TRPA LAND COVERAGE 101

PRESENTATION OUTLINE:

- **I. LAND COVERAGE**
- **II. LAND CAPABILITY: IPES & BAILEY**
- **III. BASE ALLOWABLE COVERAGE, MAXIMUM COVERAGE**
- **IV. LAND CAPABILITY VERIFICATION (LCV) PROCESS, SEZ DELINEATION**
- **V. EXCESS COVERAGE MITIGATION**
- **VI. LAND COVERAGE VERIFICATION**
- **VII. QUESTIONS**

I. LAND COVERAGE

What is Coverage? Land coverage includes human-made structures, compacted soils, or other permanent disturbance that prevent 75% of water infiltration and native vegetation growth on a parcel *(referred to as impervious surfaces)*.[1] **Main TRPA Code of Ordinances Chapters with relevant information: Chapter 30 (Land Coverage) and Chapter 53 (Individual Parcel Evaluation System – IPES) and web: http://www.trpa.org/permitting/land-coverage/ .**

Types of Land Coverage:

- **Hard Coverage: Human-made structures** that prevent water infiltration from directly reaching the land surface underlying the structure. *Examples: roofs, decks, concrete, roads, driveways, parking lots, tennis courts, patios.*
- **Soft coverage: Compacted soil areas without structures** where substantial infiltration is prevented (at least 75%). *Examples: dirt road, dirt parking area.*
- **Potential Coverage:** Allowable coverage that does not physically exist. *Example: An undeveloped parcel within the non-sensitive land capability class 5 (allowed 25% of base coverage).*
- **Legally Existing coverage:** Coverage created before February 10, 1972 (grandfathered) or coverage created after February 10, 1972 with a valid permit *(pursuant to either TRPA Ordinance No. 4, as amended, or other TRPA approval).*
- **Verified coverage:** Field verification of the legally existing land coverage by TRPA staff.
- **Unverified Coverage:** Existing coverage not legally established.

[1] *Detailed Land Coverage Definition in Ch. 90 TRPA Code: "A man-made structure, improvement, or covering, either created before February 10, 1972, or created after February 10, 1972, pursuant to either TRPA Ordinance No. 4, as amended, or other TRPA approval, that prevents normal precipitation from directly reaching the surface of the land underlying the structure, improvement, or covering. Such structures, improvements, and coverings include, but are not limited to, roofs, decks, surfaces that are paved with asphalt, concrete, or stone, roads, streets, sidewalks, driveways, parking lots, tennis courts, patios; and 2) lands so used before February 10, 1972, for such uses as for the parking of cars and heavy and repeated pedestrian traffic that the soil is compacted so as to prevent substantial infiltration. A structure, improvement or covering shall not be considered as land coverage if it permits at least 75 percent of normal precipitation directly to reach the ground and permits growth of vegetation on the approved species list." Chapter 30 TRPA Code outlines the regulations for land coverage in the Tahoe Region.*

Coverage Exemptions

The 2012 Regional Plan Update adopted exemptions and partial exemptions for non-permanent structures, ADA compliance, pervious coverage and pervious decks, non-motorized public trails, among others (see Code Section 30.4.6 for different exemptions from the calculation of Land Coverage).

Eligibility requirements for above coverage exemptions:

- *Located within high capability land (Land Capability Classes 4-7, IPES Score 726 or higher)*
- *All non-verified (illegal) land coverage removed*
- *Certificate of completion for water quality Best Management Practices (BMPs), or BMPs installed as part of the project*
- *Mitigation of all Excess Coverage through payment of mitigation fees*
- *All coverage exemptions must be approved through either the Qualified Exempt or permit application process.*

Square Foot Limitation Details:

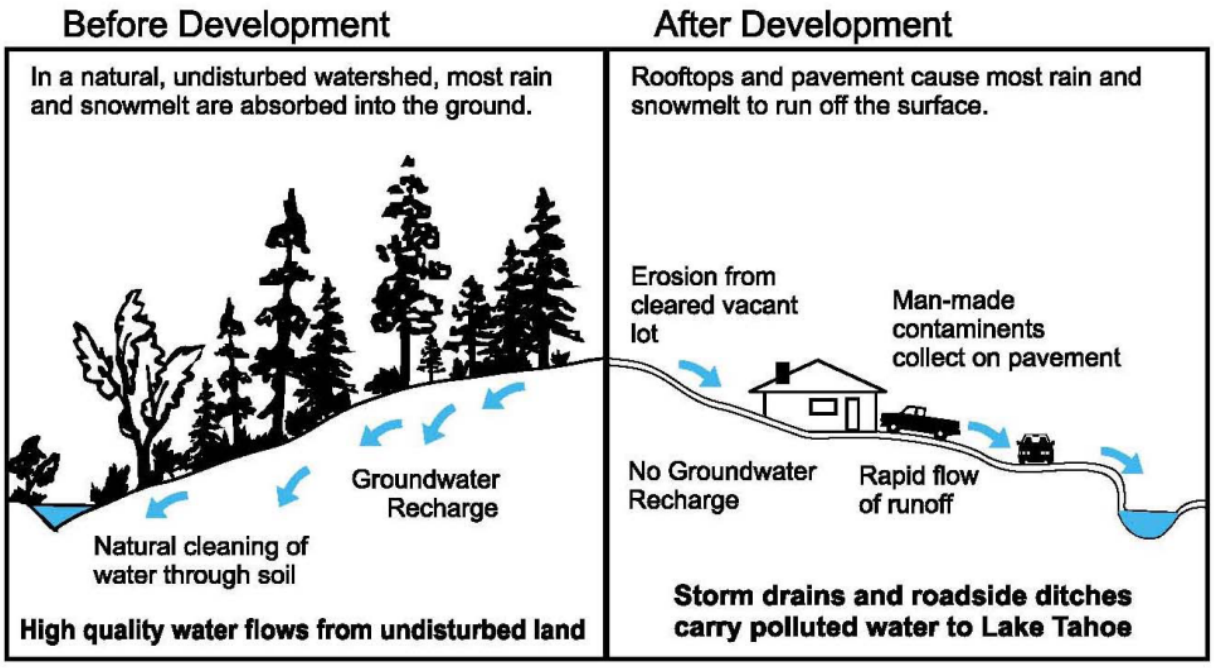
- *Maximum amount of combined coverage exemptions may not exceed 10% of non-sensitive lands*
- *Non-permanent structures (shed, greenhouses, etc.) may not exceed 120 square feet or 2% of non-sensitive land*
- *Areas paved with pervious material can receive a 25% reduction in coverage; cannot exceed maximum combined exemption limits*
- *Pervious decks may not exceed 5% of non-sensitive land area or 750 square feet (whichever is less).*

WHY REGULATE COVERAGE?

