
Source: WA STATE DNR

Chapter 8
Grazing Resources Asset Class

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Executive Summary

The Grazing Resources Asset Class consists of state trust lands managed by the Washington Department of Natural Resources where cattle, sheep, and other livestock are allowed to forage vegetation for a set period of time under grazing leases and grazing permits. New grazing leases and permits are auctioned off in the public market. Existing grazing permits typically include lower rates than grazing leases. The table below summarizes the Trust Values for both subgroups based on the following extraordinary assumptions.

We assume that all lands with leases and permits for grazing use adhere to proper zoning regulations outlined in local general plans. If not fully compliant, we assume that each property is legally non-conforming to the proper regulations and standards. For the purpose of this analysis, we assume that the ownership interest is non-transferable resulting in the land not being able to be sold. We relied upon information provided by the Washington Department of Natural Resources for all specific data regarding data files, leasing activities and financials, and size and ownership information. We assume that the information provided is accurate and sufficient for the purpose of this valuation.

Importantly, the value appraised is Trust Value, which is defined earlier in this report. This value type is applicable to all of asset classes and subject to specific laws, regulations or management policies which restrict the use, marketability or sale of these asset classes.

Grazing Resources Asset Class Executive Summary			
	Grazing Leases	**Grazing Permits**	**Total**
Acres under Contract [1]	432,255	318,235	**750,490**
Total Contracts [2]	746	43	**789**
Stabilized Gross Revenue	$800,000	$250,000	**$1,050,000**
Operating Cost 30% Deduct	($240,000)	($75,000)	**($315,000)**
Trust Net Operating Income	$560,000	$175,000	**$735,000**
Capitalization Rate	7.00%	7.00%	**7.00%**
Value Indication (Rounded)	**$8,000,000**	**$2,500,000**	**$10,500,000**
Concluded Trust Value	**$8,000,000**	**$2,500,000**	**$10,500,000**
Value per Acre	**$18.51**	**$7.86**	**13.99**
Value per Contract	**$10,724**	**$58,140**	**$13,308**

[1] Represents the total acreage in FY18 as provided by Trust Management.
[2] Represents all leases and permits associated with a grazing use.

Introduction

The Grazing Resources Asset Class includes trust lands located mostly throughout central and eastern Washington leased and permitted for grazing use.

INTODUCTION

The Grazing Resources Asset Class consists of state trust lands leased and permitted for the purpose of grazing livestock. Grazing lands are also known as rangelands, meadows, pastures, and grazeable forestlands. Although grazing leases and permits are located throughout the state, most are located in the central and eastern portions of the state. The ground cover of grazing lands is primarily a mixture of grasses, grass-like plants, and shrubs suitable for animal forage.

Approximately 750,490 acres of state trust lands are reportedly under lease or permit for grazing use. Because of key differences between leases and permits (explained under the "Subgroups" portion of this section), these terms are not used interchangeably. For this chapter, "contracts" refers to leases and permits.

Grazing leases and permits allow livestock such as cattle and sheep to forage on specified areas of land for a set period of time. Lease terms for grazing can occur for up to, but not exceed, 10 years.[1]

As of the date of value, there were approximately 789 contracts (leases and permits) associated with the Grazing Resources Asset Class in FY 2018. Approximately 43 of these contracts were grazing permits and the remaining 746 were grazing leases.

Similar to the Agricultural Resources Asset Class, the Trust Manager's decisions to award grazing leases and permits depends heavily on the potential lessee's knowledge of grazing, management capabilities and qualifications, and financial abilities to carry out intended grazing uses.

In total, the Grazing Resources Asset Class typically generates around $1 million in gross revenue per year for state trust land beneficiaries.

As a general note, all dollar amounts reported in this chapter are nominal and have not been adjusted for inflation. Additionally, note that all years referenced are fiscal years—not calendar years. The fiscal year for state trust lands begins on July 1 and ends on June 30.

Subgroups. For the purposes of this portfolio valuation analysis, the Grazing Resources Asset Class has been divided into various subgroups (as appropriate) for analysis. The subgroups selected are based on either asset management criteria, asset valuation criteria, or the availability of asset data needed for the purpose of this analysis. We find the segregation of the Grazing Resources Asset Class into relevant subgroups is appropriate given the overall scope of the services.

Grazing Resources

More than 750,000 acres of state trust lands are under lease for grazing use. Grazing leases and grazing permits allow livestock such as cattle and sheep to forage vegetation on specified areas of land for a contractual period of time.

[1] Specified by state law RCW 79.13.060

As the Grazing Resources Asset Class is generally homogenous across the state, only the following two subgroups were selected for analytical purposes.

While the land use for grazing permits is identical to traditional grazing leases, grazing permits are segregated into a separate subgroup based on their unique nature of permittees and rental rates.

1. Grazing Leases

a. Specific parcels or parts of parcels of state trust lands that are leased to allow livestock to forage vegetation for a set period of time.
b. Rental rates for leases are largely determined by "animal unit months." An "animal unit" is equal to one cow and her nursing calf or their equivalent (WAC 332.20.030). An animal unit month is the amount of feed required to feed one animal unit for 30 days. A standard animal unit typically consumes around 780 pounds of air-dried forage (i.e. approximately 90 percent of the moisture removed) in a month.[2]
c. New grazing leases are offered per the auction process in RCW 79.13 and WAC 332.22. Grazing leases are issued for up to ten years (RCW79.13.060). When a lease is close to terminating, DNR advertises the lease for third-party interest. Qualified third parties can submit a bonus bid to try and secure the lease. If no bonus bid is received, DNR renegotiates the lease with the current lease holder. Grazing leases account for the majority of contracts negotiated for grazing purposes.

2. Grazing Permits

a. State trust lands that are permitted to allow livestock to forage vegetation for a set period of time. Most grazing permit ranges consist of a checkerboard ownership that includes state trust lands, private lands, tribal lands, and lands managed by the Washington Department of Fish and Wildlife and United States Forest Service. Grazing permits are typically adjacent to lands managed by the U.S Forest Service. Grazing permits are desirable due to their ability to feed a high number of animals in one specific area. Permits are limited to 600 animal units (WAC 332.20.180).
b. Rates for grazing permits are determined by animal unit months set by the formula in WAC 332.20.220. The rate is adjusted annually in relation to market prices for livestock in the previous year. Grazing permit rates are typically lower than grazing lease rents, except in years when cattle prices have been high.
c. New grazing permits are rare, but when available they are offered through public auction per WAC 332.20.210. Although grazing rates are set by WAC 332.20.220, potential permittees have the option to submit a bonus bid. The highest bonus bid of a qualified bidder is issued a temporary permit for five years. If the permittee satisfactorily meets the requirements of the permit, they are issued a preference permit (WAC 332.20.220). The preference permit is renewed every ten years as long as permit requirements are followed perpetually. As grazing permits are perpetual, lands associated with these permits rarely change hands.

[2]https://beef.unl.edu/cattleproduction/understandinganimalunitmonths

Both grazing leases and permits are typically located in either rangeland or mixed rangeland and grazeable forestland. For example, over half of the state trust lands leased for grazing are grazeable forestland, on which timber production is the primary use and grazing is considered secondary. Grazeable forestlands are managed under the Trust Manager's timber program and the grazing lease is administered through the agriculture program.

In FY 2018, there were reportedly 789 contracts with grazing uses for the entire asset class, which comprises approximately 750,490 acres. Figure 1 summarizes the contracts and acres by subgroup.

