coverage and disturbance are fully mitigated in the manner set forth in Subparagraph 20.4.A(2)(e), with the exception that the restoration requirement in such Subsection shall apply exclusively to stream environment zone lands and shall include coverage and disturbance within the permitted Bailey coefficients.

(4) Water Quality Control Facilities: Land coverage and disturbance may be permitted in Land Capability District 1b (stream environment zones) for erosion control projects, habitat restoration projects, wetland rehabilitation projects, stream environment zone restoration projects and similar projects, programs and facilities if TRPA finds that:

- (a) The project, program, or facility is necessary for environmental protection;
- (b) There is no reasonable alternative, including relocation, which avoids or reduces the extent of encroachment in the stream environment zone; and
- (c) Impacts are fully mitigated and, if applicable, transferred land coverage requirements pursuant to 20.3.C(2)(e) are met.

(5) Vegetation: Indigenous vegetation shall not be removed or damaged in Land Capability District 1b (SEZ) unless otherwise authorized under TRPA permit pursuant to Subsections 20.4.B, 20.5.C, 55.6, 71.3.C, 74.2, or 79.2, or Chapters 72 or 73. Species used for revegetation or landscaping shall be species appropriate for the stream environment zone type (e.g. meadow, marsh).

20.4.C Restoration Requirements: The following requirements apply to restoration:

- (1) The restoration requirements of Subparagraphs 20.3.C(2)(e) and 20.4.A(2)(e), may be accomplished onsite or offsite by the applicant or another agency approved by TRPA. Such restoration

requirements shall be in lieu of any land coverage transfer requirement or water quality mitigation fee pursuant to Chapter 82.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-23

(2) Only land which has been disturbed or consists of hard coverage or soft coverage shall be eligible for credit for restoration.

Restoration plans shall require restoration to cause the area to function in a natural state with provisions for permanent protection from further disturbance. Lands disturbed by the project and then restored are not eligible for credit. Permanent protection from further disturbance shall include, but not be limited to, recordation by the owner of deed restrictions, or other covenants running with the land, on a form approved by TRPA, against parcels in private ownership, permanently assuring the restoration requirements of Subparagraphs 20.3.C(2)(e) or 20.4.A(2)(e), as applicable. TRPA shall obtain appropriate assurance from a public agency that the requirements of Subparagraph 20.3.C (2)(e) or 20.4.A(2)(e), as applicable are met.

20.5 Excess Land Coverage Mitigation Program: This Section applies to projects where the amount of land coverage existing prior to the project in the project area exceeds the base land coverage for the project area prescribed by Subsection 20.3.A. Land coverage in excess of the base land coverage shall be mitigated by the transfer of land coverage pursuant to Subsection 20.3.C or the land coverage mitigation program set forth in this Section.

20.5.A Implementation Of Program: Except as otherwise provided by Subsection 20.5.B, all projects on parcels, or other applicable project areas, with unmitigated excess land coverage, shall be subject to the land coverage mitigation program set forth in this section. Projects subject to the program shall reduce land coverage by the amounts specified in Subparagraph 20.5.A(1) and (2).

(1) Excess Coverage Calculation: Excess land coverage equals the existing amount of land coverage, less the total of the following: the maximum allowable amount of base coverage; the amount of coverage approved by transfer; and the amount of coverage previously mitigated under this Section.

Excess Coverage (% sq. ft.) = Existing Coverage (% sq. ft.) -
(Maximum coverage (% sq. ft.) + Transferred Coverage (% sq. ft.)
+ Previously Mitigated Coverage (% sq. ft.))

(2) Excess Land Coverage Mitigation Program Options: In the event land coverage reduction is required, the applicant may chose any of the following options, or combinations thereof, to comply with

the requirements of this Section:

- (a) Reduce Coverage Onsite: Coverage may be reduced onsite as part of the project approval. Land subject to reductions shall be restored pursuant to Subsection 20.4.C.
- (b) Reduce Coverage Offsite: Coverage may be reduced offsite as part of the project approval. The land upon which the coverage is reduced shall be in the same hydrologically related area as the project. Land subject to reductions shall be restored pursuant to Subsection 20.4.C.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-24