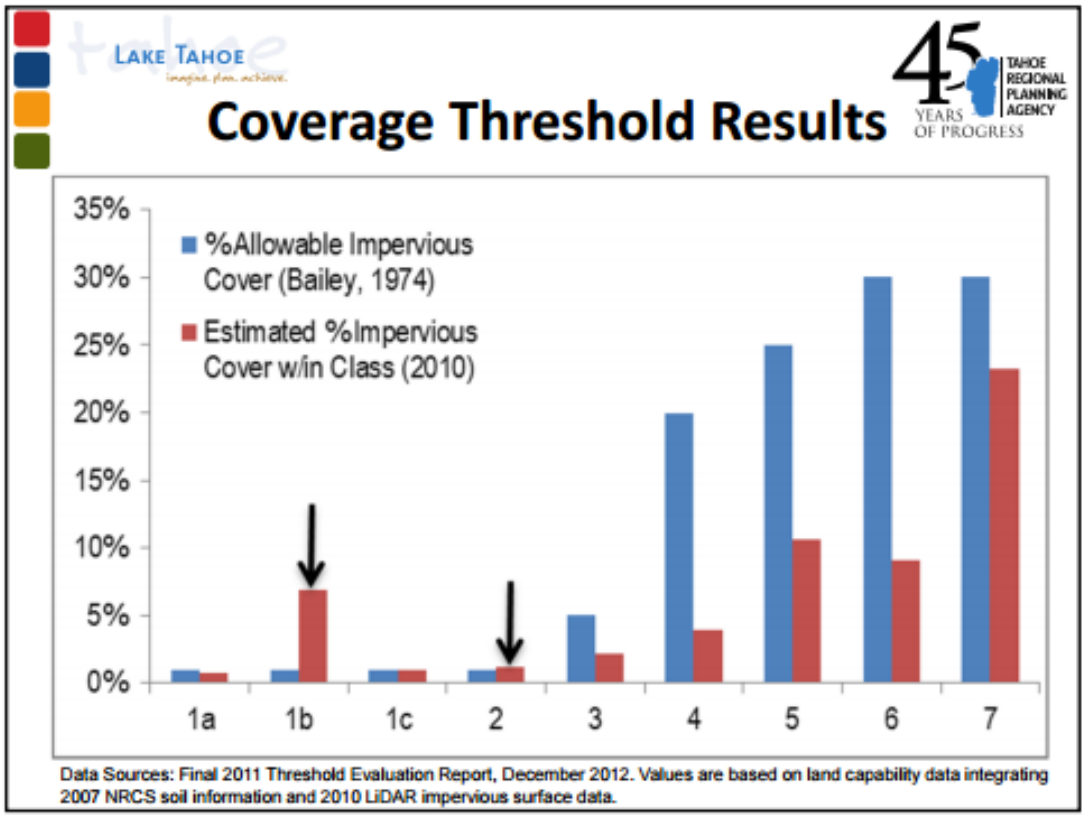
The reduction of coverage and maintaining open space in the Tahoe watershed is a priority since it affects water quality and clarity by decreasing soil availability to infiltrate water. Coverage effects:

- **Increases surface water runoff**
- **Increases soil erosion**
- **Contributes to the delivery of pollutants and fine sediments to receiving waters (Lake Tahoe)**
- **Reduces groundwater recharge**

Limiting coverage and maintaining open space in a watershed is a recognized method for improving water quality since it maximizes the amount of land that can receive and infiltrate water and allows plants to filter nutrients and minimize water runoff (acts like a sponge).



Soil Conservation Thresholds, Coverage Reduction, Sensitive Land Restoration:
TRPA maintains strict Soil Conservation Threshold Standards for land coverage, especially on sensitive lands. Data indicates that existing coverage on Class 1b/SEZs and Class 2 (steep lands) is in excess of the adopted Threshold Standard.



Water Quality:

Restoring Lake Tahoe's exceptional water quality has always been a top priority for TRPA. Science associated with the Lake Tahoe TMDL identifies the pollutants that are primarily responsible for water quality losses - fine sediment particles, nitrogen and phosphorus - as well as the major sources of those pollutants.

The largest source categories are the urban areas (developed areas and roads). Several urban areas are over-covered with aging buildings/infrastructure (legacy development) and inadequate stormwater Best Management Practices on site. Consequently, the removal of coverage, restoration of environmentally sensitive lands, and support of environmentally beneficial redevelopment can be an effective approach for bolstering water quality.