Note that the 746 grazing leases represent the total number of leases with the subgroup's use in FY 2018.

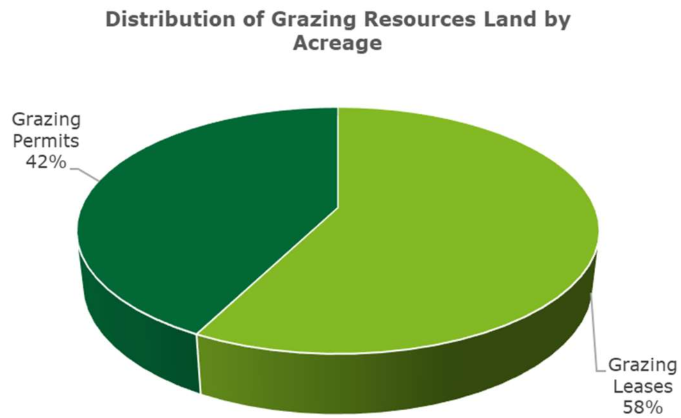
Grazing Resources Subgroup Acreage

FIGURE 1

Grazing Resources	Contract Count	Acres
Grazing Leases	746*	432,255
Grazing Permits	43	318,235
Totals	**789**	**750,490**

*Represents the number of leases associated with a grazing land use. Many leases share agricultural uses.

FIGURE 2



The Grazing Leases subgroup comprises the majority—58 percent—of total acres in this asset class, while the remaining 42 percent of total acres are contracted for grazing permits.

While grazing leases make up 59 percent of total acres in the asset class, they bring in roughly 3.3 times more revenue than grazing permits. In FY 2018, the Grazing Resources Asset Class produced total gross revenue of approximately $1 million.

The following table and chart highlight the allocation of gross FY 2018 revenue (rounded) between the different subgroup types.

Revenue from Grazing Resources Subgroup

FIGURE 3

Grazing Resources	Contract Count	Gross Revenue (FY18)	Gross Revenue Per Acre
Grazing Leases	746*	$810,000	$1.87
Grazing Permits	43	$250,000	$0.79
Totals	**789**	**$1,060,000**	

*Represents the number of leases associated with a grazing land use. Many leases share agricultural uses.

FIGURE 4

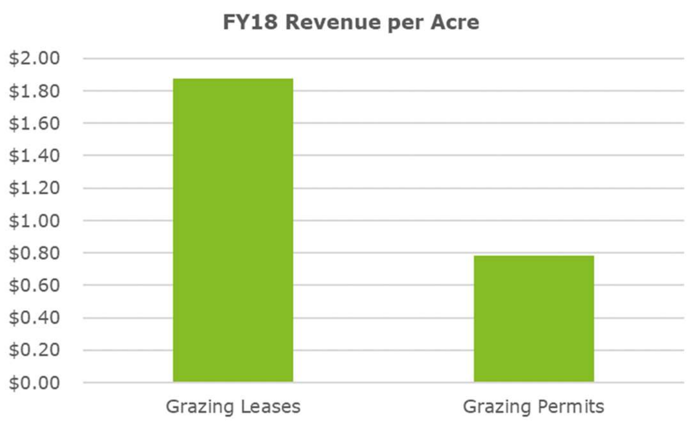
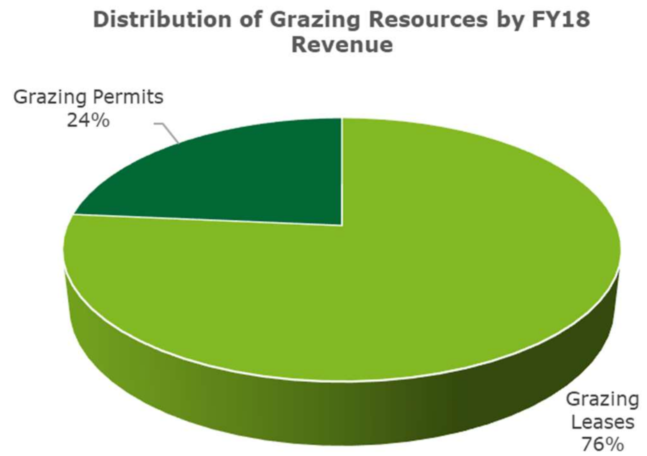


FIGURE 5



Grazing leases comprised 76 percent of the total revenue received for this asset class in FY 2018. Grazing permits produced the remaining 24 percent of revenue.

Grazing Resources Asset Class Ownership. The Trust Manager manages and operates state trust lands owned by the State of Washington for the benefit of designated trust beneficiaries. To be concise, this report uses the term "ownership" or "ownership interests" to describe the amount or percentage of gross revenue or land managed by the Trust Manager on behalf of specific trust beneficiaries, even though the land is owned by the State of Washington and not the trust beneficiaries.

The following tables and charts present the trust ownership percentages based on acreage and FY 2018 gross revenue for each subgrouping.

Ownership Composition of Grazing Leases

FIGURE 6

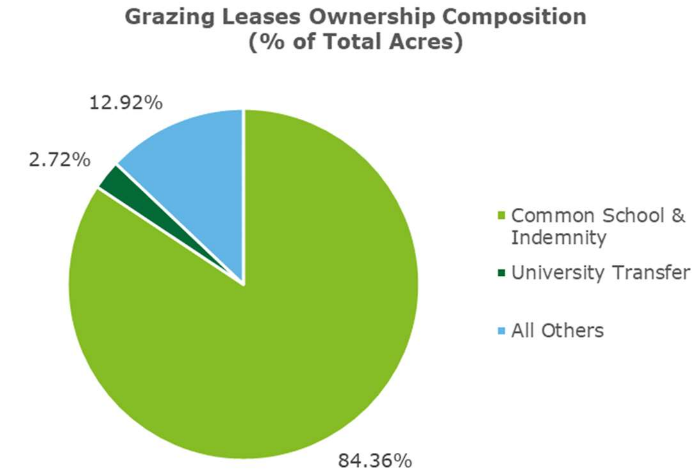
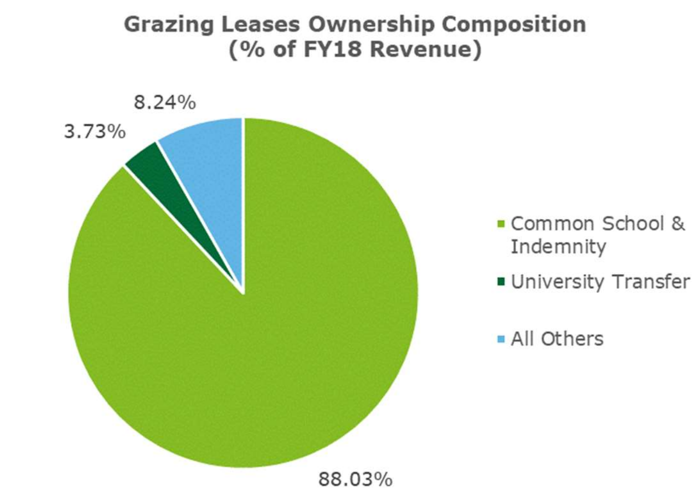


FIGURE 7



The majority of state trust lands used for the grazing leases subgroup support the Common School and Indemnity Trust, which supports public school construction statewide and other designated programs. The Beneficiary ownership interests in these lands are a result of federal land grants to Washington at the time statehood was granted.

