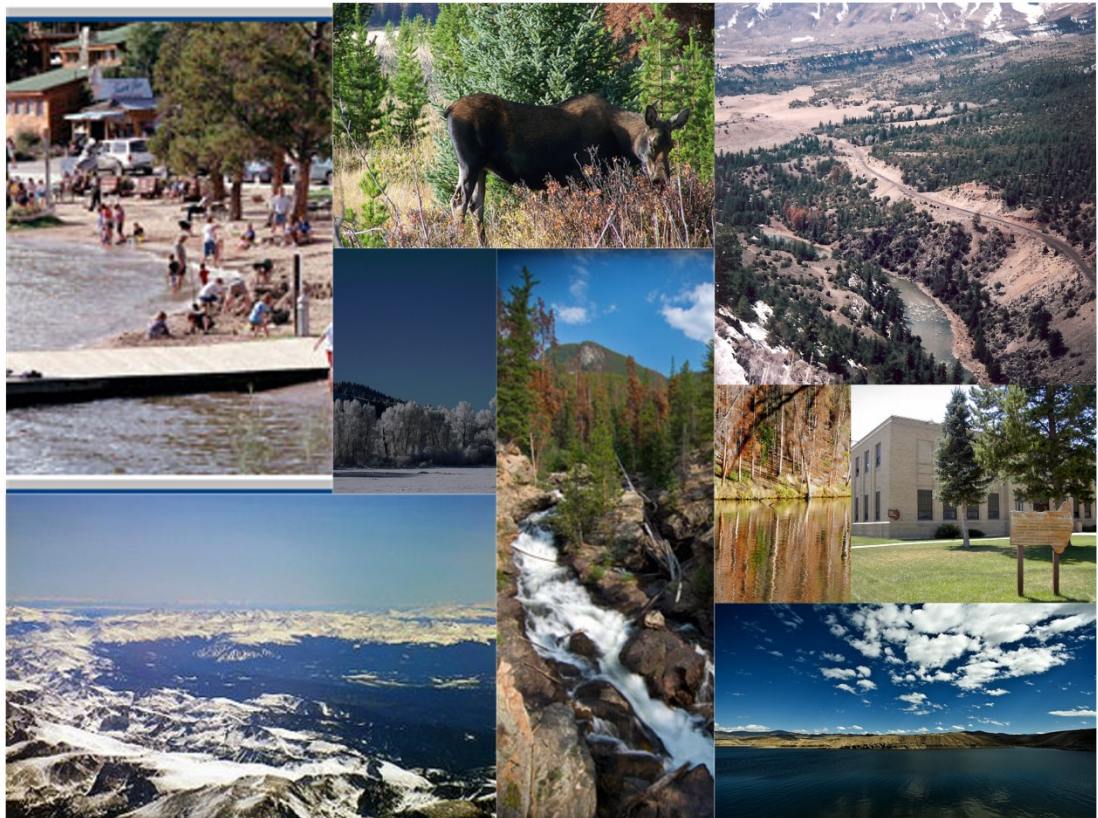




2015
GRAND COUNTY
PROPERTY ASSESSMENT
STUDY



WILDROSE
APPRAISAL, INCORPORATED
Audit Division



September 15, 2015

Mr. Mike Mauer
Director of Research
Colorado Legislative Council
Room 029, State Capitol Building
Denver, Colorado 80203

RE: Final Report for the 2015 Colorado Property Assessment Study

Dear Mr. Mauer:

Wildrose Appraisal Inc.-Audit Division is pleased to submit the Final Reports for the 2015 Colorado Property Assessment Study.

These reports are the result of two analyses: A procedural audit and a statistical audit.

The procedural audit examines all classes of property. It specifically looks at how the assessor develops economic areas, confirms and qualifies sales, develops time adjustments and performs periodic physical property inspections. The audit reviews the procedures for determining subdivision absorption and subdivision discounting. Valuation methodology is examined for residential properties and commercial properties. Procedures are reviewed for producing mines, oil and gas leaseholds and lands producing, producing coal mines, producing earth and stone products, severed mineral interests, and non-producing patented mining claims.

Statistical audits are performed on vacant land, residential properties, commercial/industrial properties and agricultural land. A statistical analysis is performed for personal property compliance on the eleven largest counties: Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo and Weld. The remaining counties receive a personal property procedural study.

Wildrose Appraisal Inc. – Audit Division appreciates the opportunity to be of service to the State of Colorado. Please contact us with any questions or concerns.

A handwritten signature in black ink that reads "Harry J. Fuller". The signature is written in a cursive, flowing style.

Harry J. Fuller
Project Manager
Wildrose Appraisal Inc. – Audit Division

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INTRODUCTION



Colorado

The State Board of Equalization (SBOE) reviews assessments for conformance to the Constitution. The SBOE will order revaluations for counties whose valuations do not reflect the proper valuation period level of value.

The statutory basis for the audit is found in C.R.S. 39-1-104 (16)(a)(b) and (c).

The legislative council sets forth two criteria that are the focus of the audit group:

To determine whether each county assessor is applying correctly the constitutional and statutory provisions, compliance requirements of the State Board of Equalization, and the manuals published by the State Property Tax Administrator to arrive at the actual value of each class of property.

To determine if each assessor is applying correctly the provisions of law to the actual values when arriving at valuations for assessment of all locally valued properties subject to the property tax.

The property assessment audit conducts a two-part analysis: A procedural analysis and a statistical analysis.

The procedural analysis includes all classes of property and specifically looks at how the assessor develops economic areas, confirms and qualifies sales, and develops time adjustments. The audit also examines the procedures for adequately discovering, classifying and valuing agricultural outbuildings, discovering subdivision build-out and subdivision discounting procedures. Valuation methodology for vacant land, improved residential properties and commercial properties is examined. Procedures for producing mines, oil and gas leaseholds and lands producing, producing coal mines, producing earth and stone products, severed mineral interests and non-producing patented mining claims are also reviewed.

Statistical analysis is performed on vacant land, residential properties, commercial industrial properties, agricultural land, and personal property. The statistical study results are compared with State Board of Equalization compliance requirements and the manuals published by the State Property Tax Administrator.

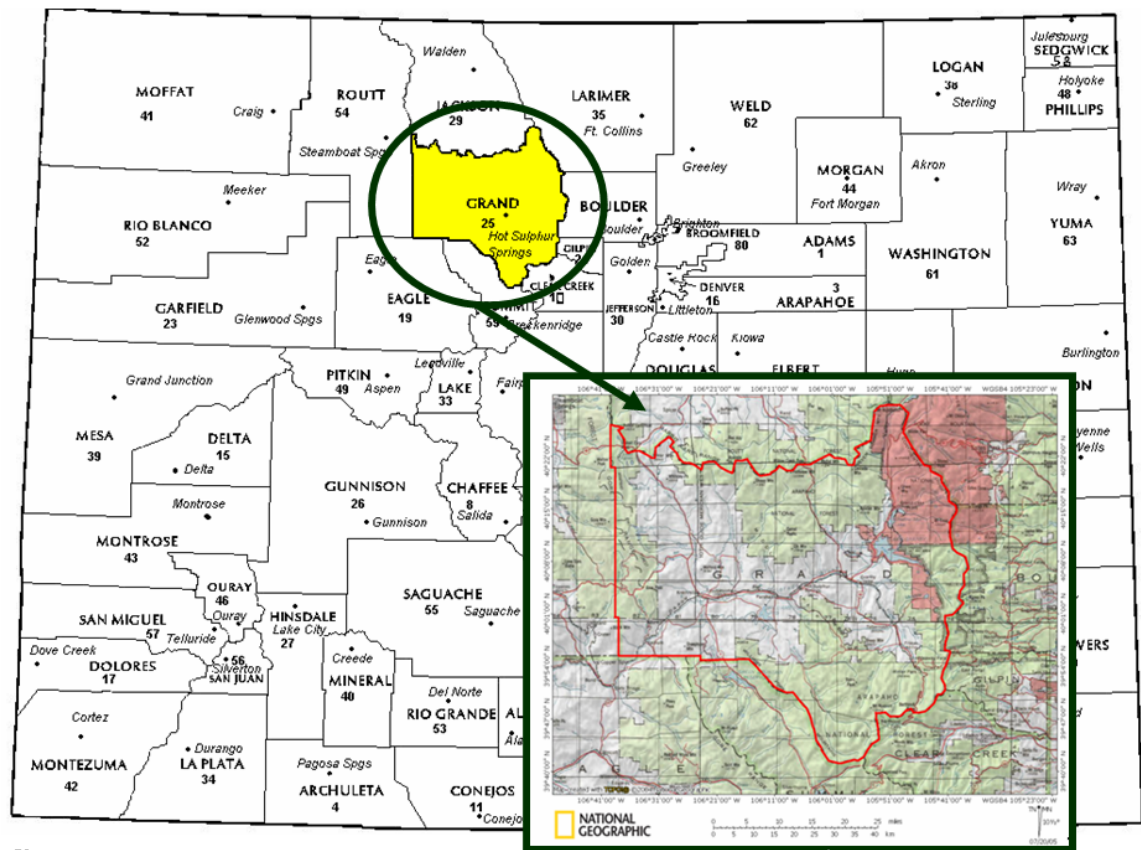
Wildrose Audit has completed the Property Assessment Study for 2015 and is pleased to report its findings for Grand County in the following report.