- (c) Coverage Mitigation Fee: A land coverage mitigation fee may be paid to TRPA in lieu of reduction of land coverage pursuant to Subparagraphs 20.5.A(2)(a) or (b). The fee shall be forwarded by TRPA to a land bank to provide land coverage reduction. The fee shall be calculated pursuant to Subparagraph 20.5.A(3) and shall be non-refundable once paid.
- (d) Parcel Consolidation Or Parcel Line Adjustment: The percentage of excess coverage may be reduced by parcel consolidation or parcel line adjustment with a contiguous parcel as part of the project approval.
- (e) Projects Within Community Plans: Projects which are located within an adopted community plan may rely on the community plan to mitigate excess land coverage provided TRPA makes findings (i) and (ii), below. In lieu of findings (i) and (ii) being made, the TRPA may determine that a project complies with the requirements of this subparagraph by making finding (iii), below:
 - (i) The project is located within an area for which a community plan, as originally adopted or subsequently amended, includes a program to mitigate the excess land coverage within the area. Such a program shall ensure that coverage mitigation, when measured for individual parcels affected by the program, meets the standards set forth in Section 20.5 (A) (1), (2), and (3). The options available for mitigating excess land coverage under any such program shall be any combination of those options set forth in subparagraphs (a), (b), (c) and (d) of this subsection.
 - (ii) There is an irrevocable commitment for the funding necessary to implement the program for mitigating excess land coverage. For purposes of this

subparagraph, irrevocable commitment shall mean the following:

- (A) The public entity funding the measure or, when necessary, the electorate has made all discretionary decisions required for the issuance of the bonded indebtedness under applicable state law and that only ministerial acts necessary to the issuance of any such bonded indebtedness and the receipt of funds therefrom remain to be completed. Any such funds shall be finally committed to, and available for, expenditure;
- (B) The application for state and federal grant monies has received approval, and such grant monies are included in a duly enacted state budget or a legislative appropriation or federal authorization and appropriation. Any such funds shall be finally committed to, and available for,

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-25

expenditure for the excess land coverage mitigation program in accordance with the approved community plan;

- (C) Where the funding of the program is the responsibility of a person or persons, TRPA shall ensure that the public entity has received sufficient funds or an acceptable security to fully fund the program;
 - (D) The public entity funding the program has received a funded commitment from another public entity as described in (i) or (iii) above; or
 - (E) Any combination of (i) through (iv) above.
- (iii) As a condition of approval, the permittee for the project shall post a security with TRPA, in accordance with Section 8.8, in an amount equal to the excess coverage mitigation fee otherwise required under Section 20.5. If a program to mitigate excess land coverage within the community plan has not been adopted by TRPA and an irrevocable commitment made by the time of final inspection of the project by TRPA, or 3 years after commencement of construction, whichever is sooner, the security shall be forfeited to TRPA. Securities forfeited to TRPA under

this subparagraph shall be forwarded to a land bank to provide land coverage reduction.

(3) Determination Of Excess Coverage Mitigation: The required excess land coverage reduction mitigation shall be calculated as follows:§

(a) Coverage Reduction Mitigation: For purposes of calculating the square footage reduction of excess coverage to be credited the parcel pursuant to Chapter 38, the land coverage reduction is calculated by determining the reduction percentage from Table A above based on the amount of excess land coverage. The reduction percentage is then multiplied by the estimated coverage mitigation construction cost of the project and then divided by the mitigation factor of eight (8).

Coverage Reduction (Sq. Ft.) = Fee Percentage x CM Construction Cost (\$)/ Mitigation Factor of 8.

(b) Excess Coverage Mitigation Fee: The excess coverage mitigation fee shall be calculated by determining the amount of excess coverage (sq. ft.), in accordance with subparagraph (a), above. The coverage reduction square footage is then multiplied by the appropriate Mitigation Fee Coverage Cost Factor to determine the Excess Coverage Mitigation Fee. The § Amended 5/23/01

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-26

Mitigation Fee Coverage Cost Factor(s) shall be established by TRPA staff by January 1 of each year based on a certified real estate appraiser's estimate of the land bank's cost to acquire and restore land coverage under this program. The appraiser shall use the methodology established in the Uniform Standards of Appraisal Practice. In no case shall the total excess coverage mitigation fee be less than \$200. The Coverage Mitigation Cost Fee shall be \$6.50 in California and \$12.00 in Nevada. Prior to May 1, 2003, the Coverage Mitigation Cost Fee shall not exceed \$12.00.

(c) Mitigation Fee (\$) = Coverage Reduction Sq. Ft. x Mitigation Fee Sq. Ft. Coverage Cost Factor.