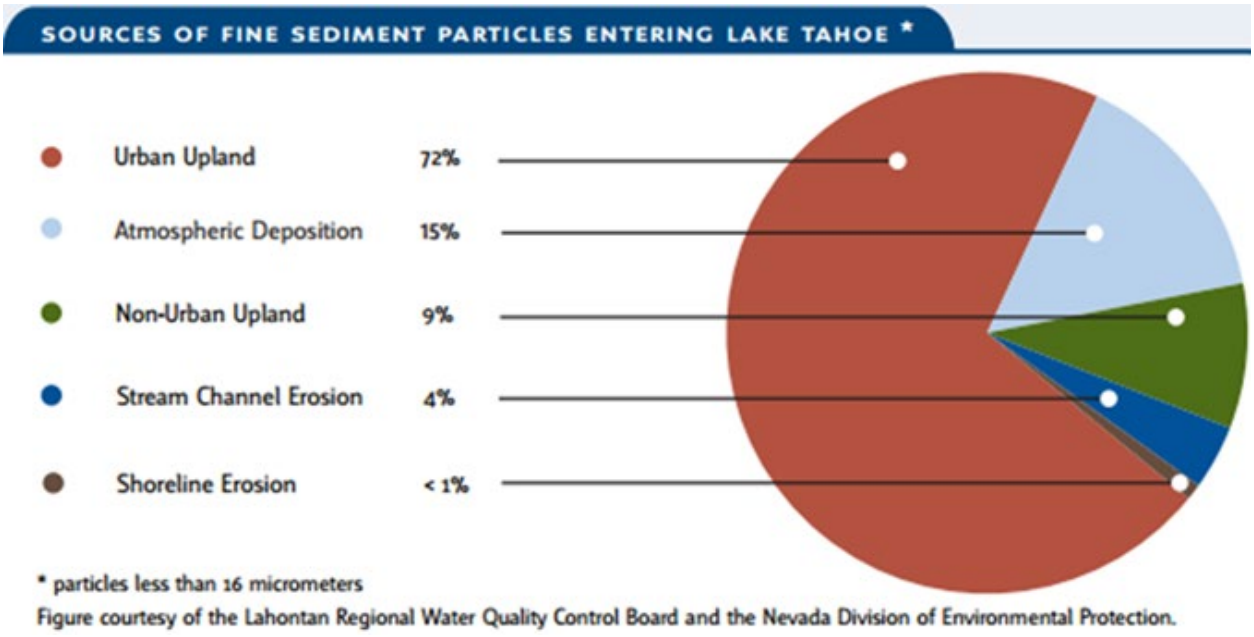
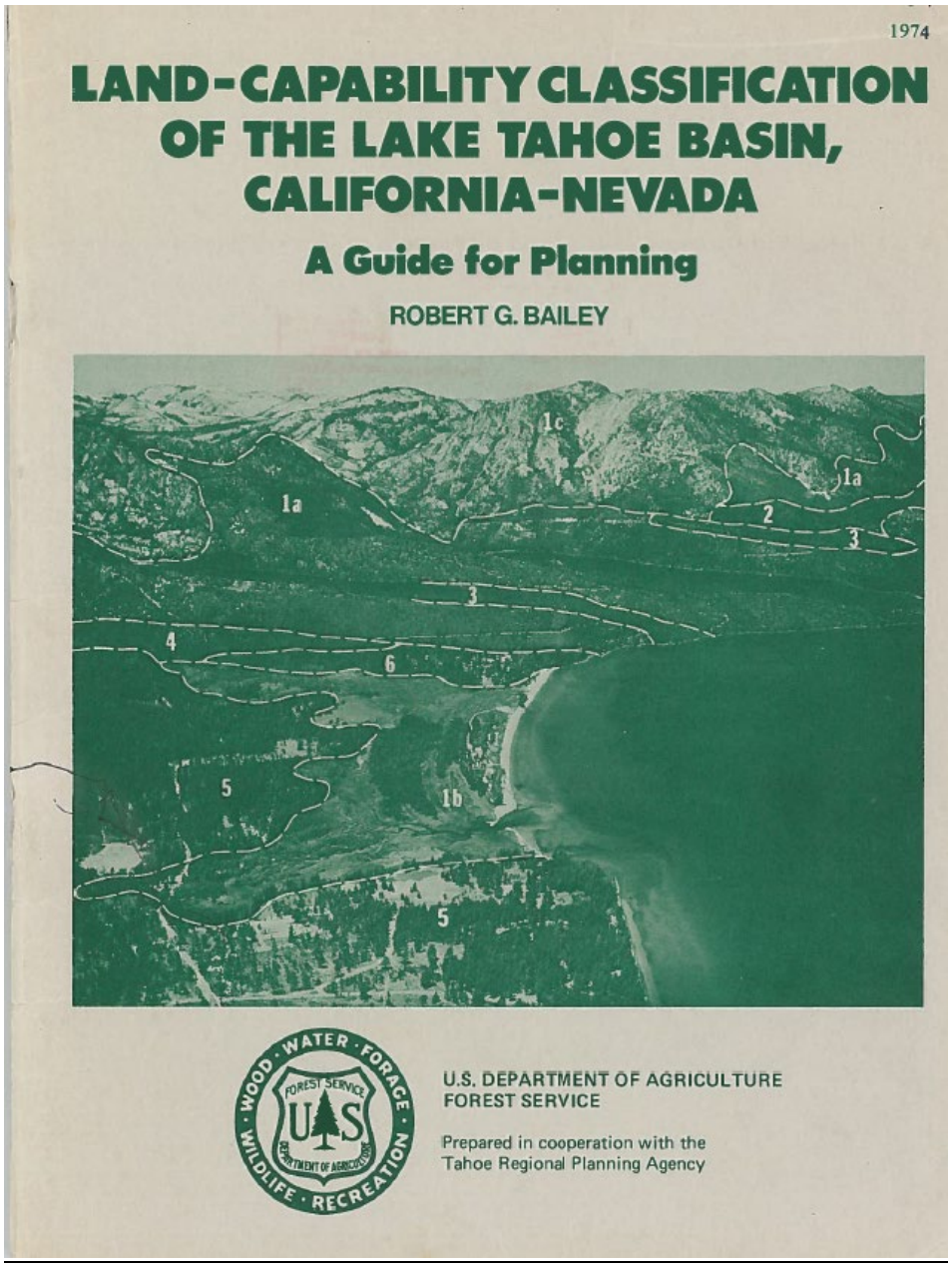


Figure courtesy of the Lahontan Regional Water Quality Control Board and the Nevada Division of Environmental Protection.

II. LAND CAPABILITY

TRPA regulates the ability to cover land in the Region through a set of coverage rules that differ by land capability, property location, and whether the lot is vacant or previously developed. Land capability is a classification system based on soils, hydrology, geomorphology, and vegetation that determines the amount of development a site can support without experiencing soil or water degradation *(The Land-Capability Classification of the Lake Tahoe Basin, California-Nevada, A Guide for Planning by Bailey, 1974; see next page for more detail).*



Bailey Land Capability Classification System

The Bailey Land Capability System outlined in Section 30.4.1 of TRPA Code using the coefficients set forth in *Land Capability Classifications of the Lake Tahoe Basin*, Bailey, R. G., 1974 ("Baily Report"). **Soils are ranked classes 1-7 based on their sensitivity; classes 1-3 are sensitive with very limited development potential and 4-7 are developable.**

Background:

The US Forest Service and TRPA developed the Bailey land capability system in the early 1970s based primarily on the official USDA soils maps for the Tahoe Region. Each soil type was assigned to a land capability class ranging from 1 to 7, with capability 1 being the most environmentally fragile and sensitive to development. Wherever land was found to be influenced by a stream or high groundwater, it was assigned to capability 1b, also known as Stream Environment Zone, or SEZ. Applying for a Land Capability Verification is often the best way to find out how much coverage is allowed on residences built before 1987 and on all commercial and multi-family parcels.