REGIONAL/HISTORICAL SKETCH OF GRAND COUNTY

Regional Information

Grand County is located in the Western Slope region of Colorado. The Western Slope of Colorado refers to the region west of the Rocky Mountains. It includes Archuleta, Delta, Dolores, Eagle, Garfield, Grand,

Gunnison, Hinsdale, Jackson, La Plata, Mesa, Moffat, Montezuma, Montrose, Ouray, Pitkin, Rio Blanco, Routt, San Juan, San Miguel, and Summit counties.



Historical Information

Grand County has a population of approximately 14,843 people with 8.04 people per square mile, according to the U.S. Census Bureau's 2010 census data. This represents a 19.3 percent change from the 2000 Census.

When Grand County was created on February 2, 1874 it was carved out of Summit County and contained land to the western and northern borders of the state, which is now in present day Moffat County and Routt County. It was named after Grand Lake and the Grand River, an old name for the Colorado River, which has its headwaters in the county. On January 29, 1877 Routt County was created and Grand County shrunk down to its current western boundary. When valuable minerals were found in North Park, Grand County claimed the area as part of its county, a claim Larimer County also held. It took a decision by the Colorado Supreme Court in 1886 to declare North Park part of Larimer County, setting Grand County's northern boundary.

Grand Lake is the deepest and largest natural lake in Colorado and the area attracts an impressive diversity of wildlife. Prehistoric peoples, and later Native American Ute, Arapaho and Cheyenne tribes made annual pilgrimages to the area each summer to fish, hunt and reap the bounty of nature's harvest. It

wasn't long before trappers, traders and explorers followed.

In the mid-1800s, European hunting parties discovered Grand Lake. Some hunters constructed summer lodges and hired local mountain men as guides. The area was permanently settled in 1867. Grand Lake Village's first full-time, year-round residents were an intriguing mix of miners (who participated in a brief mining boom) and hunting guides. In the late 1870s, silver was discovered in the rivers and mountains near Grand Lake. Prospectors bought supplies in local stores and established small mountain mining communities. Almost overnight, the town of Grand Lake transformed into a bustling economy.

Winter Park Resort is Colorado's longest continually operated ski resort featuring over 3,000 acres of award-winning terrain including groomers, terrain parks, bumps, steeps, trees, and most definitely deeps. Winter Park Resort averages 329 inches of snow, much in part to its ideal location amidst the Rocky Mountains. Just 67 miles northwest of Denver, Winter Park Resort is the closest major destination resort to Denver International Airport.

(Wikipedia.org, www.grandlakechamber.com & www.winterparkresort.com/)

RATIO ANALYSIS

Methodology

All significant classes of properties were analyzed. Sales were collected for each property class over the appropriate sale period, which was typically defined as the 18-month period between January 1, 2013 and June 30, 2014. Counties with less than 30 sales typically extended the sale period back up to 5 years prior to June 30, 2014 in 6-month increments. If there were still fewer than 30 sales, supplemental appraisals were performed and treated as proxy sales. Residential sales for all counties using this method totaled at least 30 per county. For commercial sales, the total number analyzed was allowed, in some cases, to fall below 30. There were no sale quantity issues for counties requiring vacant land analysis or condominium analysis. Although it was required that we examine the median and coefficient of dispersion for all counties, we also calculated the weighted mean and price-related differential for each class of property. Counties were not passed or failed by these

latter measures, but were counseled if there were anomalies noted during our analysis. Qualified sales were based on the qualification code used by each county, which were typically coded as either “Q” or “C.” The ratio analysis included all sales. The data was trimmed for counties with obvious outliers using IAAO standards for data analysis. In every case, we examined the loss in data from trimming to ensure that only true outliers were excluded. Any county with a significant portion of sales excluded by this trimming method was examined further. No county was allowed to pass the audit if more than 5% of the sales were “lost” because of trimming. For the largest 11 counties, the residential ratio statistics were broken down by economic area as well.

Conclusions

For this final analysis report, the minimum acceptable statistical standards allowed by the State Board of Equalization are:

ALLOWABLE STANDARDS RATIO GRID		
Property Class	Unweighted Median Ratio	Coefficient of Dispersion
Commercial/Industrial	Between .95-1.05	Less than 20.99
Condominium	Between .95-1.05	Less than 15.99
Single Family	Between .95-1.05	Less than 15.99
Vacant Land	Between .95-1.05	Less than 20.99

The results for Grand County are:

Grand County Ratio Grid					
Property Class	Number of Qualified Sales	Unweighted Median Ratio	Price Related Differential	Coefficient of Dispersion	Time Trend Analysis
Commercial/Industrial	38	0.978	1.023	11.5	Compliant
Condominium	526	0.996	1.007	8.9	Compliant
Single Family	779	0.989	1.019	10.2	Compliant
Vacant Land	280	1.000	1.039	12.9	Compliant

After applying the above described methodologies, it is concluded from the sales ratios that Grand County is in compliance with

SBOE, DPT, and Colorado State Statute valuation guidelines.

Recommendations

None



TIME TRENDING VERIFICATION

Methodology

While we recommend that counties use the inverted ratio regression analysis method to account for market (time) trending, some counties have used other IAAO-approved methods, such as the weighted monthly median approach. We are not auditing the methods used, but rather the results of the methods used. Given this range of methodologies used to account for market trending, we concluded that the best validation method was to examine the sale ratios for each class across the appropriate sale period. To be specific, if a county has considered and adjusted correctly for market trending, then the sale ratios should remain stable (i.e. flat) across the sale period. If a residual market trend is detected, then the county may or may not have addressed market

trending adequately, and a further examination is warranted. This validation method also considers the number of sales and the length of the sale period. Counties with few sales across the sale period were carefully examined to determine if the statistical results were valid.

Conclusions

After verification and analysis, it has been determined that Grand County has complied with the statutory requirements to analyze the effects of time on value in their county. Grand County has also satisfactorily applied the results of their time trending analysis to arrive at the time adjusted sales price (TASP).

Recommendations

None

SOLD / UNSOLD ANALYSIS

Methodology

Grand County was tested for the equal treatment of sold and unsold properties to ensure that “sales chasing” has not occurred. The auditors employed a multi-step process to determine if sold and unsold properties were valued in a consistent manner.

We test the hypothesis that the assessor has valued unsold properties consistent with what is observed with the sold properties based on several units of comparison and tests. The units of comparison include the actual value per square foot and the change in value from the previous base year period to the current base year. The first test compares the actual value per square foot between sold and unsold properties by class. The median and mean value per square foot is compared and tested for any significant difference. This is tested using non-parametric methods, such as the Mann-Whitney test for differences in the distributions or medians between sold and unsold groups. It is also examined graphically and from an appraisal perspective. Data can be stratified based on location and subclass. The second test compares the difference in the median change in value from the previous base year to the current base year between sold and unsold properties by class. The same combination of non-parametric and appraisal testing is used as with the first test. A third test employing a valuation model testing a sold/unsold binary variable while controlling for property attributes such as location, size, age and other attributes. The model determines if the sold/unsold variable is statistically and empirically significant. If all three tests indicate a significant difference between sold and unsold properties for a given class, the Auditor may meet with the county to determine if sale chasing is actually occurring,

or if there are other explanations for the observed difference.

If the unsold properties have a higher median value per square foot than the sold properties, or if the median change in value is greater for the unsold properties than the sold properties, the analysis is stopped and the county is concluded to be in compliance with sold and unsold guidelines. All sold and unsold properties in a given class are first tested, although properties with extreme unit values or percent changes can be trimmed to stabilize the analysis. The median is the primary comparison metric, although the mean can also be used as a comparison metric if the distribution supports that type of measure of central tendency.