Ownership Composition of Grazing Permits

FIGURE 8

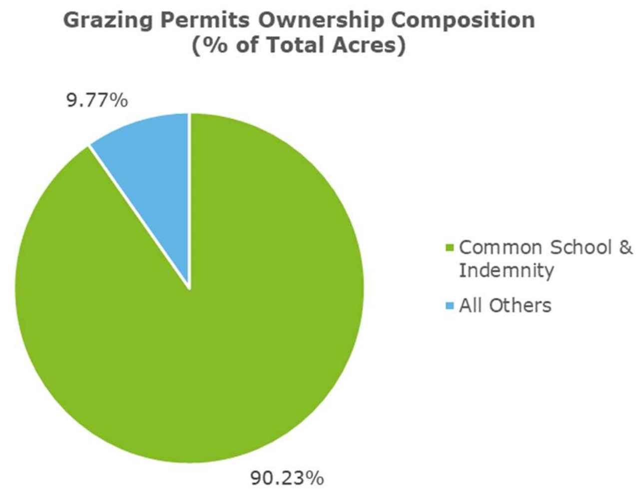
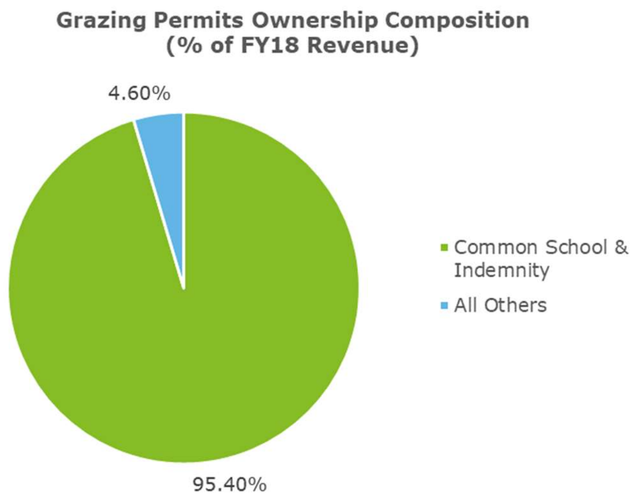


FIGURE 9



Similarly, the Common School and Indemnity Trust holds the largest ownership share of the grazing permit subgroup by both revenue received and total acreage.

All other trusts not listed in the ownership compositions have minimal or no ownership.

Physical Description

The total acreage of the Grazing Resources Asset Class is approximately 750,490 acres.

FIGURE 10

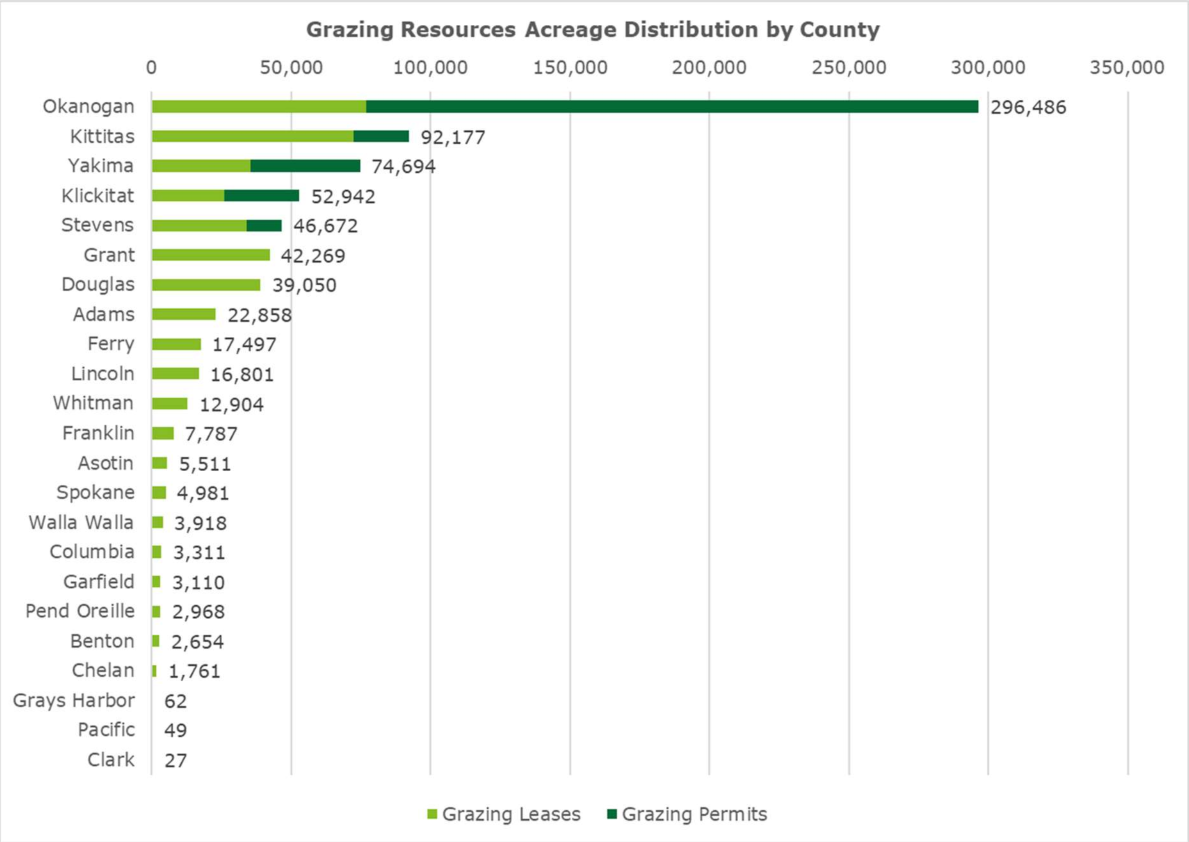


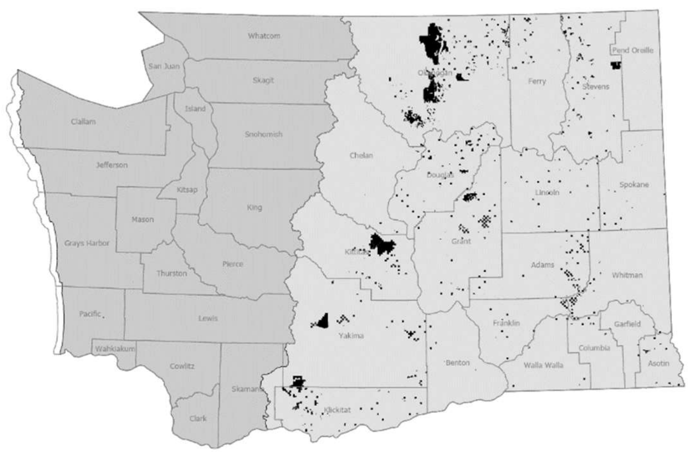
Image shows cattle foraging in the state of Washington. Source: WA STATE DNR

In FY 2018, there were more than 750,000 acres of state trust lands leased or permitted for grazing purposes. The top three counties in the state with land contracted for grazing purposes were Okanogan, Kittitas, and Yakima.

The following map primarily highlights where lands contracted for grazing purposes (i.e., both leases and permits) are positioned. Grazing lands in western Washington are small and less visible at this scale. As Trust Management's GIS database does not align with the FY 2018 acre totals, note that the maps are presented solely for visual support.

Map of All Grazing Leases and Grazing Permits

FIGURE 11



Grazing Leases.

In FY 2018, a total of 432,255 acres were used for grazing leases. The counties with the most grazing leases were Okanogan, Kittitas, and Grant, which are located in central Washington.