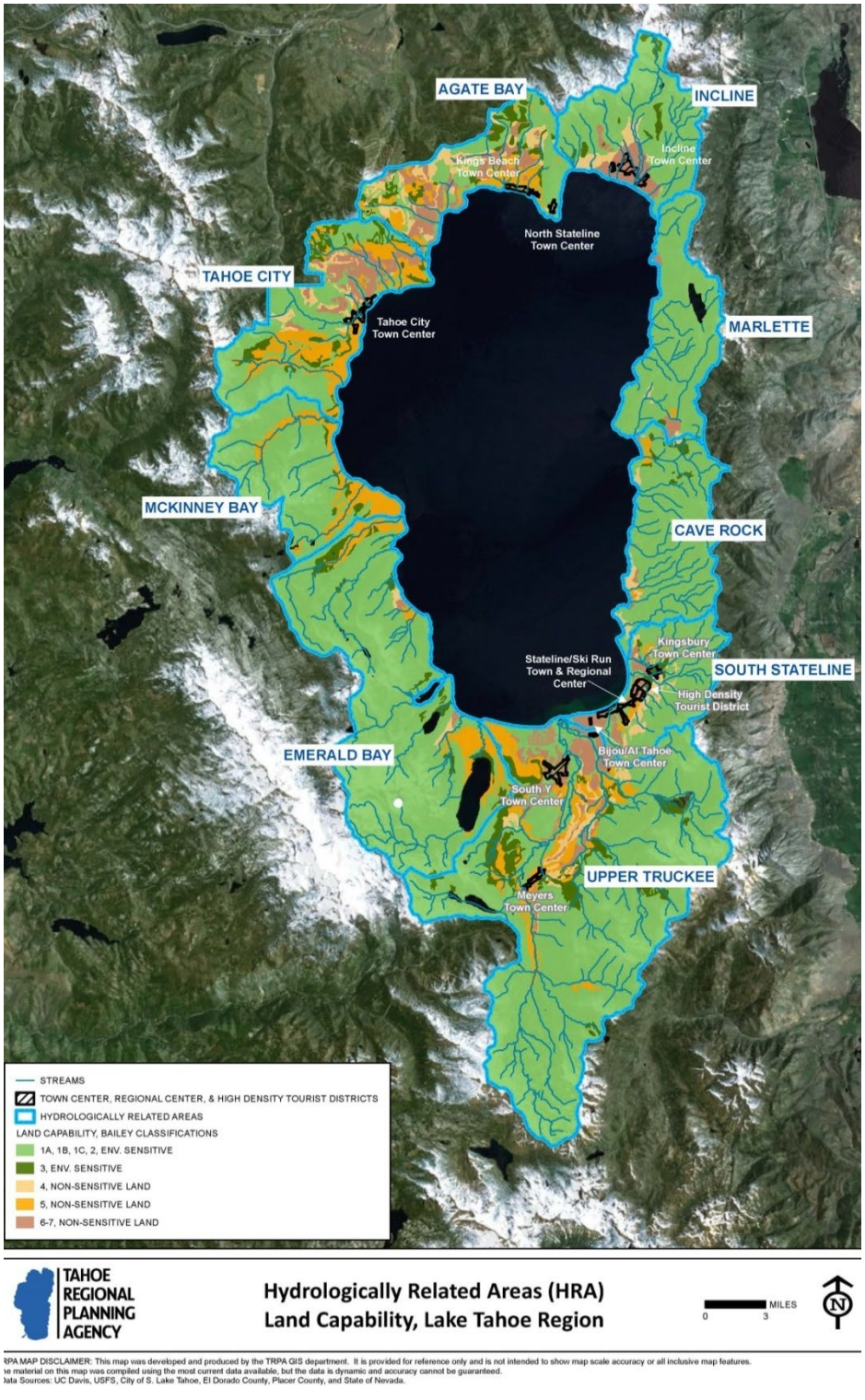
BAILEY LAND CAPABILITY DISTRICT	DESCRIPTION	SLOPE	POLICY	BASE ALLOWED LAND COVERAGE	MAX COVERAGE (BASE + TRANSFERRED COVERAGE)
ENVIRONMENTALLY SENSITIVE LAND CAPABILITY CLASSIFICATIONS					
1a	Very shallow soils, principal source of sediment that causes damage to streams, water storage facilities, and structures. Erosion control and diminution of the velocity of runoff are the problems.	Extensive areas of steep mountainous land.	A maximum growth of vegetation should be established and maintained on these areas for soil stabilization.	**1%**	N/A
1b	Includes stream channels (Stream Environment Zones), marshes, flood plains, and meadows. These lands are naturally wet and poorly drained and are critical areas for management and protection of water resources.	Low-lying	Policy for the use of these lands should reflect their value as floodwater and sediment storage areas, wildlife habitat, and fish spawning grounds.	**1%**	
1c	Includes the recently glaciated crests of the Sierras and other rocky areas with very shallow soils. The harsh climate and lack of soil severely limit plant growth and wildlife. Biotic communities exist in a delicate natural balance.	Extensive areas of mountainous uplands having little or no soil mantle.	The present vegetation cover should be protected from fire and undue disturbance. The chief value of this land is for watershed protection.	**1%**	
2	Careful grazing and logging practices are necessary to avoid loss by water erosion. This type of land is limited in extent and lies in scattered areas at the base of steep mountain slopes and along entrenched stream valleys.	Slope greater than 30%	Suited only for limited recreation, restricted grazing, and selective timber harvest because of erosion hazard or very steep slopes.	**1%**	
3	These lands consist of limited areas of moderately steep mountain slopes scattered throughout the basin at lower elevations.	The slope of this land varies from 9% to 30%, moderate erosion hazard.	Well suited for forestry and low-density housing. Development here must be carefully designed and carried out to keep the land permanently productive.	**5%**	
BAILEY LAND CAPABILITY DISTRICT	**DESCRIPTION**	**SLOPE**	**POLICY**	**BASE ALLOWED LAND COVERAGE**	**MAXIMUM COVERAGE (BASE + TRANSFERRED COVERAGE)**

NON-SENSITIVE LAND CAPABILITY CLASSIFICATIONS					
4	These lands of limited extent occur as scattered areas of moderately steep mountain slopes.	Moderately sloping, moderate erosion hazard	Well suited for forestry and low-density housing. Careful design and construction practices must be followed.	**20%**	**50%,** Base + Transfer through a transfer program for Tourist Accommodation Facilities, Multi-Residential Facilities of 5 Units or More, Public Service Facilities, and Recreational Facilities in a Community Plan. Do not increase allowed coverage within 300 ft. of Tahoe. **70%**, for Commercial and Mixed Use Facilities in a Community Plan and facilities in a Center of a conforming Area Plan. Coverage shall be transferred at a gradually increasing ratio from 1:1 to 2:1, as further specified in the Code of Ordinances. Do not increase allowed coverage within 300 ft. of Tahoe.
5	Maintenance and improvement of drainage will be a continued need on much of this land. This land is chiefly located in flat-lying areas around the margin of the lake.	Flat to moderately sloping and has little or no surface erosion problems.	Moderately well suited for urbanization, forestry, and intensive recreation. Some limitation of use is required by slope and runoff hazards, as improper use and management may cause severe gully erosion.	**25%**	
6	Made up mostly of gently sloping land around the north side of the basin.	Gently sloping	Well suited for urbanization, active recreation, and forestry uses. It has some limitations such as minor slope or drainage problems, which influence the manner of development.	**30%**	
7	The soil is deep and supports a dense forest cover. Drainage is good and the soil has a good capacity for supplying moisture and nutrients for plant growth. Much of this land is in the South Lake Tahoe area.	It is nearly level and has little or no erosion problems.	Well suited for urbanization, active recreation, or forestry uses.	**30%**	

Land Capability Mapping

Bailey overlay maps or 'mapped land capability' refers to the regional-scale (1:400 ft.) **maps based on the 1974 Tahoe Basin Soil Survey (Bailey). These overlay maps give an estimate of the geography land capability classifications at a regional scale, but they do NOT verify land capability at the parcel level** (they are equivalent to the 40,000 foot perspective). **The terms "overlay" and "mylar" refers to mapping tools developed not using GIS.*

These overlay maps have been digitized into GIS *(see example on the right).* **However, over time the detail and accuracy related to soils, topographic, and hydrology has improved along with GIS technologies. Our challenge is how best to handle these updates.**



Individual Parcel Evaluation System (IPES)

- IPES system applied to all new single family development 1987 to present day pursuant Code **Ch. 53.**
- Parcels evaluated on 8 criteria: relative erosion hazard, runoff potential, access, presence of stream environment zones, condition of local watershed, ability to revegetate, need for water quality improvement projects, distance from the lake.
- Properties to be developed for non-residential purposes not eligible for IPES score; must be reviewed through Land Capability Verification process to determine Bailey Score.
- **Scores range 0 (100% SEZ) to 1150**. Scores less than 726 are sensitive. Scores greater than 726 are higher capability.
- The line was initially set at 726, but was designed to be lowered as the amount of sensitive lots decreased and more water quality projects were completed in each jurisdiction.
- Over the years, jurisdictions have met various environmental and development criteria to lower buildable score to 1 in all jurisdictions except Placer County. Placer County remains at buildable score of 691.
- A water Quality report is done each year to assess completed water quality projects; additional points assigned to parcels within the vicinity of these projects.
- IPES scores cannot be challenged or appealed outside of the designated time window (180 days from determination of results).
- Placer County parcels within 10% of buildable score are eligible for "buy-up program," in which a $672 per point mitigation fee is paid in order to increase the score to 726 (max 72 points). Money is used to fund off-site water quality improvement projects.
- The percent of allowable coverage is applied to the 1/3 acre "most likely building site."
- Parcels larger than 1/3 acre will be allotted 1% coverage for the remainder of the site, unless a Determination of Allowable Coverage evaluation is conducted.