(d) Coverage Mitigation Construction Cost: Coverage Mitigation Construction Cost is defined a cost estimate prepared by a registered engineer, licensed architect (or other qualified professional acceptable to TRPA) of the cost to construct the bearing elements of a structure. This includes without limitation, pier pilings, bracing and supports, bearing walls,

rafters, foundations and base materials under asphalt or concrete. Structural cost does not include non-structural elements such as painting, shingles and other non-bearing roofing materials, siding (except siding necessary to brace or provide shear strength), doors overlays upon existing paved surfaces, HVAC systems, sewer systems, water systems, electrical systems, furniture and similar decorations and fixtures.

TABLE A. EXCESS COVERAGE REDUCTION SQ. FT. FACTOR

Square Feet of Excess Coverage Reduction % Factor

>400 or less	.06
>400 - 600	.12
>600 - 1,000	.25
>1,000 - 1,500	.50
>1,500 - 2,000	.75
>2,000 - 2,800	1.00
>2,800 - 3,800	1.25
>3,800 - 5,000	1.50
>5,000 - 6,400	1.75
>6,400 - 8,000	2.00
>8,000 - 11,000	2.25
>11,000 - 15,000	2.50
>15,000 - 18,000	2.75
>18,000 - 21,780	3.00
>21,780 - 43,560	3.25
>43,560 - 65,340	3.50
>65,340 - 87,120	3.75
>87,120 - 108,900	4.00
>108,900 - 130,680	4.25
>130,680 - 152,460	4.50
>152,460 - 174,240	4.75
>174,240	5.00

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-27

20.5.B Exemptions From The Land Coverage Mitigation Program: The following are exempt from the land coverage mitigation program:

(1) Parcels With Mitigated Land Coverage: Parcels or project areas, which contain land coverage in excess of base land coverage prescribed by Sub section 20.3.A, which excess coverage has been fully mitigated pursuant to Subsection 20.5.A through transfer of land coverage pursuant to Subsection 20.3.C or by consolidation of adjoining parcels, shall not be subject to the land coverage mitigation program.

(2) Repair And Reconstruction Of Buildings Damaged Or Destroyed By Fire Or Other Calamity: Repair and reconstruction of buildings damaged or destroyed by fire or other calamity pursuant to Chapter 4 shall not be subject to the land coverage mitigation program.

(3) Work Not Requiring A Permit: An activity not requiring a permit pursuant to Chapter 4 shall not be subject to the land coverage mitigation program.

(4) TRPA Requirements: Projects and modifications, required by TRPA, or portions thereof, directly related to attainment of the environmental thresholds, such as best management practices and stream environment zone restoration, shall not be subject to the land coverage mitigation program. The following categories of projects, if not carried out in conjunction with another type of project, may be exempt from the land coverage mitigation program:

(a) Installation of erosion control facilities.

(b) Restoration of disturbed areas.

(c) SEZ restoration.

(d) Underground storage tank removal, replacement or maintenance.

(e) Hazardous waste spill control or prevention facilities.

(f) Sewage pump-out facilities for RVs or boats.

(5) Repair Of Linear Public Facilities: Repair of linear public facilities shall not be subject to the land coverage mitigation program.

(6) Minor Utility Projects: Those activities which replace, repair, underground or interconnect existing utilities or extend local distribution, and which are located within a right-of-way where the applicant is not the primary right-of-way user are considered minor utility projects and shall not be subject to the excess land coverage mitigation program. The construction of roads is not a minor utility project. The primary right-of-way user shall be the owner or controlling party of the right-of-way.

TRPA Code of Ordinances

CHAPTER 20 - LAND COVERAGE STANDARDS 20-28

20.5.C Relocation Of Existing Land Coverage: Existing land coverage may be relocated on the same parcel or project area if TRPA finds that:

(1) The relocation is to an equal or superior portion of the parcel or project area, as determined by reference to the following factors:

(a) Whether the area of relocation already has been disturbed;

(b) The slope of and natural vegetation on the area of relocation;