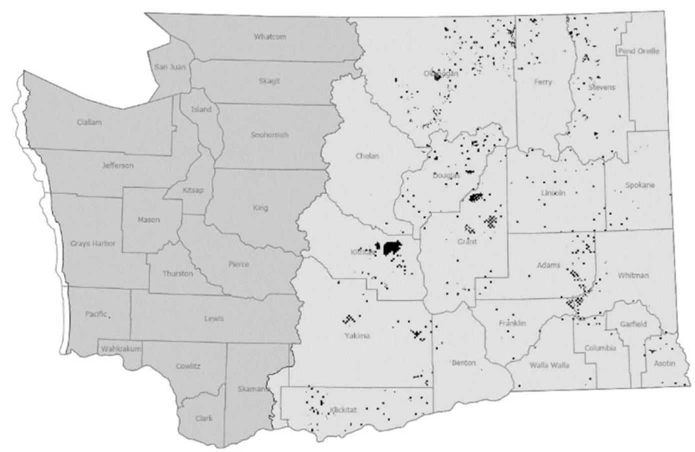
In FY 2018, a total of 746 leases reported revenue for the grazing leases subgroup.

As stated previously, most grazing occurs on rangeland or mixed rangeland and grazeable forestlands being managed for timber production. Some irrigated and dryland agriculture leases include acres that are not currently viable or available for dryland or irrigated farming; in these cases, grazing is an additional, permitted use under the agricultural lease.

The following map primarily highlights where grazing leases are located throughout the state. Leases in western Washington are small and less visible at this scale.

Map of Grazing Leases

FIGURE 12



Grazing Permits.

The grazing permits subgroup total 318,235 acres in FY 2018. Nearly 70 percent of these acres are located in Okanogan county.

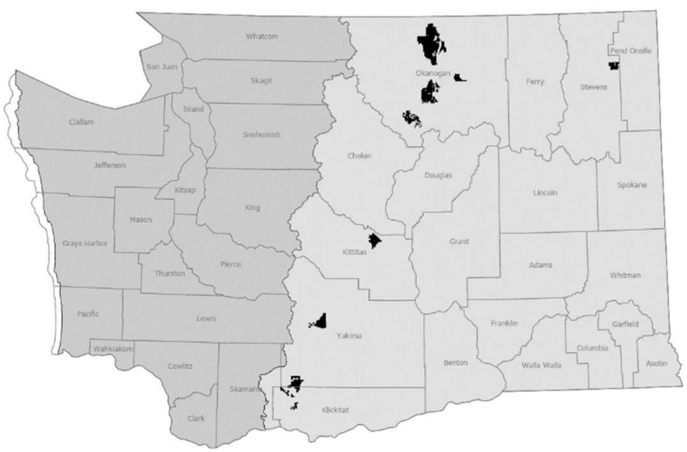
In FY 2018, revenue was reported from 43 grazing permits. Note that these grazing permits do not include other uses.

The physical characteristics of lands for grazing permits are similar to that of lands described for grazing leases.

The following map highlights where grazing permits are located throughout the state.

Map of Grazing Permits

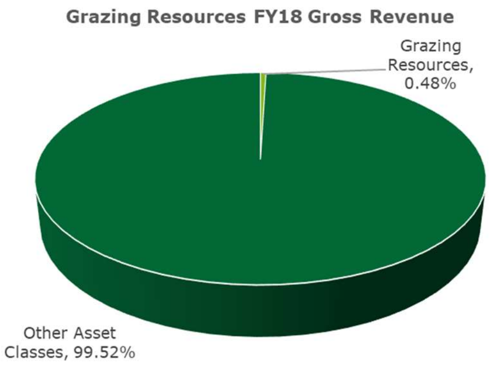
FIGURE 13



Operational History

The Grazing Resources Asset Class provides approximately 0.5 percent of the total gross revenue of all asset classes.

FIGURE 14

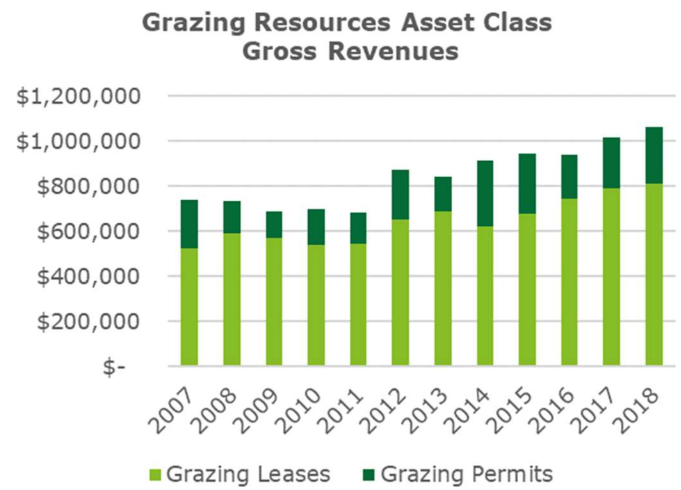


GRAZING RESOURCES ASSET CLASS REVENUE FROM 2007 TO 2018

For the scope of this project, we analyzed the operational history of each asset class. Operating information has been provided to the analysts for the past 12 fiscal years.

The chart below displays the total gross revenue[3] (before the operating cost percentage deduction) received from grazing leases and grazing permits from 2007 to 2018 by subgroup.

FIGURE 15



[3] Gross revenues exclude sub-sources 6, 3045, 4005, 5022, 5250, 6022, and 9088 as they are not included in reported operating cost percentage deduction totals.

Gross revenue for the grazing leases subgroup has increased over the past 12 fiscal years, with annual revenue rising from $500,000 to more than $800,000. Gross revenue for the subgroup has grown at a compound annual growth rate (CAGR) of 4.1 percent. The compound annual growth rate is defined as the annual rate of growth required for the beginning balance to grow to its ending balance.

Gross revenue for the grazing permits subgroup has remained mostly stagnant, with annual revenue hovering around $200,000 each year. Minimal changes have been made to rental fees for existing grazing permits over time, which may be the result of AUM rates that have changed little during this period.

Common School and Indemnity Trust. Since the Common School and Indemnity Trust has the largest ownership percentage for this asset class, we segregated the gross revenue received for each subgroup in each fiscal year to display the portion received by the Common School and Indemnity Trust versus the portion received by all other trusts.

FIGURE 16

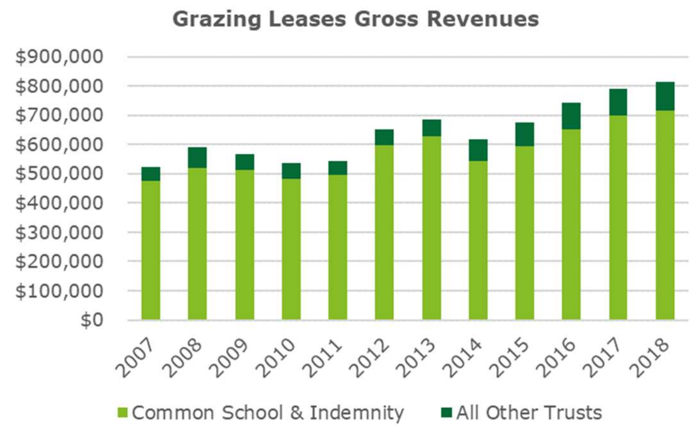
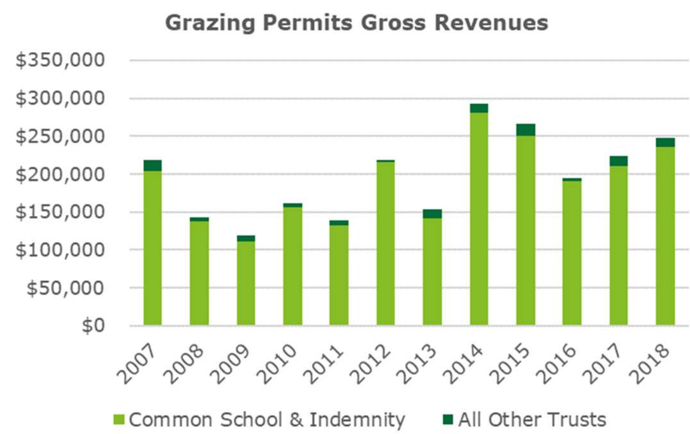