The first test (unit value method) is applied to both residential and commercial/industrial sold and unsold properties. The second test is applied to sold and unsold vacant land properties. The second test (change in value method) is also applied to residential or commercial sold and unsold properties if the first test results in a significant difference observed and/or tested between sold and unsold properties. The third test (valuation modeling) is used in instances where the results from the first two tests indicate a significant difference between sold and unsold properties. It can also be used when the number of sold and unsold properties is so large that the non-parametric testing is indicating a false rejection of the hypothesis that there is no difference between the sold and unsold property values.

These tests were supported by both tabular and graphics presentations, along with written documentation explaining the methodology used.

Sold/Unsold Results	
Property Class	Results
Commercial/Industrial	Compliant
Condominium	Compliant
Single Family	Compliant
Vacant Land	Compliant

Conclusions

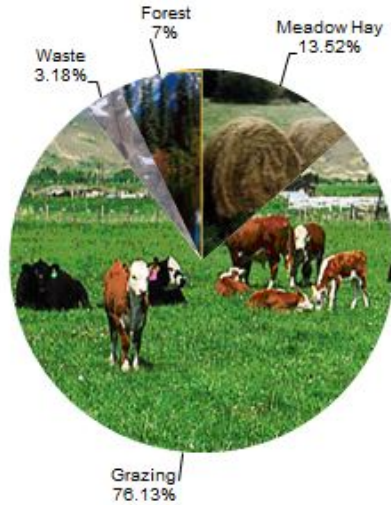
After applying the above described methodologies, it is concluded that Grand County is reasonably treating its sold and unsold properties in the same manner.

Recommendations

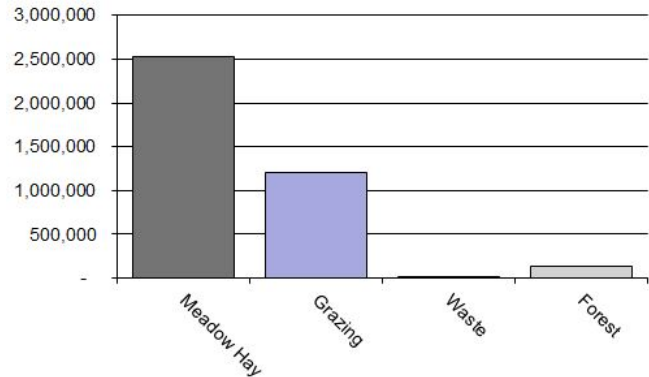
None

AGRICULTURAL LAND STUDY

Acres By Subclass



Value By Subclass



Agricultural Land

County records were reviewed to determine major land categories such as irrigated farm, dry farm, meadow hay, grazing and other lands. In addition, county records were reviewed in order to determine if: Aerial photographs are available and are being used; soil conservation guidelines have been used to classify lands based on productivity; crop rotations have been documented; typical commodities and yields have been determined; orchard lands have been properly classified and valued; expenses reflect a ten year average and are typical landlord expenses; grazing lands have been properly classified and valued; the number of acres in each class and subclass have been determined; the capitalization rate was properly applied. Also, documentation was required for the valuation methods used and any locally developed yields, carrying capacities, and expenses. Records were also checked to ensure that the commodity prices and expenses, furnished by the Property Tax

Administrator (PTA), were applied properly. (See Assessor Reference Library Volume 3 Chapter 5.)

Conclusions

An analysis of the agricultural land data indicates an acceptable appraisal of this property type. Directives, commodity prices and expenses provided by the PTA were properly applied. County yields compared favorably to those published by Colorado Agricultural Statistics. Expenses used by the county were allowable expenses and were in an acceptable range. Grazing lands carrying capacities were in an acceptable range. The data analyzed resulted in the following ratios:

Grand County Agricultural Land Ratio Grid						
Abstract Code	Land Class	Number Of Acres	County Value Per Acre	County Assessed Total Value	WRA Total Value	Ratio
4137	Meadow Hay	34,295	73.83	2,531,865	2,531,865	1.00
4147	Grazing	193,059	6.28	1,212,832	1,212,832	1.00
4177	Forest	18,167	7.49	135,999	135,999	1.00
4167	Waste	8,068	1.99	16,027	16,027	1.00
Total/Avg		253,598	15.37	3,896,722	3,896,722	1.00

Recommendations

None

Agricultural Outbuildings

Methodology

Data was collected and reviewed to determine if the guidelines found in the Assessor's Reference Library (ARL) Volume 3, pages 5.74 through 5.77 were being followed.

Property Taxation for the valuation of agricultural outbuildings.

Recommendations

None

Conclusions

Grand County has substantially complied with the procedures provided by the Division of

Agricultural Land Under Improvements

Methodology

Data was collected and reviewed to determine if the guidelines found in the Assessor's Reference Library (ARL) Volume 3, pages 5.19 and 5.20 were being followed.

Conclusions

Grand County has used the following methods to discover land under a residential improvement on a farm or ranch that is determined to be not integral under 39-1-102, C.R.S.:

- Questionnaires
- Field Inspections
- Phone Interviews
- In-Person Interviews with Owners/Tenants
- Personal Knowledge of Occupants at Assessment Date
- Aerial Photography/Pictometry

Grand County has used the following methods to discover the land area under a residential improvement that is determined to be not integral under 39-1-102, C.R.S.:

- Property Record Card Analysis
- Field Inspections
- Phone Interviews
- In-Person Interviews with Owners/Tenants
- Personal Knowledge of Occupants at Assessment Date
- Aerial Photography/Pictometry

Grand County has substantially complied with the procedures provided by the Division of Property Taxation for the valuation of land under residential improvements that may or may not be integral to an agricultural operation.

Recommendations

None

SALES VERIFICATION

According to Colorado Revised Statutes:

A representative body of sales is required when considering the market approach to appraisal.

(8) In any case in which sales prices of comparable properties within any class or subclass are utilized when considering the market approach to appraisal in the determination of actual value of any taxable property, the following limitations and conditions shall apply:

(a)(I) Use of the market approach shall require a representative body of sales, including sales by a lender or government, sufficient to set a pattern, and appraisals shall reflect due consideration of the degree of comparability of sales, including the extent of similarities and dissimilarities among properties that are compared for assessment purposes. In order to obtain a reasonable sample and to reduce sudden price changes or fluctuations, all sales shall be included in the sample that reasonably reflect a true or typical sales price during the period specified in section 39-1-104 (10.2). Sales of personal property exempt pursuant to the provisions of sections 39-3-102, 39-3-103, and 39-3-119 to 39-3-122 shall not be included in any such sample.

(b) Each such sale included in the sample shall be coded to indicate a typical, negotiated sale, as screened and verified by the assessor. (39-1-103, C.R.S.)

The assessor is required to use sales of real property only in the valuation process.

(8)(f) Such true and typical sales shall include only those sales which have been determined on an individual basis to reflect the selling price of the real property only or which have been adjusted on an individual basis to reflect the selling price of the real property only. (39-1-103, C.R.S.)

Part of the Property Assessment Study is the sales verification analysis. WRA has used the above-cited statutes as a guide in our study of the county's procedures and practices for verifying sales.

WRA reviewed the sales verification procedures in 2015 for Grand County. This study was conducted by checking selected sales from the master sales list for the current valuation period. Specifically WRA selected 33 sales listed as unqualified.

All of the sales in the unqualified sales sample had reasons that were clear and supportable.

For residential, commercial, and vacant land sales with considerations over \$500, the contractor has examined and reported the ratio of qualified sales to total sales by class and performed the following analyses of unqualified sales:

The contractor has examined the manner in which sales have been classified as qualified or unqualified, including a listing of each step in the sales verification process, any adjustment procedures, and the county official responsible for making the final decision on qualification.

When less than 50 percent of sales are qualified in any of the three property classes (residential, commercial, and vacant land), the contractor analyzed the reasons for disqualifying sales in any subclass that constitutes at least 20 percent of the class, either by number of properties or by value, from the prior year. The contractor has

reviewed with the assessor any analysis indicating that sales data are inadequate, fail to reflect typical properties, or have been disqualified for insufficient cause. In addition, the contractor has reviewed the disqualified sales by assigned code. If there appears to be any inconsistency in the coding, the contractor has conducted further analysis to determine if the sales included in that code have been assigned appropriately.

If 50 percent or more of the sales are qualified, the contractor has reviewed a statistically significant sample of

unqualified sales, excluding sales that were disqualified for obvious reasons.

Grand County did not qualify for in-depth subclass analysis.