Table 1. Maximum Allowable Points for the IPES Scoring Elements

Relative Erosion Hazard	450 points
Runoff Potential	200 points
Access Difficulty	170 points
Disturbance to Stream Environment Zones (Wetlands)	110 points
Watershed Condition	70 points
Ability to Revegetate	50 points
Needed Erosion Control Improvements in Vicinity of Parcel	50 points
Proximity to Lake Tahoe	50 points
Maximum Total	1150 points

Example IPES Evaluation Summary:

IPES SCORE for parcel (APN) 092-010-28 **Active** **707** Placer

SCORES FOR EACH IPES SCORING ELEMENT - See details on attached page

	MAXIMUM POINTS	IPES POINTS
Relative Erosion Hazard	450	345
Runoff Potential	200	98
Degree of Difficulty to Access Building Site	170	40
Disturbance in SEZ for Utility Connection	110	110
Condition of Watershed	70	67
Ability to Revegetate	50	25
Water Quality Improvements in Vicinity of Parcel	50	12
Proximity to Lake	50	10
Raw IPES Score	1150	707
Size factor for parcels less than 5,000 sq. ft. outside SEZ		1.00
Size factor for parcels less than 10,000 sq. ft. outside SEZ		1.00
IPES SCORE (MAXIMUM 1150 POINTS)*		**707**

* The IPES score is calculated by multiplyig the Raw IPES score by both size factors.

PARCEL SIZE, STREAM ENVIRONMENT ZONE (SEZ) AREA AND COVERAGE COEFFICIENT

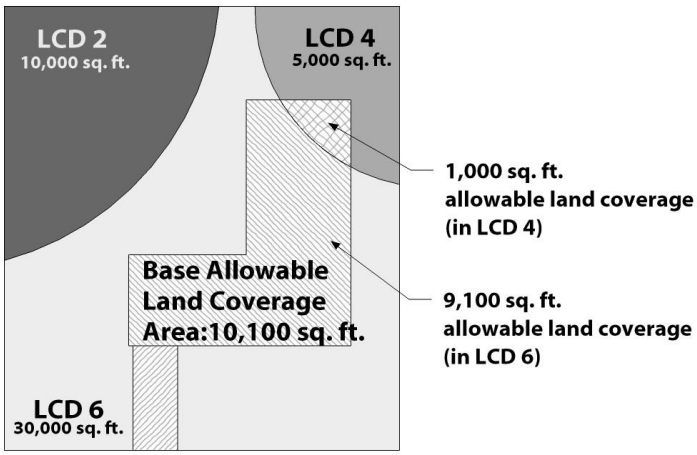
Parcel Size:	192535 Sq. Ft.
SEZ Area:	135 Sq. Ft.
SEZ Setback Area:	2700 Sq. Ft.
Area of Parcel outside of SEZ:	192400 Sq. Ft.

IPES Coverage Score: **443** corresponds to **24** % Allowable Base Land Coverage

III. BASE ALLOWABLE COVERAGE, MAXIMUM (TRANSFERRED) COVERAGE

Base Allowable Land Coverage

- The amount and placement of **coverage allowed by right on a site is determined based on either Bailey or the IPES** land capability classifications (pursuant Code Ch. 30 and 53).
- Landowners are permitted base allowable **coverage between 1 and 30% of their property area.**



No additional land coverage or other permanent land disturbances are permitted in Sensitive Lands (LC Districts 1a, 1c, 2, 3, and 1b) except for exemptions (See Section 30.5.1).

Example: Option 2 (Base Allowable Land Coverage – Greater Than 1/3 Acre)

Using the same example project in Option 1 above, Option 2 would be calculated as follows:

Given that:

- The parcel contains Land Capability Districts 2, 4, and 6;
- Land Capability District 4 is the lowest capability district within the 4 through 7 range; and
- The total area encompassed by Land Capability Districts 4 through 7 is 35,000 sq. ft. (5,000 + 30,000); and
- 20% is the percentage coverage figure for Land Capability District 4;

Then: The base allowable land coverage area for Land Capability District 4 is 35,000 x .20 = 7,000 sq. ft.

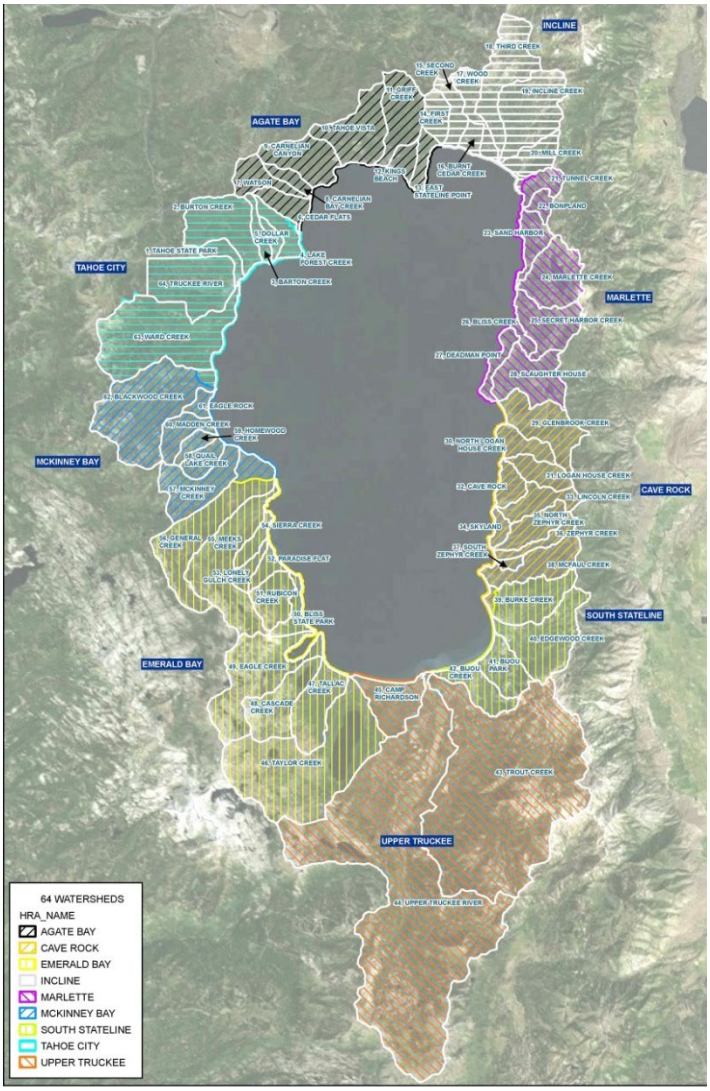
Finally: Add the aggregate base land coverage of all land in Land Capability Districts 1 through 3 (100 sq. ft.) to the Land Capability District 4 base land coverage (7,000 sq. ft.), which results in a final base allowable land coverage of 7,100 sq. ft., which may be placed in any location within the Land Capability Districts 4 and 6.