FIGURE 17



OPERATING COST PERCENTAGE DEDUCTION

As gross proceeds are received, an operating cost percentage deduction is applied and paid to the Trust Manager. From the trust beneficiary ownership position, there are no outflows of funds to operate and maintain the asset class; the Trust Manager budgets for actual costs and capital expenditures and pays these costs directly from the operating cost percentage deduction received during the year.

The operating cost percentage deduction is a percentage of gross revenues that is legislatively set. The percentage is typically between 25 percent and 31 percent of total gross revenue, depending on trust ownership type. Historical data reported in this analysis reflects actual blended rates deducted. We have used an estimated assumption of 30% for the operating cost percentage deduction of this asset class which has been applied in the direct capitalization method.

Operating Cost Percentage Deduction versus Direct Operating Expenses. The operating cost percentage deduction is different than actual operating expenses and capital expenditures incurred to operate and manage the Grazing Resources Asset Class assets.

When the total operating cost percentage deduction for all asset classes exceeds actual operating costs and capital expenditures for the year, the excess is held in reserve for future years when the operating cost percentage deduction does not cover actual costs. The reserve balances are reported by fund and held in separate accounts—the Resource Management Cost Account, the Forest Development Account and the Agriculture College Trust Management Account.

The Resource Management Cost Account in the state treasury is created and used solely for the purpose of defraying the costs and expenses incurred by the Trust Manager in managing and administering state trust lands, state-owned aquatic lands, and the making and administering of leases, sales, contracts, licenses, permits, easements, and rights of way as authorized (RCW 79.64.020).

The Forest Development Account was created in the state treasury (RCW 79.64.100). Money placed in this account is first used for paying interest and principals on specific bonds issued by the Trust Manager. Appropriations made by the legislature from the Forest Development Account to the Trust Manager are for carrying out forest management activities on state forestlands and for reimbursements of expenditures from the Resource Management Cost Account in the management of state forestlands.

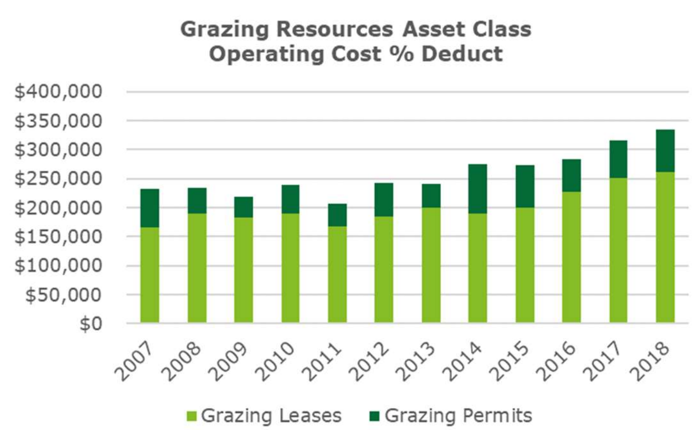
The third account is the Agriculture College Trust Management Account. This account does not retain an operating cost percentage deduction, but the Trust Manager receives a direct appropriation from the legislature to conduct management work. The Trust Beneficiary retains all gross revenue.

The reserve balances for all asset classes as of June 30, 2018 were approximately $12.6 million (Resource Management Cost Account) and nearly $4 million (Forest Development Account). Over the last 10 years, the Resource Management Cost Account reserves reached a high of more than $17 million at the end of FY 2014 and a low of $800,000 at the end of FY 2009. The Forest Development Account reserves reached a high of $24 million at the end of FY 2011 and a low of just under $4 million at the end of 2018.

However, it is noted that these are snapshots as of the end of fiscal years. In reality, the balances of the funds are constantly changing throughout each year with a much wider range. Reserves have been known to dip down to only a couple weeks of operating costs on a few occasions.

The following chart presents the dollar amounts of the historical operating cost percentage deduction from 2007 to 2018. The operating cost percentage deduction is proportionate to the gross revenues produced by the asset class each year—it rises and falls as earnings for trusts rise and fall and may not reflect increases or decreases in the Trust Manager's actual costs. These dollar amounts include both portions of revenue distributed to the DNR from grazing contracts and incidental revenue from trespassing fines, non-federal conservation programs, Initial Incident Report (IIR) restitutions, power charges, and other assessments. The costs are segregated by subgroup in the following chart and reflect actual amounts historically deducted.

FIGURE 18



ACTUAL COSTS

The following is a discussion of the actual costs incurred by trust beneficiaries and paid by the Trust Manager from funds received as a result of the operating cost percentage deduction.

The following charts highlight the historical actual costs incurred by the Trust Manager, which are split between direct and indirect expenses. Note that Trust Management's accounting system does not record costs at the level of detail needed to differentiate between subgroups. However, the Trust Manager estimates that 60 percent of costs can be attributed to grazing leases and 40 percent of costs can be attributed to grazing permits. The following two charts display the actual costs as allocated 60/40 for each subgroup, which are segregated by direct and indirect costs.

FIGURE 19

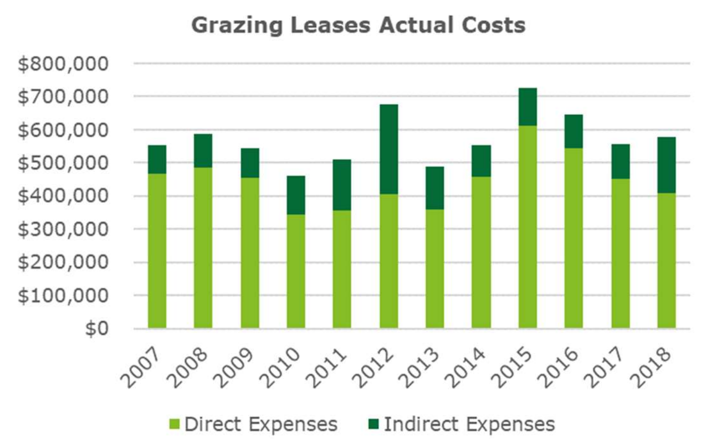
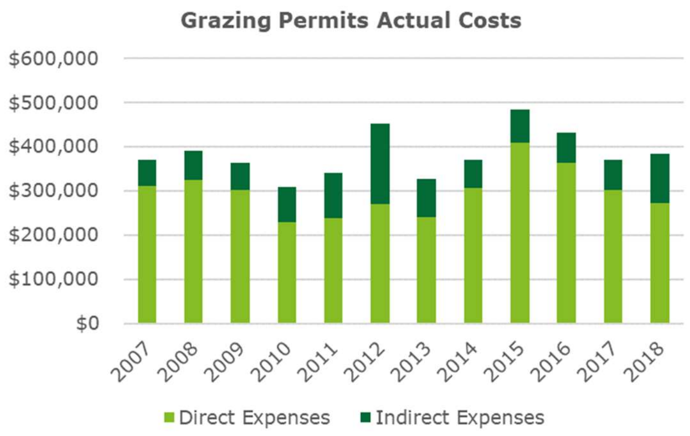


FIGURE 20



Direct Expenses. Direct expenses include all costs directly related to managing lands for grazing leases and grazing permits, as well as allocations of general costs.