Conclusions

Grand County appears to be doing an excellent job of verifying their sales. WRA agreed with the county's reason for disqualifying each of the sales selected in the sample. There are no recommendations or suggestions.

Recommendations

None

ECONOMIC AREA REVIEW AND EVALUATION

Methodology

Grand County has submitted a written narrative describing the economic areas that make up the county's market areas. Grand County has also submitted a map illustrating these areas. Each of these narratives have been read and analyzed for logic and appraisal sensibility. The maps were also compared to the narrative for consistency between the written description and the map.

Conclusions

After review and analysis, it has been determined that Grand County has adequately

identified homogeneous economic areas comprised of smaller neighborhoods. Each economic area defined is equally subject to a set of economic forces that impact the value of the properties within that geographic area and this has been adequately addressed. Each economic area defined adequately delineates an area that will give "similar values for similar properties in similar areas."

Recommendations

None

NATURAL RESOURCES

Earth and Stone Products

Methodology

Under the guidelines of the Assessor's Reference Library (ARL), Volume 3, Natural Resource Valuation Procedures, the income approach was applied to determine value for production of earth and stone products. The number of tons was multiplied by an economic royalty rate determined by the Division of Property Taxation to determine income. The income was multiplied by a recommended Hoskold factor to determine the actual value. The Hoskold factor is determined by the life of the reserves or the lease. Value is based on two

variables: life and tonnage. The operator determines these since there is no other means to obtain production data through any state or private agency.

Conclusions

The County has applied the correct formulas and state guidelines to earth and stone production.

Recommendations

None

VACANT LAND

Subdivision Discounting

Subdivisions were reviewed in 2015 in Grand County. The review showed that subdivisions were discounted pursuant to the Colorado Revised Statutes in Article 39-1-103 (14). Discounting procedures were applied to all subdivisions where less than 80 percent of all sites were sold using the present worth method. The market approach was applied where 80 percent or more of the subdivision sites were sold. An absorption period was estimated for each subdivision that was discounted. An appropriate discount rate was

developed using the summation method. Subdivision land with structures was appraised at full market value.

Conclusions

Grand County has implemented proper procedures to adequately estimate absorption periods, discount rates, and lot values for qualifying subdivisions.

Recommendations

None

POSSESSORY INTEREST PROPERTIES

Possessory Interest

Possessory interest property discovery and valuation is described in the Assessor's Reference Library (ARL) Volume 3 section 7 in accordance with the requirements of Chapter 39-1-103 (17)(a) (II) C.R.S. Possessory Interest is defined by the Property Tax Administrator's Publication ARL Volume 3, Chapter 7: A private property interest in government-owned property or the right to the occupancy and use of any benefit in government-owned property that has been granted under lease, permit, license, concession, contract, or other agreement.

Grand County has been reviewed for their procedures and adherence to guidelines when assessing and valuing agricultural, commercial

and ski area possessory interest properties. The county has also been queried as to their confidence that the possessory interest properties have been discovered and placed on the tax rolls.

Conclusions

Grand County has implemented a discovery process to place possessory interest properties on the roll. They have also correctly and consistently applied the correct procedures and valuation methods in the valuation of possessory interest properties.

Recommendations

None

PERSONAL PROPERTY AUDIT

Grand County was studied for its procedural compliance with the personal property assessment outlined in the Assessor's Reference Library (ARL) Volume 5, and in the State Board of Equalization (SBOE) requirements for the assessment of personal property. The SBOE requires that counties use ARL Volume 5, including current discovery, classification, documentation procedures, current economic lives table, cost factor tables, depreciation table, and level of value adjustment factor table.

The personal property audit standards narrative must be in place and current. A listing of businesses that have been audited by the assessor within the twelve-month period reflected in the plan is given to the auditor. The audited businesses must be in conformity with those described in the plan.

Aggregate ratio will be determined solely from the personal property accounts that have been physically inspected. The minimum assessment sample is one percent or ten schedules, whichever is greater, and the maximum assessment audit sample is 100 schedules.

For the counties having over 100,000 population, WRA selected a sample of all personal property schedules to determine whether the assessor is correctly applying the provisions of law and manuals of the Property Tax Administrator in arriving at the assessment levels of such property. This sample was selected from the personal property schedules audited by the assessor. In no event was the sample selected by the contractor less than 30 schedules. The counties to be included in this study are Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Larimer, Mesa, Pueblo, and Weld. All other counties received a procedural study.

Grand County is compliant with the guidelines set forth in ARL Volume 5 regarding discovery procedures, using the following methods to discover personal property accounts in the county:

- Public Record Documents
- MLS Listing and/or Sold Books
- Chamber of Commerce/Economic Development Contacts
- Local Telephone Directories, Newspapers or Other Local Publications
- Personal Observation, Physical Canvassing or Word of Mouth
- Questionnaires, Letters and/or Phone Calls to Buyer, Seller and/or Realtor

The county uses the Division of Property Taxation (DPT) recommended classification and documentation procedures. The DPT's recommended cost factor tables, depreciation tables and level of value adjustment factor tables are also used.

Grand County submitted their personal property written audit plan and was current for the 2015 valuation period. The number and listing of businesses audited was also submitted and was in conformance with the written audit plan. The following audit triggers were used by the county to select accounts to be audited:

- Businesses in a selected area
- Accounts with obvious discrepancies
- New businesses filing for the first time
- Accounts with greater than 10% change
- Incomplete or inconsistent declarations
- Accounts with omitted property
- Same business type or use



- Businesses with no deletions or additions for 2 or more years
- Non-filing Accounts - Best Information Available
- Accounts close to the \$7,300 actual value exemption status
- Lowest or highest quartile of value per square foot
- Accounts protested with substantial disagreement

Conclusions

Grand County has employed adequate discovery, classification, documentation, valuation, and auditing procedures for their personal property assessment and is in statistical compliance with SBOE requirements.

Recommendations

None

WILDROSE AUDITOR STAFF

Harry J. Fuller, *Audit Project Manager*

Suzanne Howard, *Audit Administrative Manager*

Steve Kane, *Audit Statistician*

Carl W. Ross, *Agricultural / Natural Resource Analyst*

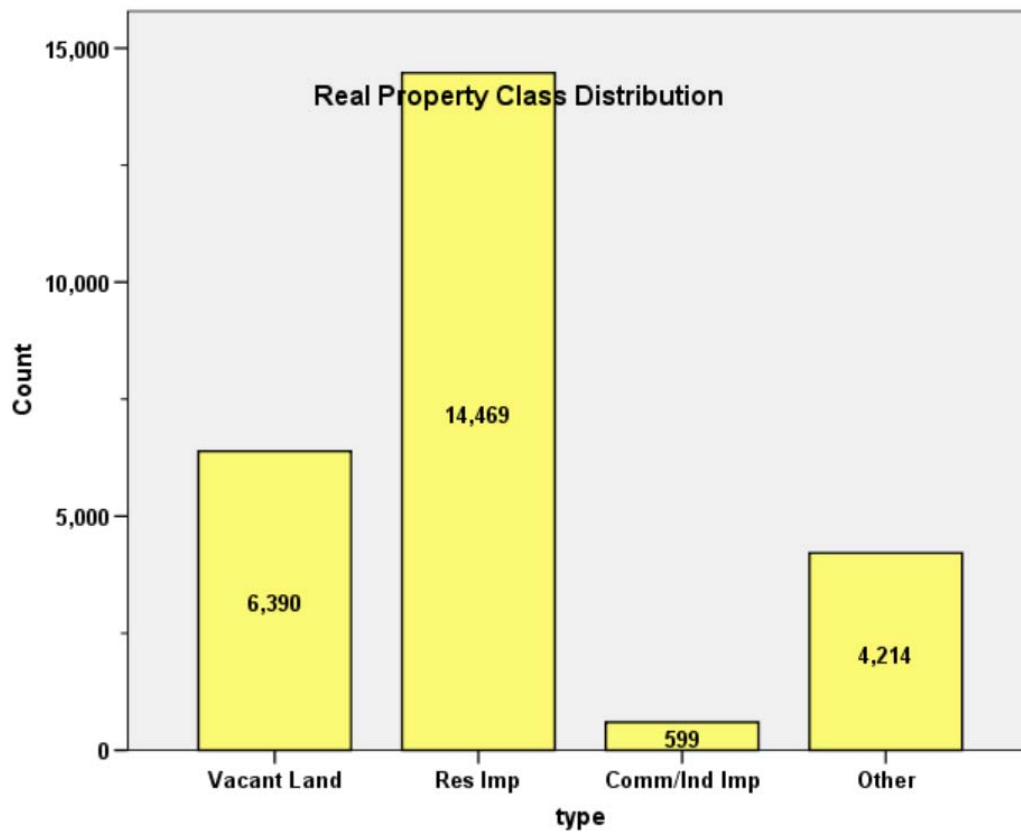
J. Andrew Rodriguez, *Field Analyst*

APPENDICES

STATISTICAL COMPLIANCE REPORT
FOR GRAND COUNTY
2015

I. OVERVIEW

Grand County is a mountain resort located in western Colorado. The county has a total of 25,672 real property parcels, according to data submitted by the county assessor’s office in 2015. The following provides a breakdown of property classes for this county:



The vacant land class of properties was dominated by residential land. Residential lots (coded 100) accounted for 86.3% of all vacant land parcels.