Maximum (Transferred) Coverage

Landowners could transfer additional coverage above the base allowable up to maximum, if the property is eligible (pursuant Code Section 30.4.2).

Examples of maximum coverage allowances:

- Linear public facilities and public health/safety facilities can gain additional coverage based on the minimum amount needed to achieve their public purpose (no specific coverage limit).
- Transfer of land coverage for highways, streets, and roads may be permitted, if the appropriate findings area made. Same for ADA infrastructure and for water control infrastructure (no specific coverage limit).



Coverage transferred from sensitive land must be permanently retired (see Code Section 30.4.3.G.) **and restored to a natural state or near natural state** (see also Code Section 51.6).

Transfers of coverage are allowed within the same Hydrologically Related Area (in other words, the sending and receiving areas need to be located in the same HRA, see Code Section 30.4.3.E).[2] However, a new amendment was adopted at the Dec. Governing Board meeting.

[2] *The 1987 Regional Plan partitioned the Region into a series of nine HRAs and the geographic extent of these HRAs is roughly based on the combination of several adjacent watersheds and negotiated adjustments primarily to allow for adequate coverage transfer opportunities in each HRA. The HRA concept description is provided in the 1984 EIS for the 1987 Regional Plan (p. II-17), which states that "[t]he term "related hydrologic unit" has not yet been specifically defined. However, the Agency will limit transfers of coverage to a reasonable distance from the receiving site, so that the effect on water quality of coverage within the area is no worse than if the development were confined to the respective parcels."*

Land Coverage Transfer Eligibility

Land coverage can only be transferred between parcels in conjunction with an approved project, and there are specific eligibility requirements. **The sending parcel must be equally or more sensitive than the receiving parcel** (see table below for detail).

*Rule of relative sensitivity.

RECEIVING PARCEL

SENDING PARCEL		BAILEY CLASSIFICATION					IPES SCORE	
		1 – 3*	4	5	6	7	Above 725	At or below 725
IPES SCORE	At or below 725 (Land Capability class 3 or lower)	N/A	E	E	E	E	E	E**
	Above 725 (Land Capability class 4-7)	N/A	E	E	E	E	E**	N
BAILEY CLASSIFICATION	7	N/A	N	N	E	E	E	N
	6	N/A	N	N	E	E	E	N
	5	N/A	N	E	E	E	E	N
	4	N/A	E	E	E	E	E	N
	3	N/A	E	E	E	E	E	E
	2	N/A	E	E	E	E	E	E
	1c	N/A	E	E	E	E	E	E
	1b	N/A	E	E	E	E	E	E
	1a	N/A	E	E	E	E	E	E

E = Eligible for Transfer

N = Not Eligible for Transfer

N/A = Not Applicable

* No new coverage is allowed on residential lots with Bailey classifications 1-3.

** IPES Score of receiving parcel must be equal to or higher than the sending parcel.

New Coverage Transfers Across HRAs Amendment: Hard/soft coverage transfers would be allowed across HRAs only if:

1. The sending site includes existing coverage (such as parking lot) located on sensitive lands (such as an SEZ).
2. The receiving site is high capability land located further than 300 ft. of the Tahoe highwater mark.

Tip: See Bailey Land Capability table (~ p.8) for base allowable coverage and maximum allowable coverage percentages by land capability classifications.

A. **General Standards Applicable in All Locations**

1. **Residential Facilities (One to Four Units)**

The maximum land coverage allowed on a parcel for residential facilities of four units or less shall be the land coverage allowed pursuant to the coefficients in Table 30.4.1-1, or as follows, whichever is greater:

a. **Maximum Parcel Coverages**

TABLE 30.4.2-1: MAXIMUM PARCEL COVERAGE

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
14,001 - 16,000	2,900 sq. ft.
16,001 - 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.

IV. LAND CAPABILITY VERIFICATION (LCV) PROCESS, SEZ DELINEATION

To determine the Bailey score for an individual parcel, TRPA staff field verifies whether the slope and soil type match the "mapped" conditions described in the Bailey Report. Land Capability Classes may be adjusted if the observed slope differs from the mapped conditions, but must stay within the same soil group, as depicted in the following table. Under the Bailey system, all slopes greater than 30% are automatically earn a Class 1a designation, with 1% base allowable coverage.

Map Symbol	Soil Name	Slope Range	Capability Class	Percent Allowable Coverage
CaD	Cagwin-Rock Outcrop complex	5 to 15%	4	20%
CaE	Cagwin-Rock Outcrop complex	15 to 30%	2	1%
CaF	Cagwin-Rock Outcrop complex	30 to 50%	1a	1%
JwD	Jorge-Tahoma very stony sandy loam	2 to 15%	6	30%
JwE	Jorge-Tahoma very stony sandy loam	15 to 30%	4	20%
JwF	Jorge-Tahoma very stony sandy loam	30 to 50%	2	1%

Land Capability Challenges

If it is believed that the soil type or land capability class is misclassified, TRPA or the property owner can initiate a Land Capability Challenge. Through this process a thorough investigation of the soil is conducted using test pits, auger holes, or cut banks. As a result, it may be determined that the soil belongs to another one of the soils groups named in the Bailey Report (e.g. Cagwin to Jorge-Tahoma), or that an unnamed soil exists. A new land capability class is then determined by looking at the characteristics of the soil, the mapped geomorphic unit, slopes, and any stream environment zone areas.

A parcel may contain several land capability classes, depending on variations in slope and presence of any stream environment zone areas.

Setbacks are applied to the area around a Stream Environment Zone and the **Backshore Boundary (53.10.9).** No development is allowed within these setback areas.