- (c) The fragility of the soil on the area of relocation;
 - (d) Whether the area of relocation appropriately fits the scheme of use of the property;
 - (e) The relocation does not further encroach into a stream environment zone, backshore, or the setbacks established in the Code for the protection of stream environment zones or backshore;
 - (f) The project otherwise complies with the land coverage mitigation program set forth in Section 20.5; and
 - (2) The area from which the land coverage was removed for relocation is restored in accordance with Subsection 20.4.C.
 - (3) The relocation is not to Land Capability Districts 1a, 1b, 1c, 2 or 3, from any higher numbered land capability district.
 - (4) If the relocation is from one portion of a stream environment zone to another portion, there is a net environmental benefit to the stream environment zone. Net environmental benefit to a stream environment zone is defined as an improvement in the functioning of the stream environment zone and includes, but is not limited to:
 - (a) Relocation of coverage from a less disturbed area to a more disturbed area or to an area further away from the stream channel;
 - (b) Retirement of land coverage in the affected stream environment zone in the amount of 1.5:1 of the amount of land coverage being relocated within a stream environment zone; or
 - (c) For projects involving the relocation of more than 1000 square feet of land coverage within a stream environment zone, a finding, based on a report prepared by a qualified professional, that the relocation will improve the functioning of the stream environment zone and will not negatively affect the quality of existing habitats.
- 20.6 Land Coverage Requirements For Redevelopment Projects: Land coverage requirements for redevelopment projects shall be in accordance with Chapter 15.

Chapter 34

TRANSFER OF DEVELOPMENT

Chapter Contents

34.0 Purpose

34.1 Applicability

34.2 Transfer Of Residential Development Right

34.3 Transfer Of Residential Allocations

34.4. Transfer Of Existing Development 34.5 Restriction Of Parcels

34.6 Basic Service Requirements

34.0 Purpose: This chapter sets forth the provisions for the transfer of residential development rights, residential allocations, and existing development, from one parcel to another as provided in the Goals and Policies, Development and Implementation Priorities Subelement, Implementation Element, Goal #3, Policies 1 -6. The transfer of land coverage is addressed in Chapter 20.

34.1 Applicability: This chapter applies to the transfer of residential development rights, residential allocations, and existing development. All such transfers require TRPA approval. Transfer of a residential development right or residential allocation does not constitute a project approval. Transfers of existing development can occur only in conjunction with a project approval.

34.2 Transfer Of Residential Development Right: A residential development right, as defined in Chapters 2 and 21, may be transferred to another parcel pursuant to the following provisions:

34.2A Vacant Parcel: The parcel from which the development right is transferred shall have a residential development right.

34.2.B Parcel Restriction: The parcel from which the development right is transferred is restricted pursuant to Section 34.5 at the time of transfer.

34.2.C Receiving Area: The parcel receiving the development right shall be in a plan area or adopted community plan, where residential uses are permissible and shall meet the following criteria:

(1) Parcels Eligible To Receive One Or More Development Rights:

Parcels located in a plan area or adopted community plan, designated as a receiving area for multi-residential units, shall be eligible to receive one or more development rights; or

(2) Parcels Eligible To Receive One Development Right: The following parcels are eligible to receive one development right:

TRPA Code of Ordinances

CHAPTER 34 - TRANSFER OF DEVELOPMENT 34-2

(a) One development right may be transferred to a parcel for the purpose of constructing a secondary residence, provided

the building site for the secondary residence is in Land Capability Districts 4, 5, 6 or 7; or

(b) One development right may be transferred to a parcel that was not assigned a development right provided the parcel has a building site in Land Capability Districts 4, 5, 6 or 7, or, if applicable, is above the initial IPES line of 726.

34.2.D Density: The transfer complies with the density of use provisions for the receiving parcel.

34.2.E Local Approval: For an inter-county transfer, the approval of affected local governments shall be obtained.

34.3 Transfer of Residential Allocations: If, pursuant to Chapter 33, a parcel is assigned a residential allocation, the allocation may be transferred to another parcel, pursuant to the following provisions:

34.3.A Parcel Classification: The allocation transfer is from a parcel determined to be in Land Capability Districts 1a, 1c, 2, 3, or SEZ; shorezone tolerance districts 1, 2, 3, or 4; below the initial IPES line of 726, if applicable; or unsuitable for development due to the inability of the property to meet TRPA or local government development standards.

34.3.B Building Site: The receiving parcel has a building site that is determined to be in Land Capability Districts 4, 5, 6, or 7; or, if applicable, in the top rank under IPES, subject to the limitation in 34.3.C below.

34.3.C IPES Limitation: An allocation shall not be transferred to a parcel that is below the initial IPES line of 726 unless the number of vacant parcels in the top rank at the time of the proposed transfer is less than 1/2 the total inventory in that jurisdiction.

34.3.D Permissible Use: The receiving parcel is in a plan area or adopted community plan where residential uses are a permissible use on the receiving parcel.