Currently, the direct expenses that include all costs directly related to managing lands with grazing uses, including:

- Resource and leasing management
- Project, sales, and planning costs

The allocations of general costs are related to:

- Uplands
  - Expenses include environmental analysis, state land training, and law enforcement
- Engineering and General Services

  Expenses include resource mapping, surveying, and record keeping costs

Indirect Expenses. Indirect expenses include all overhead costs allocated to the Trust Manager for:

- Administrative and agency support
- Adjustments
- Legal services
- Strategic investments
- Other administrative payments

In Trust Management's accounting system, costs for grazing and agricultural uses share the same business center where costs are reported.

Historically, the Grazing Resources Asset Class has struggled to be profitable. To demonstrate this, the following table presents the total revenue, net of total actual costs (all direct and indirect expenses allocated to the asset class), for the past five fiscal years.

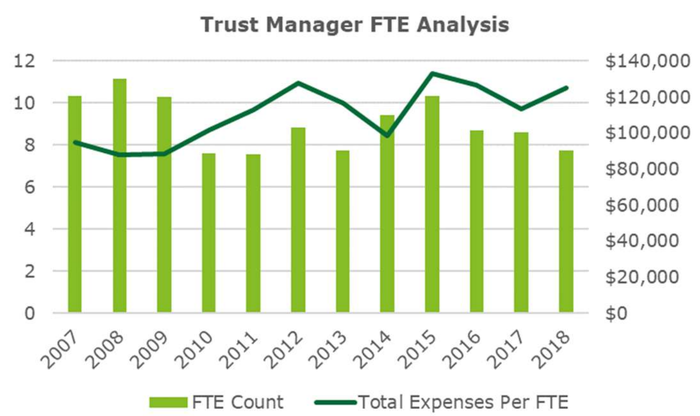
FIGURE 21

	2014	2015	2016	2017	2018
Total Annual Gross Revenue	**$912,720**	**$943,602**	**$936,635**	**$1,013,644**	**$1,060,399**
Direct Expenses	($764,585)	($1,022,125)	($907,719)	($752,576)	($682,000)
Indirect Expenses	($159,760)	($185,984)	($170,085)	($174,577)	($279,965)
Total Actual Costs	**($924,345)**	**($1,208,110)**	**($1,077,805)**	**($927,153)**	**($961,965)**
Net Cash Flow	**($11,625)**	**($264,507)**	**($141,170)**	**$86,490**	**$98,433**

We conducted a full-time employee analysis that segregated costs for grazing resources from costs for agricultural resources. Additional splits allocated to the business center (i.e., general costs for uplands, engineering, general services, and state land infrastructure) have also been segregated between the Grazing Resources Asset Class and the Agricultural Resources Asset Class based on allocated full-time employees.

As seen in the following analysis, in the last four years, the Grazing Resources Asset Class has seen the number of full-time employees decrease from more than 10 resources to less than 8 resources. Total actual costs paid by the Trust Manager averaged approximately $124,000 per full-time employee over the same period. These costs cover all direct and indirect expenses, which include salaries, as well as benefits and agency overhead associated with managing the assets.

FIGURE 22



NET CASH FLOW 2014 TO 2018

As described in the Operating Cost Percentage Deduction section, the trust beneficiaries pay a portion of the gross revenue (i.e., operating cost percentage deduction) to the Trust Manager for operating expenses and capital expenditures. These costs include direct and indirect expenses. The cash flows net of the operating cost percentage deduction are then distributed to the appropriate funds by ownership.

The following table summarizes the net cash flows distributed to trust beneficiaries over the past five fiscal years for this asset class. These operating cost percentage deduction amounts include both portions of revenue distributed to the Trust Manager from grazing contracts and incidental revenue from trespassing fines, non-federal conservation programs, IIR restitutions, power charges, and other assessments. For the period from 2014 to 2018, these cash flows indicate the Grazing Resources Asset Class provided trust beneficiaries with average net cash flows ranging from $638,000 to $726,000 per year.

FIGURE 23

	2014	2015	2016	2017	2018
Total Annual Gross Revenue	**$912,720**	**$943,602**	**$936,635**	**$1,013,644**	**$1,060,399**
Operating Cost % Deduct	($274,239)	($273,231)	($283,762)	($316,089)	($334,479)
% of Revenue	30.05%	28.96%	30.30%	31.18%	31.54%
Revenues Distributed to Trusts	**$638,481**	**$670,372**	**$652,873**	**$697,555**	**$725,920**
% of Revenue	**69.95%**	**71.04%**	**69.70%**	**68.82%**	**68.46%**

Property Taxes and Zoning

The State of Washington is exempt from paying direct real property taxes for grazing lands.

PROPERTY TAXES

Property taxes are a local government's main source of revenue. Most localities tax private homes, land, and businesses based on the property's value.

Lands owned by the state are exempt from property tax obligations under the state constitution. However, because private lessees of state land receive the benefit of governmental services, the legislature imposes a leasehold excise tax on these private lessees under RCW 82.29A.

Leasehold excise tax is paid by the lessee to the Trust Manager when rent is paid, and the Trust Manager remits the payment to the Department of Revenue. Land that is not leased does not pay property taxes or leasehold excise tax. Generally, the leasehold excise tax on leased land is most often less than what property taxes would be for the same land.

ZONING

We assume that all lands containing leases for grazing purposes adhere to the proper zoning regulations outlined in local general plans. If not fully compliant, we assume that each property is legally non-conforming to the proper zoning regulations and standards.

Market Analysis

Milk and cattle are two of the top 10 agricultural commodities produced in the State of Washington.

MARKET OVERVIEW

Overview of Grazing in Washington State

Washington State holds the title of the second most diverse agricultural producer in the nation—second only to California. The state produces many top commodities such as apples, wheat, potatoes, and hay, among others.

The number two commodity produced in the state is milk, which exceeds more than $1 billion annually in production value. Cattle is the fifth most valuable commodity produced in the state, with an annual production value totaling more than $650 million.[4]

Based on the 2018 US Department of Agriculture State Agriculture Overview, Washington cattle production inventory reached 1,180,000 head, including calves, in 2018, and sheep production inventory totaled 50,000 heads, including lambs, in 2018.[5]

Industry Sector Performance (National Overview)

The rest of the market analysis section is based on information and data sourced from IBISWorld, a trusted industry research firm. The industry sector discussed is the Agricultural, Forestry, Fishing and Hunting Industry Sector which includes a small portion for grazing. The industry sector is a national overview in the United States that includes the state of Washington.

IBISWorld groups agriculture, forestry, fishing and hunting into the same industry sector. Specifically, the sector includes farms that primarily grow crops or raise livestock, as well as companies that specialize in forestry and agricultural support services and companies that provide land for hunting and fishing.

The sector includes portions that comprise livestock and crops. These products compete with each other. As the total vegetable consumption per capita increases, meat consumption declines.