For residential improved properties, single family properties accounted for 65.2% of all residential properties. Residential condominiums accounted for 32.7% of all residential improved properties. Based on the guidelines for the state audit statistical compliance analysis, we will analyze residential condominiums separately.

Commercial and industrial properties represented a much smaller proportion of property classes in comparison. Commercial/industrial sales accounted for 2.3% of all such properties in this county.

II. DATA FILES

The following sales analyses were based on the requirements of the 2015 Colorado Property Assessment Study. Information was provided by the Grand Assessor's Office in June 2015. The data included all 5 property record files as specified by the Auditor.

III. RESIDENTIAL SALES RESULTS

There were 1,131 qualified residential sales in the 24-month sale period prior to June 30, 2014. The following analysis separated residential condominiums from other residential property types:

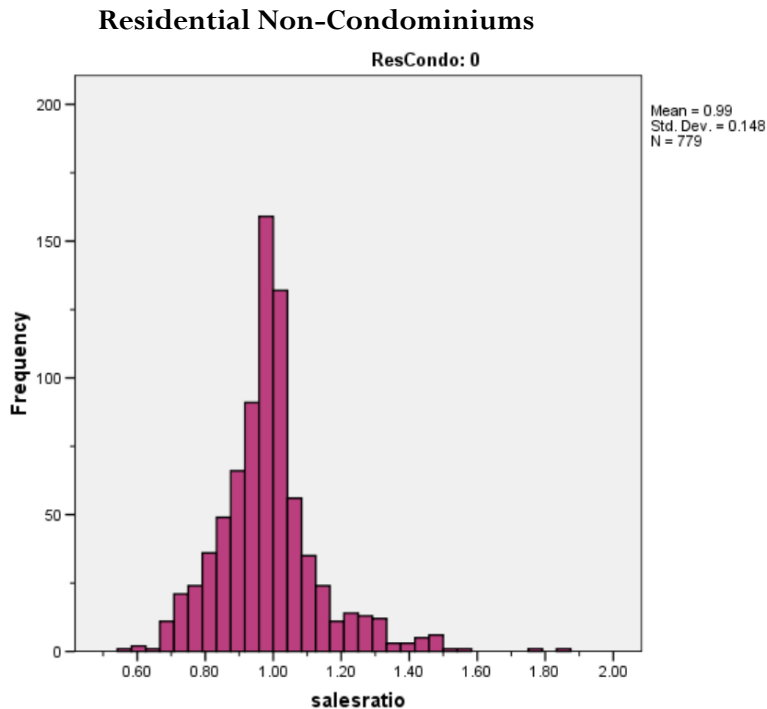
Residential Non-Condominiums (779 Sales)

Median	0.989
Price Related Differential	1.019
Coefficient of Dispersion	10.2

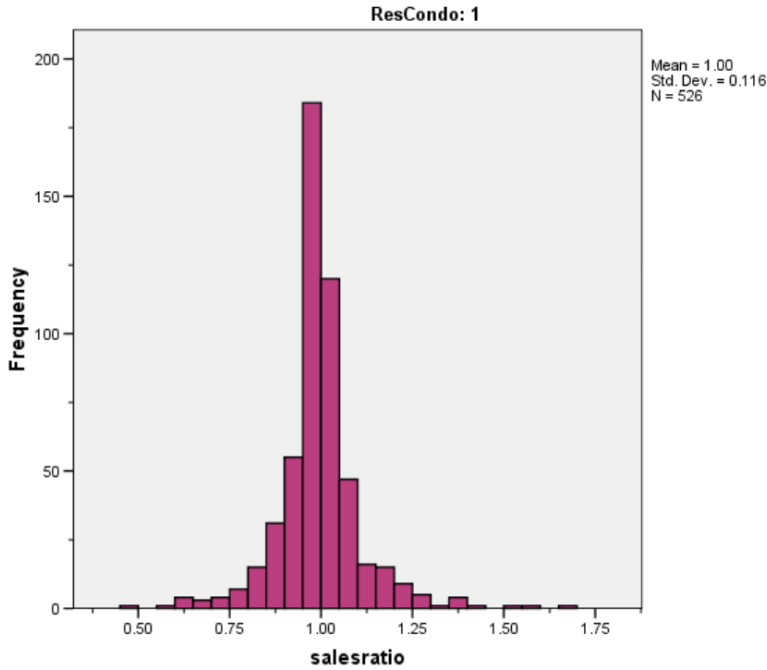
Residential Condominiums (526 Sales)

Median	0.996
Price Related Differential	1.007
Coefficient of Dispersion	8.9

The above ratio statistics were in compliance with the standards set forth by the Colorado State Board of Equalization (SBOE) for the overall residential sales. The following graphs describe further the sales ratio distribution for these properties:



Residential Condominiums



The above graphs indicate that the distribution of the sale ratios was within state mandated limits. No sales were trimmed.

Residential Market Trend Analysis

We next analyzed the residential dataset using the 24-month sale period for any residual market trending, as follows:

Coefficients^a

ResCondo	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
0	1	(Constant)	.981	.010		97.474	.000
		SalePeriod	.001	.001	.028	.783	.434
1	1	(Constant)	.979	.010		97.406	.000
		SalePeriod	.001	.001	.084	1.929	.054

a. Dependent Variable: salesratio

The above statistical results indicate that both groups of residential properties had no significant trend in their sales ratios. We therefore concluded that the assessor has adequately addressed market trending in the valuation of residential properties.

Sold/Unsold Analysis

In terms of the valuation consistency between sold and unsold residential properties, we compared the 2015 median actual value per square foot between each group, stratified by subdivision, as follows:

Res Type	Group	No. Props	Median Vsl/SF	Mean Val/SF
Res Non-Condo	Unsold	8,899	\$182	\$207
	Sold	779	\$205	\$229
Res Condo	Unsold	4,033	\$163	\$177
	Sold	526	\$175	\$181

We next compared the same properties using the percent change in value between sold and unsold residential properties, grouped by condominiums and other residential properties:

Res Type	Group	No. Props	Median Chg Val	Mean Chg Val
Res Non-Condo	Unsold	8,844	1.07	1.08
	Sold	776	1.10	1.11
Res Condo	Unsold	4,200	.94	.96
	Sold	526	.97	.97