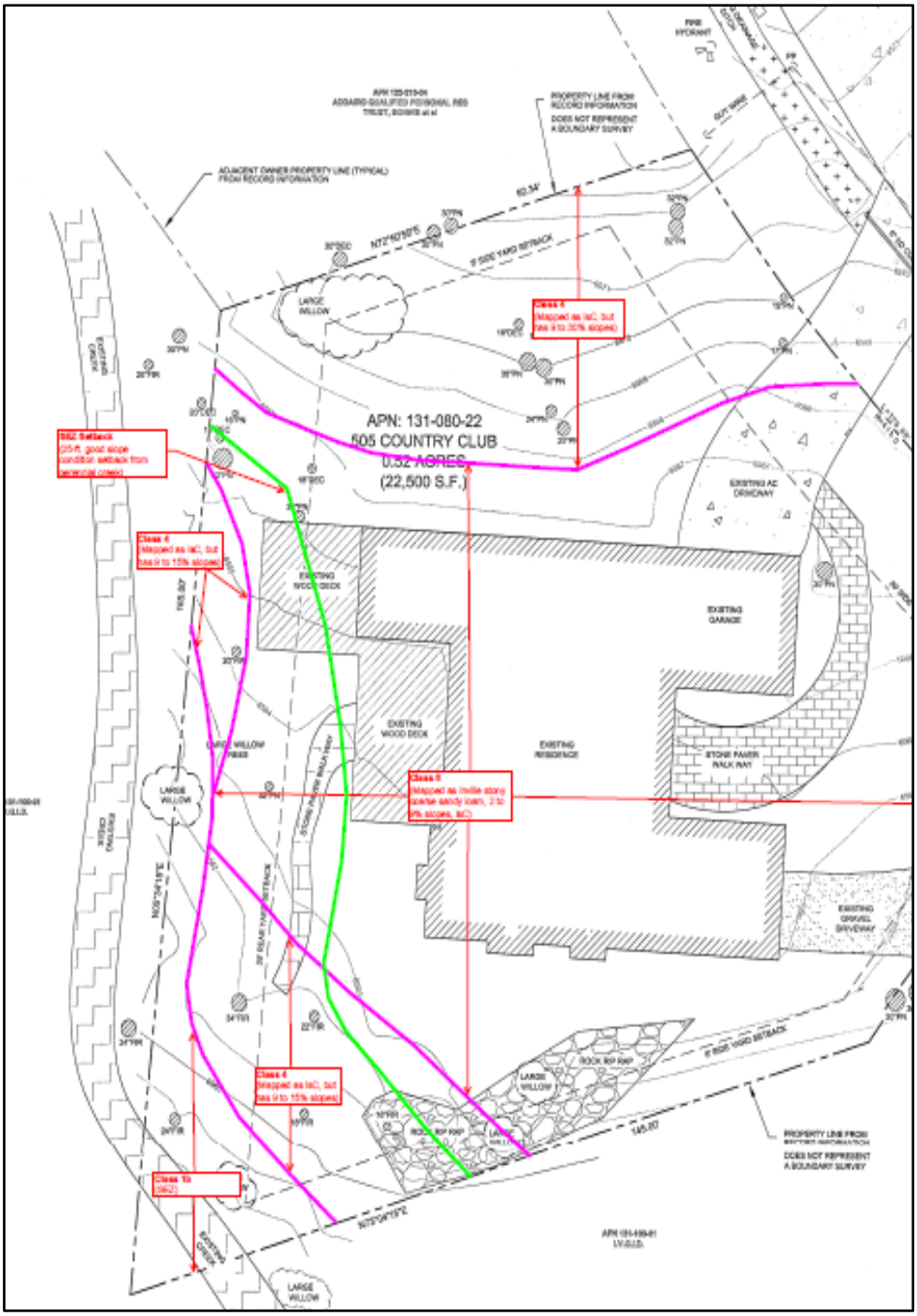
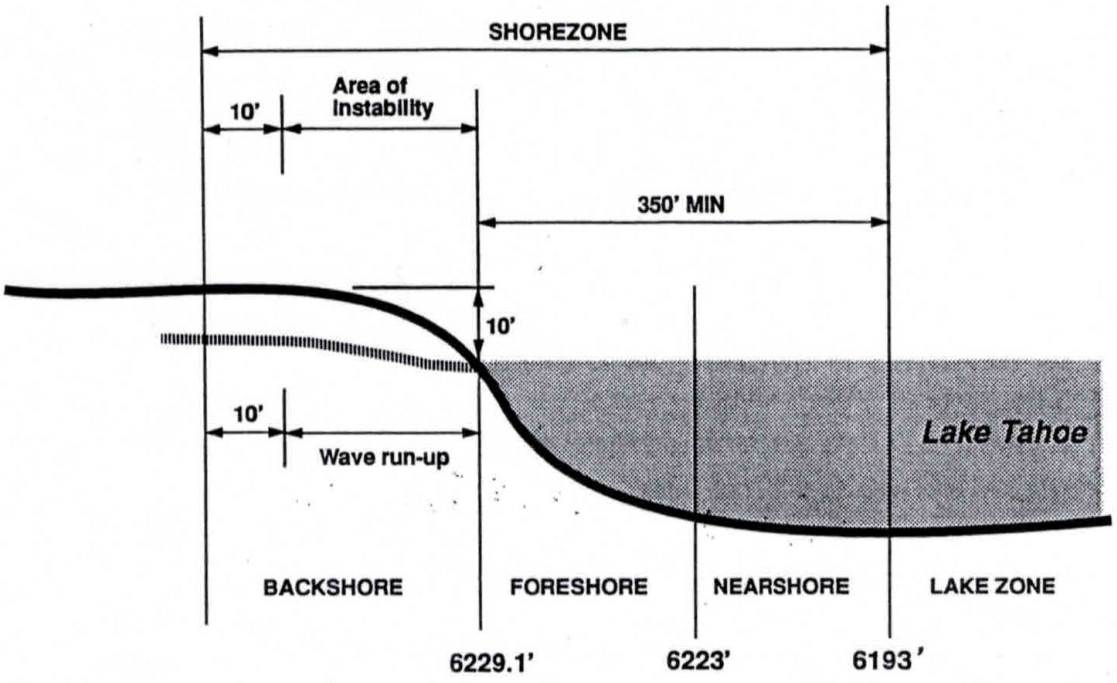


Illustration of Backshore:



SHOREZONE =

NEARSHORE
+
FORESHORE
+
BACKSHORE
•Area of Instability (1.5 X (10')) + 10
•Wave run-up

STREAM ENVIRONMENT ZONES (SEZS)

Need 1 Key Indicator for SEZ Identification (Pursuant Code Section 53.9.1):

1. Evidence of surface water flow but not including rills or man-made channels
2. Primary riparian vegetation
3. Near surface groundwater
4. Lakes or ponds
5. Beach soil; or approved alluvial soils

In absence of above, need 3 of the following Secondary indicators:

1. Designated floodplain
2. Groundwater between 20 – 40”
3. Secondary riparian vegetation; or
4. Approved alluvial soils

SEZ identification can be complex on developed sites.

Examples of Primary SEZ Vegetation

Willow thicket	
Bedstraw	*Galium bifolium*
Columbine	*Aquilegia formosa*
Creek dogwood	*Cornus californica*
Groundsel	*Senecio triangularis*
Lupine, Washington	*Lupinus polyphylus*
Mountain alder	*Alnus tenuifolia*
Ranger’s buttons	*Sphenosciadium capitellatum*
Willow, Pacific	*Salix lasiandra*
Willow, Scouler’s	*S. scouleriana*
Willow herb	*Epilobium hornmanei*
Alder thicket	
Alumroot	*Heuchera micrantha*

Common names	Scientific names
Arnica	*Arnica amplexicaulis*
Brewer's mitterwort	*Mitella breweri*
Elderberry	*Sambucus racemosa spp.*
Indian paintbrush	*Castilleja miniata*
Lady fern	*Athyrium alpestre*
Larkspur	*Delphinium glauca*
Lupine, Washington	*Lupinus polyphylus*
Monkey flower, common	*Mimulus guttatus*
Monkey flower, pink	*M. lewisii*
Willow, Jepson's	*Salix jepsonii*
Willow, Lemmon's	*S. lemmonii*

WOODLAND TREE TYPES

Type 9: Broadleaf. Areas on which the dominant vegetation is broadleaf trees generally growing in closed canopy stands. Their occurrence generally indicates moist deep soils.