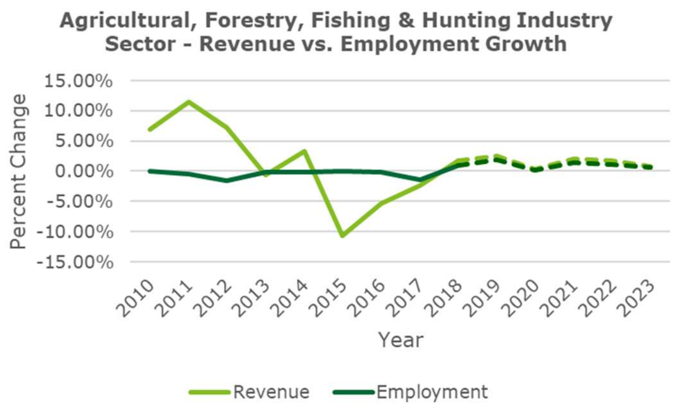
This sector is one of the oldest in the nation. While it has a longstanding place in the economy, it is one of the more historically volatile sectors. Crop and livestock production can be affected by many unpredictable factors, such as disease, pests, and drought.

The sector reported revenue of $418 billion across 2 million businesses nationwide in 2018. Approximately 40.9 percent of the sector's products and services segmentation comprises animals and animal products.

[4] https://agr.wa.gov/washington-agriculture
[5] https://www.nass.usda.gov/Quick_Stats/Ag_Overview/stateOverview.php?state=WASHINGTON

The following chart displays historical and projected revenue and employment growth in the overall industry sector between 2010 and 2023.

FIGURE 24



Between 2013 and 2018, revenue growth in the sector decreased by an average annual growth rate of approximately 2.8 percent nationwide. This is mainly due to severe droughts in 2012 that affected many states, primarily in the Midwest and Southwest. Over-production of crops in the years following the drought led to significant price drops for nearly half of the products and services in this industry sector on a national basis. However, it is important to note that while the State of Washington was not directly impacted by the drought, it was impacted in the following years due to the significant price drops.

Growing health concerns and demand for organic and natural agricultural products are expected to boost revenue growth for the sector, which could potentially mean a decline specific to revenue for livestock production. The projected annual growth rate for the nationwide agriculture, forestry, fishing, and hunting sector in aggregate between 2018 and 2023 is 1.5 percent.[6]

[6] *IBISWorld Agriculture, Forestry, Fishing and Hunting Sector Report*, June 2018.

Methodology

The valuation methodology selected is the Income Approach.

Methodology

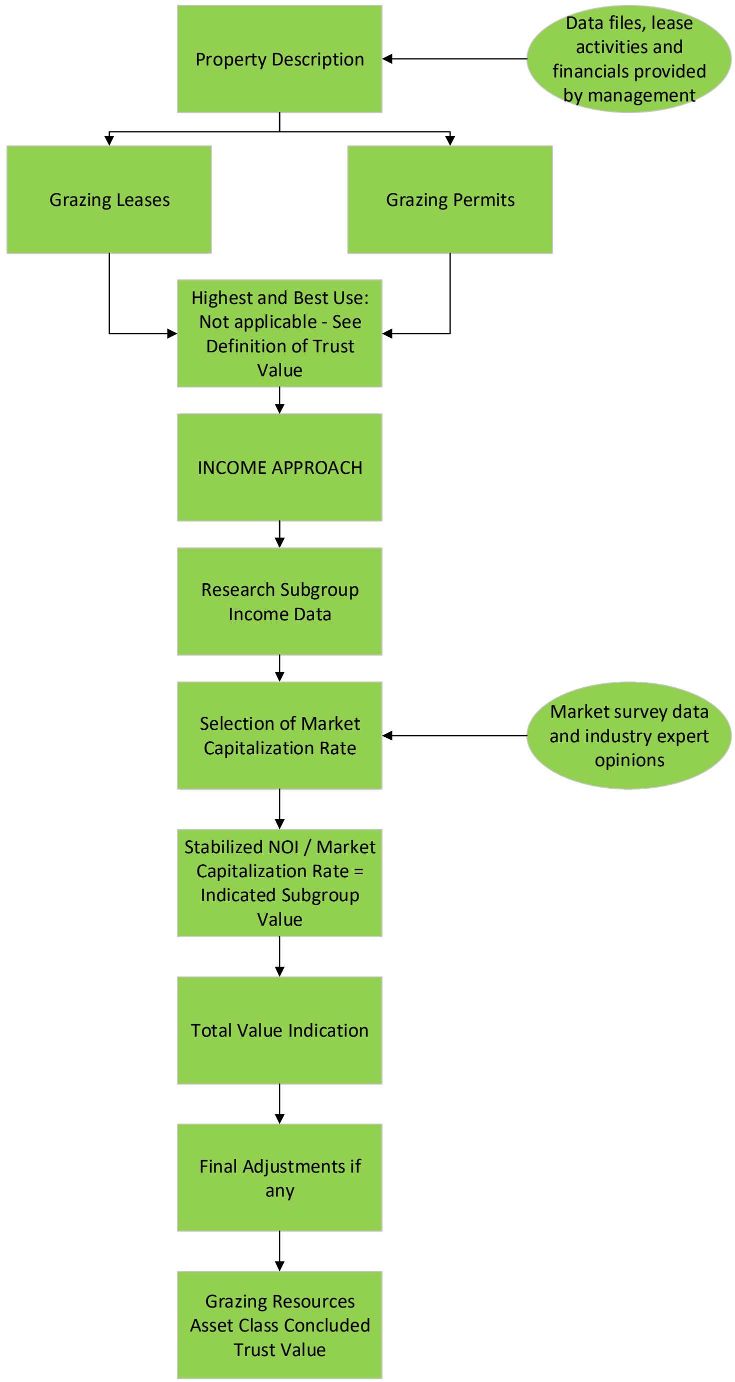
The income approach is the basis for the valuation of this asset class. The Trust Manager's data files were the principal source of market and value information (i.e., annual gross lease revenue, direct and indirect expenses, and other financial information) and include lease activity obtained in the ordinary course of the management of assets.

Due to the nature of the cash flow stream this asset class produces through its negotiated leases, the income approach is utilized as the methodology utilized. Adequate amounts of market data existed to use the income approach.

The flowchart that follows will display the steps taken in the valuation analysis of the Grazing Resources Asset Class.

Grazing Resources Asset Class Valuation Flowchart

FIGURE 25



Trust Value Analysis

We evaluated the trust retail value of the Grazing Resources Asset Class by using the approach described below:

Income Approach

The income approach involves performing procedures that enable an appraiser to derive a value indication for an income-producing property by converting its anticipated benefits into property value using one of the following methods:

- *Discounted Cash Flow Method*: The annual cash flows for the holding period and the reversion are discounted at a specified yield rate. The discounted cash flow method <u>was not used</u> in this analysis.

- *Direct Capitalization Method*: One year's income expectancy is capitalized at a capitalization rate that reflects a specified income pattern, return on investment, and change in the value of the investment. The direct capitalization method was used in this analysis.

An overall capitalization rate, or simply "capitalization rate," is defined as a ratio of one year's net operating income provided by an asset to the value of the asset and is used to convert income into value when using the income capitalization approach.[7] Further discussion regarding this rate can be found in the earlier chapter that focuses on rates of return.

Given the leased nature and ownership limitations of the Grazing Resources Asset Class, the direct capitalization method is considered to be most relevant and, thus, has been utilized in this portfolio analysis.

Extraordinary Assumptions

We assume that all lands containing leases with grazing uses adhere to the proper zoning regulations outlined in local general plans. If not fully compliant, we assume each property is legally non-conforming to the proper regulations and standards.