34.3.E One Transfer: Subject to the limits in Chapter 33, an allocation may be transferred only one time and shall continue to count against the jurisdiction to which it was originally issued.

34.3.F Local Approval: For an inter-county transfer, the approval of affected local governments shall be obtained.

34.3.G Parcel Restriction: The sending parcel shall be restricted pursuant to Section 34.5 at the time the allocation is transferred.

TRPA Code of Ordinances

CHAPTER 34 - TRANSFER OF DEVELOPMENT 34-3

34.4 Transfer Of Existing Development: Certain elements of existing development may be transferred from one parcel or project area to another, if the receiving parcel is in a plan area or adopted community plan area, designated as a receiving area for existing development. Existing residential development may be

transferred to any plan area or adopted community plan where residential use is a permissible use. The transfer of existing development shall not be considered additional development and is exempt from the applicable allocation system.

34.4.A Eligibility: The following elements of existing development shall be eligible for transfer:

(1) Units Of Use: Units of use may be transferred within the same major use classifications e.g., residential, tourist accommodation, commercial, and recreation. The amount of use transferred shall be measured in appropriate units of use, e.g. residential units, tourist accommodation units, commercial floor area, and PAOTs.

(2) Land Coverage: Existing land coverage may be transferred pursuant to Chapter 20.

34.4.B Requirements: Transfers of existing development may be permitted subject to the following requirements: §

(1) The transfer shall be limited to the units of use existing on the parcel from which the development is to be removed;

(2) The use transferred shall be a permissible use on the receiving parcel as set forth in the plan area statement or adopted community plan;

(3) The receiving parcel shall comply with the site development provisions established by this Code and the plan area statement for the receiving parcel;

(4) The findings required for a special use in Chapter 18 shall have been made if the use transferred is a special use in the receiving area;

(5) The approval of affected local governments shall be obtained;

(6) The parcel from which the existing development is transferred shall be restricted pursuant to Section 34.5, no later than the time of commencement of construction of the related project;

(7) All facilities, including building and structures, shall be appropriate for removal considering conformance with TRPA plans and the Code, such as the provisions for historical structures, and affordable housing;

(8) The proposed transfer shall be evaluated for adverse impacts using the IEC and the addenda developed by TRPA for transfer and shall not be permitted if adverse impacts cannot be mitigated;

§ Amended 10/28/98

TRPA Code of Ordinances

CHAPTER 34 - TRANSFER OF DEVELOPMENT 34-4

(9) The receiving parcel shall have a building site that is determined to be in Land Capability Districts 4, 5, 6, or 7; or, if applicable, in the top rank under IPES unless:

- (i) There is a 25 percent or greater reduction in existing land coverage and restoration on the receiving parcel and there is no increase in vehicle trips, parking, cubic volume of the structures, or adverse impacts; or
 - (ii) The transfer of commercial, tourist, or residential units of use to a site inside a designated community plan area, is from sensitive lands to an equal or less sensitive land capability district, and a reduction of land coverage and restoration occurs at the receiving site or sending site, equal to 300 square feet of land coverage per tourist unit transferred, 1,200 square feet of land coverage per residential unit transferred, or one square foot per one square foot of land coverage of commercial floor area transferred; or
 - (iii) The transfer of commercial floor area from nonsensitive lands to a site inside a designated community plan area results in a reduction of land coverage and restoration on the receiving site or like sensitive lands in the watershed at a ratio of one square foot of transferred floor area to two square feet of land coverage reduced.
- (9) Existing residential development shall not be transferred to any parcel that is below the initial level defining the top rank under IPES (726) unless the number of vacant parcels in the top rank at the time of the proposed transfer is less than 1/2 the total inventory in that jurisdiction.

34.4.C Limitations: The following limitations apply to transfers of existing development:

- (1) Units of use transferred shall have been legally established.
- (2) Transfers of units of use shall not be permitted for development that has become derelict.

34.4.D Verification of Existing Residential Units of Use for Transfer or Banking:

Prior to transfer or banking, an existing residential unit of use shall be verified as legally established pursuant to the following criteria:

- (1) At a minimum, an existing residential unit of use shall contain cooking facilities, bathing and toilet facilities, and living and sleeping areas.
- (2) Residential units of use to be transferred or banked shall have been legally established as verified by County Assessor, local jurisdiction, and utility records:

TRPA Code of Ordinances

CHAPTER 34 - TRANSFER OF DEVELOPMENT 34-5

- (a) The existing residential unit shall have been assessed as such by the County Assessor's office as of October 15,

1986, except for residential units approved under Chapter 33.