Low elevations

Aspen	*Populus tremuloides*
Black cottonwood	*P. trichocarpa*
Cowparsnip	*Heracleum lanatum*
Creek dogwood	*Cornus californica*
Dogwood	*C. sessilis*
Giant hyssop	*Agastache urticifolia*
Groundsel	*Senecio triangularis*
Honeysuckle, twin-flower	*Lonicera conjugialis*
Mountain alder	*Alnus tenuifolia*
Ranger's buttons	*Sphenosciadium capitellatum*
Thimbleberry	*Rubus parviflorus*
Willow, Pacific	*Salix lasiandra*
Willow, Scouler's	*S. scouleriana*

Examples of Secondary SEZ Vegetation:

Wet mesic meadow

Agoseris, pale	*Agoseris glauca*
Aster	*Aster alpigenus*
Aster, thick stem	*A. integrefolius*
Bentgrass	*Agrostis ampla*
Bluegrass, Kentucky	*Poa pratensis*
Brodiaea, white	*Brodiaea hyacintha*
Checkerbloom	*Sidalcea oregana*
Clover, alpine	*Trifolium longipes*
Fleabane	*Erigeron peregrinus*
Fleabane, meadow	*E. coulteri*
Hairgrass, tufted	*Aira caespitosa*
Grays lovage	*Ligusticum grayi*
Meadow barley	*Hordeum brachyantherium*
Parishia yampha	*Perideridia parishii*
Polemonium, western	*Polemonium occidentalis*
Corn lily	*Veratrum californicum*
Reedgrass	*Calamagrostis spp.*
Sedge	*Carex spp.*
Timothy, alpine	*Phleum alpinum*

V. EXCESS LAND COVERAGE MITIGATION, ROLE OF THE LAND BANKS

- **Excess Coverage: Over-covered parcels with legacy development originally built prior to the existence of TRPA** (grandfathered coverage over the base allowable coverage limitations).
- Excess Coverage is calculated pursuant to Code Section 30.6.1.A: Excess Coverage = Legally Existing Coverage – Base Allowable Coverage.

As a part of TRPA permitting, property owners with "excess coverage" must mitigate a portion through any of the following excess coverage mitigation program options (or combinations thereof, Code 30.6.1.B):

1) Reduce coverage on-site as part of the redevelopment project: Redevelopment projects that mitigate coverage by reducing it on-site must restore the coverage as part of the project and may reduce coverage in any land capability district on-site. *This approach tends to be used somewhat infrequently. When used, it tends to be by larger projects.*

2) Reduce coverage offsite: Coverage may be decreased by acquiring land with existing coverage and restoring the coverage. Coverage may be restored in any land capability district if it is within the same HRA as the project. *As part of the 2012 Regional Plan Update, Code was amended to allow off-site coverage restoration in a different HRA if the restoration occurs on more sensitive land than the project area. The land banks are using this approach.*

3) Pay a land coverage mitigation fee. Projects may pay an in-lieu fee instead of directly reducing coverage. The fee is based on the square feet of the excess coverage (there is an option to pay a portion of the excess coverage can be mitigated with each project), but includes a minimum fee of $200. The fee is consistent within California, but varies between HRAs in Nevada. **This approach is used by the majority of projects.**

4) Consolidate or adjust parcel lot lines. Projects may consolidate contiguous parcels as part of a project approval. *This is used infrequently and only in cases where the project applicant owns or can acquire an adjacent parcel.*

5) Mitigate excess land coverage in a Community Plan or Area Plan. A Community plan or Area Plan can proactively mitigate coverage at a larger scale than individual projects. This approach requires that the Plan mitigate the same amount of coverage as would be required if all of the affected parcels individually mitigated coverage (see Code Section 30.6.1.B.5), or the excess coverage must be within a comprehensive coverage management plan that reduces the total amount of coverage and reduces coverage in Land Capability Districts 1 and 2 as required by TRPA Code section13.5.3.B. *This approach is used infrequently and can only be implemented at the time a Community Plan or Area Plan is developed rather than at the time a project is proposed.*

ECM Fee, Role of Lands, ECM Program Updates:

The majority of project applicants pay the ECM fee. **The land banks (California Tahoe Conservancy - CTC and Nevada Division of State Lands - NDSL) receive ECM fee disbursements from TRPA to mitigate excess coverage. The MOUs between the land banks and TRPA govern the use of the ECM fees.**

ECM Updates:

- Use of the ECM Fees: Land banks must use at least ½ of the funds for existing coverage retirement and they should give preference to the retirement of coverage in sensitive lands. The remaining funds can be used for Environmental Improvement Projects (or non-EIP projects approved by the Executive Director) if they contribute to Soil Conservation and/or Water Quality Threshold gain.
- ECM Fee Updates: The excess land coverage fee schedule is provided online and in the Rules of Procedure (Subsection 10.8.5). A recently adopted update will allow for annual ECM fee updates to be regularly made.

VI. LAND COVERAGE VERIFICATION

Land Coverage is verified by TRPA through either a Site Assessment application (single family residential properties) or a Coverage Verification application (commercial, public service, multi-family properties).

To determine if coverage is legally existing (established pre-1972 or built thereafter with a permit), TRPA staff reviews all pertinent information related to the development history of a parcel, including:

- Assessor records
- Old permits (TRPA or local jurisdiction)
- Aerial photos, Google Earth
- Date stamped photographs

Soft coverage

(i.e. compacted dirt parking areas) can be verified if TRPA has sufficient proof that they were established prior to 1972.

It can be difficult to prove when informal paths and dirt parking area were established.

Hard Coverage

Exemptions:

Example: Pervious Deck (permits hydrologic infiltration)

OTHER INFORMATION:

Restoration Credit

On-site or off-site restoration that results in the area functioning in a natural state and is permanently protected from further disturbance accomplished by the applicant or another agency approved by TRPA In lieu of land coverage transfer requirements. Only land that has been disturbed or consists of hard or soft land coverage shall be eligible for restoration credit. Code Section 30.5.3 outlines restoration requirements.

The 2012 Regional Plan Update adopted modifications to requirements allowing off-site restoration credits to be used in different HRAs pursuant to Code Section 30.5.3.B.

Commodities Marketplace

Land coverage is the most frequently traded commodity in the Tahoe Region.
Recently, TRPA set up an online marketplace (akin to Craig's List) for people to advertise and sell development rights (commodities) and coverage rights. A map interface is included to help facilitate transactions.

- **Marketplace Website:** http://www.trpa.org/permitting/transfer-development-rights/tdr-marketplace/