As previously discussed in the chapter regarding restrictions and burdens, the Trust Manager's ability to sell, exchange, or transfer state trust lands is limited by statute. For the purpose of this analysis, we assume that the ownership interest is non-transferable[8] resulting in the land not being able to be sold.

We relied on information provided by the Trust Manager for all specific data regarding data files, leasing activities, financial statements, size, and ownership information. We assume that all information provided by the Trust Manager is accurate and sufficient for the purpose of this valuation.

Hypothetical Conditions

None noted.

[7] Definition sourced from the *Sixth Edition of the Dictionary of Real Estate Appraisal*.
[8] State lands that are leased under RCW 79.13.370 "shall not be offered for sale, or sold, during the life of the lease, except upon application of the lessee." The Trust Manager includes an early termination clause in its grazing leases that provides for termination if the premises are included in a plan for higher and better use, sale, or exchange.

Income Approach

The direct capitalization method is used to estimate the Trust Value of the Grazing Resources Asset Class.

For the purposes of the valuation analyses in this report, the Grazing Resources Asset Class has been divided into two subgroups:

- Grazing leases
- Grazing permits

ESTIMATED NET CASH FLOWS

As highlighted in the "Operational History" section of this chapter, total gross revenue received from rent payments for the Grazing Resources Asset Class typically total about $1 million per year. We have estimated expected stabilized streams of revenue for each subgroup in the asset class based on analyzing historical averages and trends while acknowledging volatility and potential growth where applicable. Combined, the estimated stabilized gross revenues total $1,050,000 for the Grazing Resources Asset Class.

We have also estimated an expected stabilized operating cost percentage deduction of 30% based on historical deductions averaging near this blended rate. In the following table, we segregate the income streams based on the identified subgroupings.

FIGURE 26

Grazing Resources Asset Class - Stabilized Income Summary	Grazing Land Leases	Permit Ranges	**Total**
Stabilized Gross Revenues	$800,000	$250,000	**$1,050,000**
Operating Cost % Deduction	($240,000)	($75,000)	**($315,000)**
% of Revenues	30%	30%	**30%**
Trust Net Operating Income	$560,000	$175,000	**$735,000**

CAPITALIZATION RATE SELECTION

Grazing Leases and Grazing Permits.

An overall rate of 7 percent has been selected to apply to the net cash flows for both the grazing leases and grazing permits subgroups. For further discussion regarding determining this capitalization rate, please reference the earlier chapter of this report which discusses rates of return.

DIRECT CAPITALIZATIONS

The capitalization rate is next applied to the relevant stabilized revenue stream estimates for each subgroup to derive a preliminary Trust Value indication for each asset class. The direct capitalization calculations are presented for each subgroup.

Note that the acres leased and reported for each subgroup represent the total acreage in FY 2018, as provided by Trust Management.

Note that the contract count figure for grazing leases represents the total number of leases with the subgroup's use in FY 2018. It is not uncommon for leases with a grazing use to include agricultural uses. Specifically, many of these leases report minor amounts of revenue for non-production lands.

Grazing Leases. The total value indication for grazing leases is $8,000,000 (rounded), which equates to an average of approximately $18.50 per leased acre. Capitalization calculations for grazing leases are as follows:

FIGURE 27

Direct Capitalization - Grazing Leases		
Acres Leased [1]		432,255
Total Leases [2]		746
Stabilized Gross Revenues		$800,000
Operating Cost % Deduction	30.00%	($240,000)
Revenue Distributed to Trusts		$560,000
Capitalization Rate		7.00%
Indicated Grazing Land Leases Value		$8,000,000
Grazing Land Leases Value (Rounded)		**$8,000,000**
Value per Acre		**$18.51**
Value per Lease		**$10,724**

[1] Represents the total acreage in FY18 as provided by Trust Management.
[2] Represents all FY18 contracts with the subgroup's use type. This total includes leases with some minor agricultural revenues reported.

Grazing Permits. The total value indication for grazing permits is $2,500,000 (rounded), which equates to an average of approximately $7.90 per acre under permit. The Capitalization calculations for grazing permits are as follows:

FIGURE 28

Direct Capitalization - Grazing Permits		
Acres under Permit [1]		318,235
Total Permits		43
Stabilized Gross Revenues		$250,000
Operating Cost % Deduction	30.00%	($75,000)
Revenue Distributed to Trusts		$175,000
Capitalization Rate		7.00%
Indicated Permit Ranges Value		$2,500,000
Permit Ranges Value (Rounded)		**$2,500,000**
Value per Acre		**$7.86**
Value per Permit		**$58,140**

[1] Represents the total acreage in FY18 as provided by Trust Management.

Income Approach Summary. The following table combines the total indicated values from each of the direct capitalization calculations into a total indicated value for the asset class.

FIGURE 29

Grazing Resources Income Approach Summary	
Acres under Contract	750,490
Total Contracts [1]	789
Grazing Leases	$8,000,000
Grazing Permits	$2,500,000
Total Value Indication (Rounded)	**$10,500,000**
Value per Acre	**$13.99**
Value per Contract	**$13,308**

[1] Represents all leases and permits associated with a grazing use.

Value Conclusion

The concluded Trust Value of the Grazing Resources Asset Class is $10,500,000.

GRAZING RESOURCES ASSET CLASS VALUE CONCLUSION

Using the income approach, the indicated values for each of the subgroups—grazing leases and grazing permits—were combined to represent the total value indication for the Grazing Resources Asset Class.

This results in a concluded Trust Value of $10,500,000 for this asset class.

FIGURE 30

Grazing Resources Asset Class Value Conclusion	
Acres under Contract	750,490
Total Contracts [1]	789
Grazing Leases	$8,000,000
Grazing Permits	$2,500,000
Total Value Indication (Rounded)	**$10,500,000**
Concluded Trust Value (Rounded)	**$10,500,000**
Value per Acre	**$13.99**
Value per Contract	**$13,308**

[1] Represents all leases and permits associated with a grazing use.

INDIVIDUAL TRUST VALUES SUMMARY

The concluded Trust Value of the Grazing Resources Asset Class was calculated and allocated to each trust based on its share (i.e., percentage) of gross revenue for the asset class in FY 2018. The table below reflects the concluded share of the Trust Value designated for each trust for FY 2018, segregated by subgroup.

FIGURE 31

Grazing Resources Asset Class Individual Trust Values				
Trust	**Grazing Leases**	**Grazing Permits**	**Trust Value**	**%**
Common School and Indemnity	$7,042,560	$2,384,900	**$9,427,460**	**89.79%**
University Transferred	$298,000	$20,300	**$318,300**	**3.03%**
Other [1]	$191,680	$0	**$191,680**	**1.83%**
Agricultural School	$153,440	$14,375	**$167,815**	**1.60%**
CEP & RI	$129,920	$21,425	**$151,345**	**1.44%**
Normal School	$53,520	$17,425	**$70,945**	**0.68%**
Scientific School	$55,920	$5,225	**$61,145**	**0.58%**
State Forest Transfer	$16,720	$36,100	**$52,820**	**0.50%**
Capitol Grant	$40,480	$125	**$40,605**	**0.39%**
University Original	$14,160	$125	**$14,285**	**0.14%**
Escheat	$3,600	$0	**$3,600**	**0.03%**
Total	**$8,000,000**	**$2,500,000**	**$10,500,000**	**100%**

[1] Other includes the collective miniscule amounts of Department of Social and Health Services, Community Forest Trust and other trusts not in the scope of this project.