(b) Permits and planning department records shall confirm that the unit is a permitted use and structure.

(c) To be verified as a legally established unit of use, all utility service connections (e.g., water, sewer, gas, and electrical service) must have been legal as of October 15, 1986, except for residential units approved under Chapter 33.

34.5 Restriction Of Parcels: Restriction of parcels for the purposes set forth in this Code, shall comply with the following requirements:

34.5.A Land Coverage: Parcels from which land coverage has been transferred are subject to provisions of Chapter 20.

34.5.B Residential Allocation Transfer: Parcels from which residential allocations have been transferred shall be permanently restricted from residential development.

(1) For parcels in private ownership, deed restrictions, or other covenants running with the land, permanently restricting the parcel from residential development shall be recorded by the owner.

(2) For parcels in public ownership, the public agency shall provide TRPA with binding assurance that the parcel has been permanently restricted from residential development.

34.5.C Existing Development Transfer: For parcels from which units of existing development have been transferred, the structures or facilities accounting for that use shall be removed or modified, consistent with the transfer, and the land restored and maintained in as natural a state as is possible, so as to eliminate the units transferred.

34.5.D Payment Of Bonds and Freedom From Nuisance: The sending parcel shall be free of nuisance and hazard. All bonds, assessments, back taxes, fees and liens affecting the parcel to be restricted pursuant to a transfer under this chapter shall be paid in full.

34.5.E Transfer Of All Existing Development From Sensitive Lands: Parcels in Land Capability District 1a, 1b, 1c, 2, or 3, or SEZ, from which all units of existing development have been transferred, shall be restored pursuant to Subsection 34.5.C and shall be permanently restricted to open space by a deed restriction, or other covenant running with land, recorded by the owner.

TRPA Code of Ordinances

CHAPTER 34 - TRANSFER OF DEVELOPMENT 34-6

34.5.F Transfer Of Some Existing Development From Sensitive Lands: Parcels in Land Capability District 1a, 1b, 1c, 2, or 3, or SEZ, from which less than all units of existing development have been transferred, shall be

permanently restricted from transferring development back to the parcel by deed restriction, or other covenant running with the land, recorded by the owner.

34.5.G Transfer Of Existing Development From Non-Sensitive Lands: Parcels located in Land Capability Districts 4, 5, 6, or 7, from which units of existing development have been transferred, shall document the transfer and be restricted by deed restriction, or other covenant running with the land, recorded by the owner. The restriction shall limit the units of use to any remaining, until or unless:

(1) A transfer back to the parcel, is approved by TRPA pursuant to this chapter; or

(2) An allocation is obtained pursuant to Chapter 33.

34.5.H Development Rights Transfers From Sensitive Lands: Parcels in Land Capability District 1a, 1b, 1c, 2, or 3, or SEZ, from which all residential development rights have been transferred, shall be permanently restricted from residential development.

(1) For parcels in private ownership, deed restrictions, or other covenants running with the land, permanently removing the development rights from the parcel shall be recorded by the owner.

(2) For parcels in public ownership, the public agency shall provide TRPA with binding assurance that the development rights have been permanently removed.

34.5.I Development Rights Transfers From Non-Sensitive Lands: Parcels located in Land Capability Districts 4, 5, 6 or 7, or parcels at or above the initial IPES line (726), from which all residential development rights have been transferred, shall be restricted from constructing new residential units by deed restriction, or other covenant running with the land, recorded by the owner, but shall be eligible to receive future transfers of coverage or units of use if otherwise permitted in (1) or (2) of Subsection 34.5.G above.

34.5.J Consolidation: Where appropriate, TRPA may approve a consolidation of parcels in lieu of a deed restriction for a transfer of a residential development right or allocation, or in addition to a deed restriction, to accomplish the restriction of the parcel consistent with this chapter and other applicable Code provisions.

34.5.K Relation To Chapter 38: TRPA shall record the appropriate changes created by transfers in its records pursuant to Chapter 38.

34.5.L Sequential Transfers: Residential development rights and allocations may be transferred independently provided that when both the residential development right and an allocation have been transferred

TRPA Code of Ordinances

CHAPTER 34 - TRANSFER OF DEVELOPMENT 34-7

from a parcel, the parcel shall be permanently restricted to open space. Land coverage transfers may also occur independently subject to the provisions of Chapter 20.