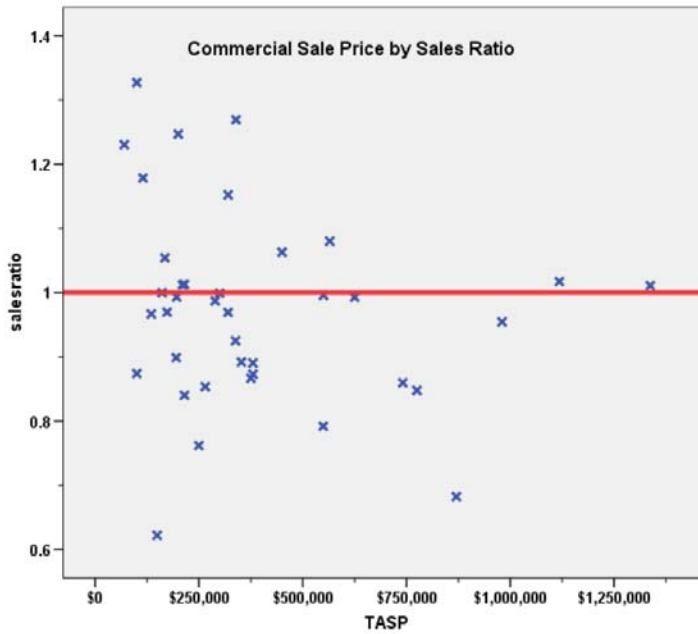
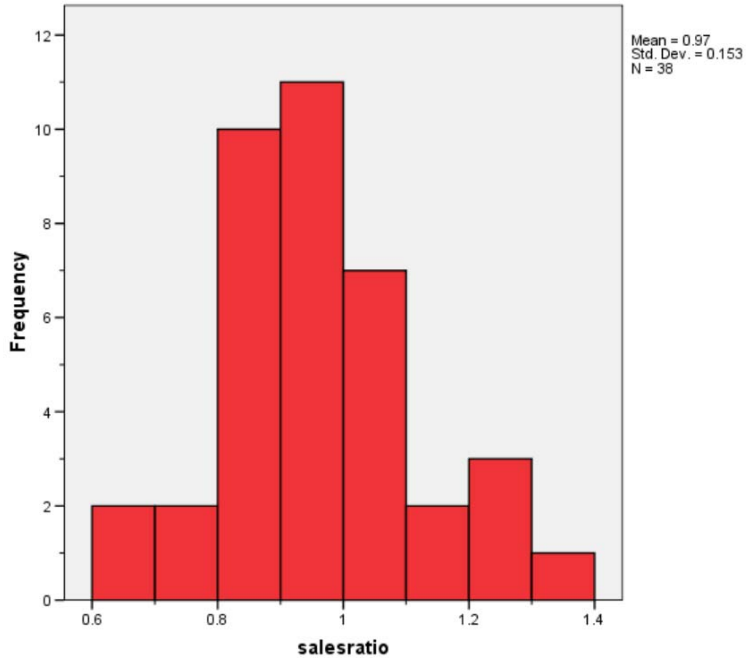
The above results indicate that sold and unsold residential properties were valued in a consistent manner.

IV. COMMERCIAL/INDUSTRIAL SALE RESULTS

There were 38 qualified commercial and industrial sales in the 24 month sale period prior to June 30, 2014. The following analysis separated residential condominiums from other residential property types:

Median	0.978
Price Related Differential	1.023
Coefficient of Dispersion	11.5

The above tables indicate that the Grand County commercial/industrial sale ratios were in compliance with the SBOE standards. The following histogram and scatter plot describe the sales ratio distribution further:



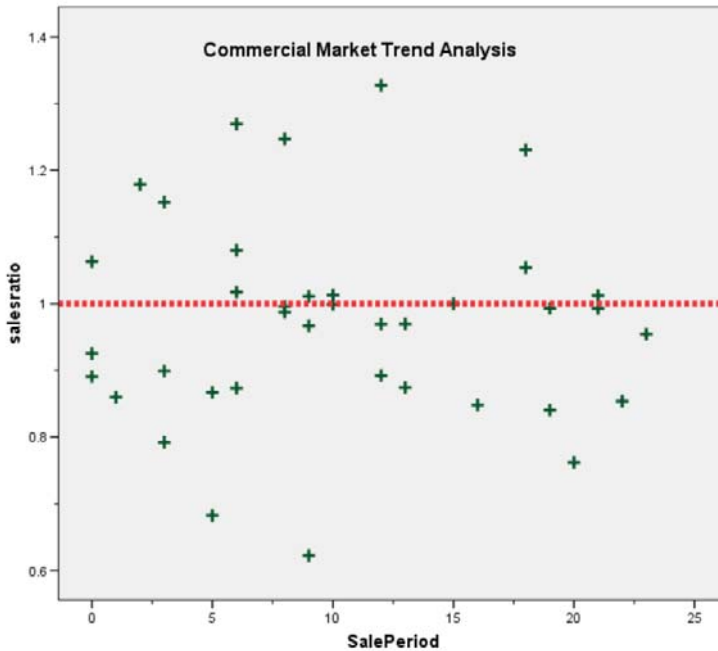
Commercial Market Trend Analysis

The assessor did not apply any market trend adjustment to the commercial dataset. The 38 commercial sales were analyzed, examining the sale ratios across the 24 month sale period with the following results:

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.980	.046		21.520	.000
	SalePeriod	-.001	.004	-.032	-.189	.851

a. Dependent Variable: salesratio



The market trend results indicated no statistically significant trend. We concur that no market trend adjustments were warranted for properties in this class for Grand County.

Sold/Unsold Analysis

We compared the median and median change in value from 2014 to 2015 between sold and unsold commercial properties to determine if the assessor was valuing each group consistently. While this is a challenge to prove in this county, given the small number of sales and the overall diversity of commercial/industrial properties across six economic areas, the following results indicate that based on the median and mean actual value, both groups were valued overall in a consistent manner:

Group	No, Props	Median Chg Val	Mean Chg Val
Unsold	566	0.99	1.24
Sold	38	1.00	1.08

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of DIFF is the same across categories of sold.	Independent-Samples Mann-Whitney U Test	.455	Retain the null hypothesis.

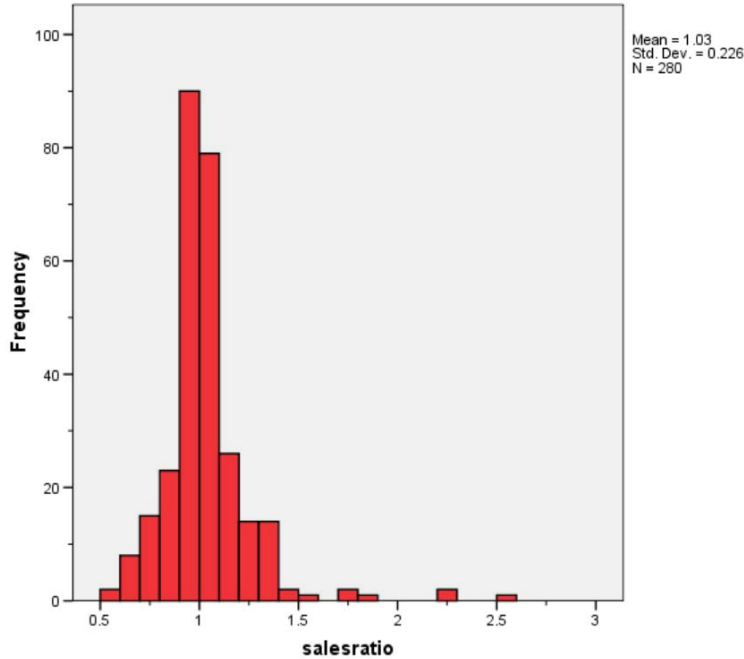
Asymptotic significances are displayed. The significance level is .05.

V. VACANT LAND SALE RESULTS

There were 280 qualified vacant land sales in the 24-month sale period prior to June 30, 2014. The ratio analysis results were as follows:

Median	1.000
Price Related Differential	1.039
Coefficient of Dispersion	12.9

The above tables indicate that the Grand County vacant land sale ratios were in compliance with the SBOE standards. The following histogram and scatter plot describe the sales ratio distribution further:





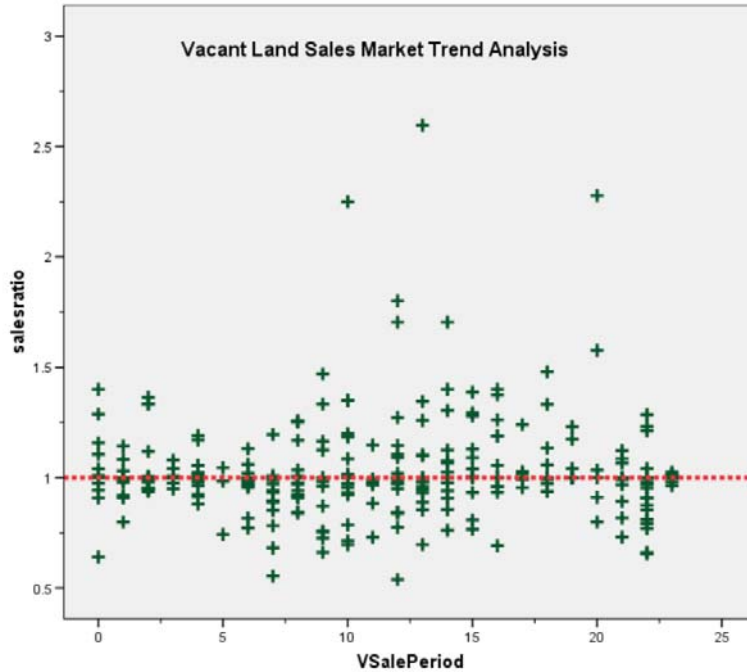
Vacant Land Market Trend Analysis

The 280 vacant land sales were analyzed, examining the sale ratios across the 24-month sale period with the following results:

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1	(Constant)	1.014	.026	38.696	.000
	VSalePeriod	.001	.002	.041	.679

a. Dependent Variable: salesratio



The market trend results indicated no statistically significant trend. We concur that no market trend adjustments were warranted for properties in this class for Grand County.

Sold/Unsold Analysis

We compared the median and mean change in actual value between 2014 and 2015 for vacant land properties to determine if sold and unsold properties were valued consistently. The following analysis compared both groups for subdivisions with at least 3 sales:

SUBDIVNO	sold	N	Median	Mean
258	Sold	42	1.00	.99
	Unsold	3	1.00	1.16
	Total	45	1.00	1.00
1040	Sold	8	.81	.81
	Unsold	3	.81	.84
	Total	11	.81	.81
1110	Sold	31	1.48	1.37
	Unsold	5	1.14	1.05
	Total	36	1.48	1.33
1130	Sold	34	.58	.58
	Unsold	6	.86	.78
	Total	40	.58	.61
1236	Sold	22	1.09	1.10
	Unsold	10	1.05	1.11
	Total	32	1.09	1.10
1250	Sold	56	1.01	1.01
	Unsold	11	1.01	1.08
	Total	67	1.01	1.02
1280	Sold	103	.75	.77

	Unsold	4	.87	.89
	Total	107	.75	.78
1450	Sold	22	1.13	1.13
	Unsold	4	1.13	1.13
	Total	26	1.13	1.13
1526	Sold	26	.95	.95
	Unsold	3	.95	.95
	Total	29	.95	.95
1773	Sold	274	.98	.98
	Unsold	12	.91	.91
	Total	286	.98	.98
1853	Sold	40	1.02	1.03
	Unsold	7	1.07	.96
	Total	47	1.07	1.02
1873	Sold	3	1.09	1.11
	Unsold	3	1.09	1.11
2140	Total	52	1.24	1.24
	Sold	4	1.24	1.16
	Unsold	56	1.24	1.23
2230	Total	99	1.17	1.25
	Sold	9	1.17	1.24
	Unsold	108	1.17	1.25
2239	Total	48	.67	.67
	Sold	3	.70	.69
	Unsold	51	.67	.67
2264	Total	18	1.18	1.19
	Sold	3	1.40	1.32
	Unsold	21	1.18	1.21
2421	Total	12	.80	.80
	Sold	3	.80	1.08
	Unsold	15	.80	.86
2507	Total	28	1.00	1.00
	Sold	4	.92	.96
	Unsold	32	1.00	.99
2544	Total	17	1.15	1.14
	Sold	3	1.15	1.34
	Unsold	20	1.15	1.17
2546	Total	44	1.19	1.17
	Sold	5	1.22	1.22
	Unsold	49	1.19	1.17
2870	Total	41	1.27	1.27
	Sold	3	1.40	1.40
	Unsold	44	1.27	1.28
2950	Total	17	1.10	1.10
	Sold	3	1.10	1.10
	Unsold	20	1.10	1.10
9030	Total	154	1.00	.99
	Sold	4	1.03	1.03
	Unsold	158	1.00	.99
Total	Total	1188	1.00	1.01
	Sold	115	1.01	1.06
	Unsold	1303	1.00	1.02

The above results show that sold and unsold vacant land properties were valued consistently.

V. AGRICULTURAL IMPROVEMENTS ANALYSIS

The final statistical verification concerned the assigned actual values for agricultural residential improvements. We compared the actual value per square foot rate for this group and compared it to rates assigned to residential single family improvements in Grand County.

The following indicates that agricultural residential improvements were valued in a manner similar to the single family residential improvements in this county:

ABSTRIMP			Statistic	Std. Error	
ImpValSF	SFR	Mean	\$112.84	\$5.365	
		95% Confidence Interval for			
		Mean	\$102.11		
			Lower Bound		
			Upper Bound	\$123.57	
		5% Trimmed Mean	\$110.38		
		Median	\$106.08		
		Variance	1784.704		
		Std. Deviation	\$42.246		
		Minimum	\$18		
		Maximum	\$249		
		Range	\$231		
		Interquartile Range	\$48		
		Skewness	.969	.304	
Kurtosis	2.213	.599			
Ag Res		Mean	\$130.80	\$3.558	
		95% Confidence Interval for			
		Mean	\$123.80		
			Lower Bound		
			Upper Bound	\$137.79	
		5% Trimmed Mean	\$124.90		
		Median	\$117.80		
		Variance	5102.543		
		Std. Deviation	\$71.432		
		Minimum	\$4		
		Maximum	\$476		
		Range	\$471		
		Interquartile Range	\$86		
		Skewness	1.399	.122	
Kurtosis	3.000	.243			

VI. CONCLUSIONS

Based on this statistical analysis, there were no significant compliance issues concluded for Grand County as of the date of this report.

STATISTICAL ABSTRACT

Residential

Ratio Statistics for CURRTOT / TASP

ResCondo	95% Confidence Interval for Mean			Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
	Mean	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			
0	.988	.977	.998	.989	.978	.995	95.5%	.969	.955	.983	1.019	.102	15.0%
1	.996	.986	1.006	.996	.992	.998	95.0%	.989	.981	.997	1.007	.070	11.6%

The confidence interval for the median is constructed without any distribution assumptions. The actual coverage level may be greater than the specified level. Other confidence intervals are constructed by assuming a Normal distribution for the ratios.

Commercial/Industrial

Ratio Statistics for CURRTOT / TASP

Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			
.973	.923	1.023	.978	.892	1.011	96.6%	.951	.902	1.000	1.023	.115	15.7%

The confidence interval for the median is constructed without any distribution assumptions. The actual coverage level may be greater than the specified level. Other confidence intervals are constructed by assuming a Normal distribution for the ratios.

Vacant Land

Ratio Statistics for CURRLND / VTASP

Mean	95% Confidence Interval for Mean		Median	95% Confidence Interval for Median			Weighted Mean	95% Confidence Interval for Weighted Mean		Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
	Lower Bound	Upper Bound		Lower Bound	Upper Bound	Actual Coverage		Lower Bound	Upper Bound			
1.029	1.002	1.055	1.000	.992	1.000	95.2%	.990	.966	1.014	1.039	.129	22.0%

The confidence interval for the median is constructed without any distribution assumptions. The actual coverage level may be greater than the specified level. Other confidence intervals are constructed by assuming a Normal distribution for the ratios.

Residential Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT \$25K	18	1.4%
	\$25K to \$50K	29	2.2%
	\$50K to \$100K	88	6.7%
	\$100K to \$150K	172	13.2%
	\$150K to \$200K	198	15.2%
	\$200K to \$300K	291	22.3%
	\$300K to \$500K	338	25.9%
	\$500K to \$750K	116	8.9%
	\$750K to \$1,000K	35	2.7%
	Over \$1,000K	20	1.5%
Overall		1305	100.0%
Excluded		0	
Total		1305	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
LT \$25K	1.079	1.028	.155	19.5%
\$25K to \$50K	.996	1.011	.147	19.5%
\$50K to \$100K	1.023	.997	.125	18.0%
\$100K to \$150K	.998	.999	.087	15.0%
\$150K to \$200K	.996	1.002	.095	14.2%
\$200K to \$300K	.983	.999	.088	13.2%
\$300K to \$500K	.991	.999	.076	11.2%
\$500K to \$750K	.976	1.000	.058	7.8%
\$750K to \$1,000K	1.003	1.000	.080	12.5%
Over \$1,000K	.922	1.037	.098	13.1%
Overall	.993	1.018	.089	13.7%

Subclass

Case Processing Summary

		Count	Percent
ABSTRIMP	1212	772	59.2%
	1215	5	.4%
	1225	2	.2%
	1230	526	40.3%
Overall		1305	100.0%
Excluded		0	
Total		1305	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
1212	.988	1.016	.102	14.9%
1215	1.009	1.058	.072	13.1%
1225	.809	1.196	.235	33.2%
1230	.996	1.007	.070	11.6%
Overall	.993	1.018	.089	13.7%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	4	.3%
	75 to 100	16	1.2%
	50 to 75	39	3.0%
	25 to 50	494	37.9%
	5 to 25	701	53.7%
	5 or Newer	51	3.9%
Overall		1305	100.0%
Excluded		0	
Total		1305	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
Over 100	1.008	1.085	.143	22.6%
75 to 100	.927	1.063	.152	21.8%
50 to 75	.875	.961	.141	18.6%
25 to 50	.993	1.024	.101	15.2%
5 to 25	.995	1.021	.078	12.2%
5 or Newer	.976	1.004	.060	7.7%
Overall	.993	1.018	.089	13.7%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	69	5.3%
	500 to 1,000 sf	350	26.8%
	1,000 to 1,500 sf	451	34.6%
	1,500 to 2,000 sf	256	19.6%
	2,000 to 3,000 sf	134	10.3%
	3,000 sf or Higher	45	3.4%
Overall		1305	100.0%
Excluded		0	
Total		1305	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
LE 500 sf	.994	1.026	.096	15.2%
500 to 1,000 sf	.990	1.013	.089	13.4%
1,000 to 1,500 sf	.993	1.012	.088	13.6%
1,500 to 2,000 sf	.992	1.022	.092	14.1%
2,000 to 3,000 sf	.997	1.028	.086	12.5%
3,000 sf or Higher	1.004	1.046	.076	14.9%
Overall	.993	1.018	.089	13.7%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	1	2	.2%
	2	9	.7%
	3	91	7.0%
	4	766	58.7%
	5	366	28.0%
	6	69	5.3%
	7	2	.2%
Overall		1305	100.0%
Excluded		0	
Total		1305	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
1	1.132	1.047	.096	13.6%
2	1.077	1.004	.108	16.1%
3	1.014	1.026	.149	21.7%
4	.992	1.008	.095	14.1%
5	.992	1.014	.064	9.7%
6	.990	1.020	.062	9.8%
7	.863	1.059	.107	15.2%
Overall	.993	1.018	.089	13.7%

Improvement Condition

Case Processing Summary

	Count	Percent
CONDITION 0	6	.5%
1	4	.3%
2	885	69.1%
3	386	30.1%
Overall	1281	100.0%
Excluded	24	
Total	1305	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
0	1.255	1.080	.142	19.0%
1	1.146	1.626	.333	45.6%
2	.993	1.009	.092	13.9%
3	.993	1.022	.075	11.3%
Overall	.993	1.018	.089	13.6%

Commercial Median Ratio Stratification

Sale Price

Case Processing Summary

	Count	Percent
SPRec \$50K to \$100K	3	7.9%
\$100K to \$150K	3	7.9%
\$150K to \$200K	6	15.8%
\$200K to \$300K	7	18.4%
\$300K to \$500K	9	23.7%
\$500K to \$750K	5	13.2%
\$750K to \$1,000K	3	7.9%
Over \$1,000K	2	5.3%
Overall	38	100.0%
Excluded	0	
Total	38	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
\$50K to \$100K	1.231	1.008	.123	21.2%
\$100K to \$150K	.967	1.026	.192	29.6%
\$150K to \$200K	.996	.998	.073	12.4%
\$200K to \$300K	.987	.999	.082	12.5%
\$300K to \$500K	.925	1.003	.112	17.1%
\$500K to \$750K	.993	1.004	.085	12.9%
\$750K to \$1,000K	.848	.995	.107	16.4%
Over \$1,000K	1.014	1.000	.003	.4%
Overall	.978	1.023	.115	15.6%

Subclass

Case Processing Summary

	Count	Percent
ABSTRIMP 1714	1	2.6%
1721	3	7.9%
1726	1	2.6%
2212	10	26.3%
2215	4	10.5%
2225	2	5.3%
2230	10	26.3%
2233	1	2.6%
2235	2	5.3%
2240	3	7.9%
2245	1	2.6%
Overall	38	100.0%
Excluded	0	
Total	38	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
1714	.969	1.000	.000	.%
1721	.999	1.029	.113	17.0%
1726	.987	1.000	.000	.%
2212	.934	1.019	.085	10.0%
2215	1.021	1.103	.178	22.2%
2225	1.166	1.013	.088	12.5%
2230	.900	1.001	.143	19.6%
2233	1.231	1.000	.000	.%
2235	.996	1.002	.004	.5%
2240	1.011	.985	.062	9.6%
2245	.993	1.000	.000	.%
Overall	.978	1.023	.115	15.6%

Improvement Age

Case Processing Summary

		Count	Percent
AgeRec	Over 100	1	2.6%
	75 to 100	9	23.7%
	50 to 75	6	15.8%
	25 to 50	12	31.6%
	5 to 25	9	23.7%
	5 or Newer	1	2.6%
Overall		38	100.0%
Excluded		0	
Total		38	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
Over 100	1.054	1.000	.000	.%
75 to 100	.899	.993	.079	11.0%
50 to 75	1.087	1.054	.163	19.1%
25 to 50	.968	1.017	.093	12.8%
5 to 25	.993	1.028	.123	19.3%
5 or Newer	1.017	1.000	.000	.%
Overall	.978	1.023	.115	15.6%

Improved Area

Case Processing Summary

		Count	Percent
ImpSFRec	LE 500 sf	3	7.9%
	500 to 1,000 sf	2	5.3%
	1,000 to 1,500 sf	4	10.5%
	1,500 to 2,000 sf	2	5.3%
	2,000 to 3,000 sf	5	13.2%
	3,000 sf or Higher	22	57.9%
Overall		38	100.0%
Excluded		0	
Total		38	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
LE 500 sf	.874	1.089	.232	35.3%
500 to 1,000 sf	1.003	1.000	.009	1.3%
1,000 to 1,500 sf	1.006	.998	.025	3.6%
1,500 to 2,000 sf	1.044	1.007	.195	27.5%
2,000 to 3,000 sf	.892	1.064	.070	12.9%
3,000 sf or Higher	.981	1.019	.112	14.9%
Overall	.978	1.023	.115	15.6%

Improvement Quality

Case Processing Summary

		Count	Percent
QUALITY	1	1	2.6%
	2	4	10.5%
	3	13	34.2%
	4	15	39.5%
	5	4	10.5%
	6	1	2.6%
Overall		38	100.0%
Excluded		0	
Total		38	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
1	1.327	1.000	.000	.%
2	.934	1.057	.144	21.4%
3	.987	.988	.095	12.7%
4	.954	1.022	.112	15.7%
5	1.002	.990	.047	8.9%
6	.682	1.000	.000	.%
Overall	.978	1.023	.115	15.6%

Improvement Condition

Case Processing Summary

	Count	Percent
CONDITION 0	1	2.6%
1	4	10.5%
2	28	73.7%
3	5	13.2%
Overall	38	100.0%
Excluded	0	
Total	38	

Ratio Statistics for CURRTOT / TASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
0	1.327	1.000	.000	.%
1	1.103	1.002	.099	14.8%
2	.961	1.011	.103	14.3%
3	1.011	1.031	.087	15.1%
Overall	.978	1.023	.115	15.6%

Vacant Land Median Ratio Stratification

Sale Price

Case Processing Summary

		Count	Percent
SPRec	LT \$25K	69	24.6%
	\$25K to \$50K	54	19.3%
	\$50K to \$100K	81	28.9%
	\$100K to \$150K	27	9.6%
	\$150K to \$200K	19	6.8%
	\$200K to \$300K	12	4.3%
	\$300K to \$500K	14	5.0%
	\$500K to \$750K	4	1.4%
Overall		280	100.0%
Excluded		0	
Total		280	

Ratio Statistics for CURRLND /VTASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
LT \$25K	1.000	1.001	.171	29.4%
\$25K to \$50K	1.000	.999	.183	31.2%
\$50K to \$100K	.991	.993	.097	16.1%
\$100K to \$150K	.998	.996	.090	16.8%
\$150K to \$200K	.974	1.003	.101	13.8%
\$200K to \$300K	.991	.999	.081	11.4%
\$300K to \$500K	.991	1.006	.053	10.5%
\$500K to \$750K	.962	.993	.093	13.5%
Overall	1.000	1.039	.129	22.8%

Subclass

Case Processing Summary

	Count	Percent
ABSTR LND 100	211	75.4%
200	6	2.1%
520	5	1.8%
530	5	1.8%
540	2	.7%
550	3	1.1%
560	1	.4%
1112	46	16.4%
1120	1	.4%
Overall	280	100.0%
Excluded	0	
Total	280	

Ratio Statistics for CURRLND /VTASP

Group	Median	Price Related Differential	Coefficient of Dispersion	Coefficient of Variation
				Median Centered
100	1.000	1.044	.139	23.0%
200	.999	.958	.061	11.6%
520	.852	1.064	.084	12.1%
530	1.006	.992	.045	7.3%
540	1.088	.969	.098	13.9%
550	1.000	1.004	.043	6.5%
560	.982	1.000	.000	.%
1112	1.000	1.024	.096	25.4%
1120	.662	1.000	.000	.%
Overall	1.000	1.039	.129	22.8%