Agricultural Land Valuation Advisory Committee Meeting
April 2, 2020

Slide 1
Committee responsibilities:

- Compile and review data required to determine productive capacity value of ag lands
- Recommend any adjustments to data or to landowners' share percentages
- Recommend appropriate base periods and averaging methods
- Evaluate & recommend the capitalization rate
- Verify that the income reasonably approximates what the average Montana farmer or rancher could have attained
- Recommend agricultural land valuation schedules
- Provide methods for adjusting agricultural land productivity values when more site-specific data is available and pertinent
- Recommend definitions for “site-specific” and “pertinent”

Slide 2
Class 3 Agricultural Land

- Includes: Agricultural land, Nonproductive patented mining claims (NPPMC) & Nonqualified agricultural land
- Over 50 million acres
- Approximately 35,000 land owners

Slide 3
Agricultural Eligibility
Contiguous ownerships less than 160 acres

- Must apply for agricultural classification
- Basis the land produced $1500 in annual gross income from agricultural products including:
    - livestock, poultry, honey and other products from bees, biological control insects, field crops, fruit, or other animal and vegetable matter raised for food or fiber or sod, ornamental, nursery, and horticultural crops that are raised, grown, or produced for commercial purposes. §15-1-101, MCA

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Agricultural Eligibility (cont.)

- Contiguous parcels of land 160 acres or more

- Automatic agricultural classification
- Contiguous parcels of land 20 acres or more but less than 160 acres
- Non-qualified agricultural land unless approved by application
- Rental income or income from government programs are permissible income sources
- Noncontiguous parcels of land can combine incomes
- Must apply for agricultural classification
- Contiguous or noncontiguous parcels of land less than 20 acres
- Market land unless approved by application
- Rental income or income from government programs are not permissible income sources

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Agricultural Eligibility (cont.)

Grazing Land

- Must be capable of sustaining a minimum number of animal unit months
- Determined by Montana State University-Bozeman
- 2017 determination
- Grazing land must be able to support a minimum of 31 AUMs carrying capacity
- Carrying capacity based on the NRCS soil survey
- Hobby horses or other hobby animals are not considered a bona-fide agricultural use. §15-7-202 (4), MCA

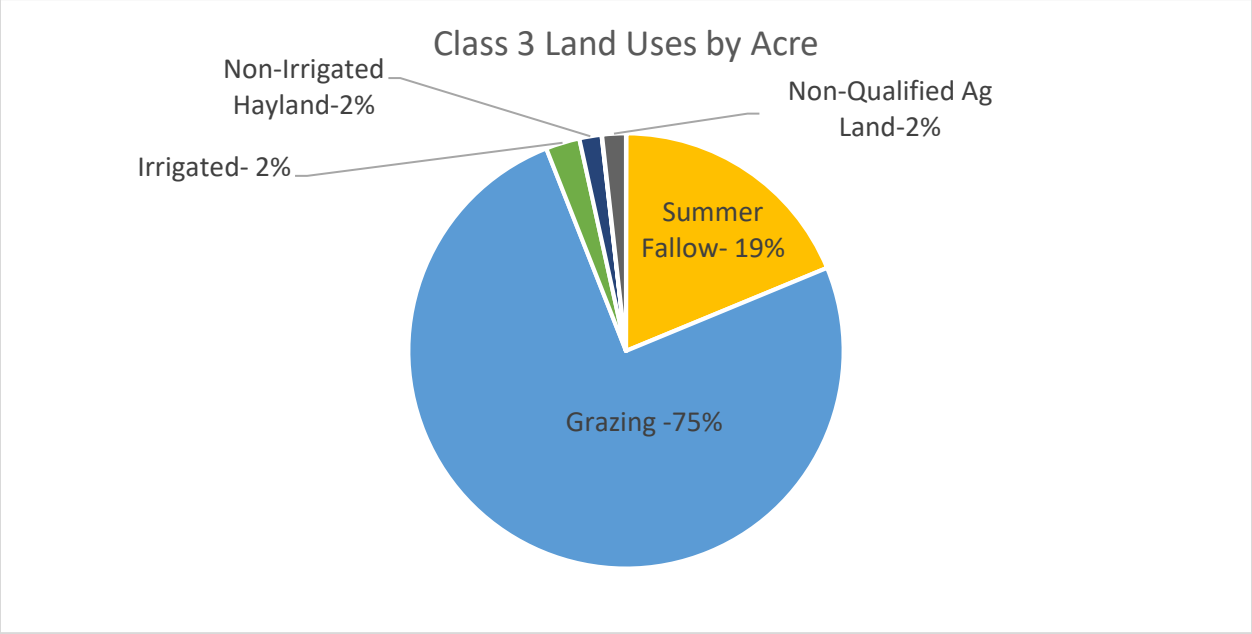
Slide 6

Specialty crops include:

    - fruit tree orchards, vineyards, cultivated Christmas trees, sod farms, nurseries, gardens, apiaries and poultry
- Classified as continuously cropped farmland
- Valued at the highest productivity level of continuously cropped farmland, 60 bushels per acre for 2019 ($1,523/acre)
- Provisional classification provided for start-up period of 5 years (SB 69).

Slide 7

Total acres in agricultural land uses



Slide 8

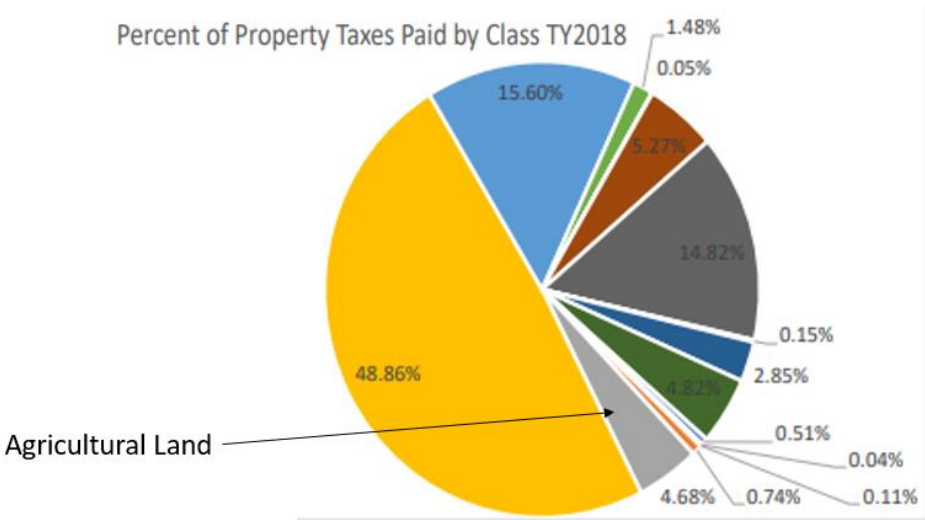
Valuation of Agricultural Property

- Market value of many agricultural properties is based upon speculative purchases
  - do not reflect the productive capability of agricultural land
- Legislative intent
  - bona fide agricultural properties be classified and assessed at a value exclusive of urban influences or speculative purposes. §15-7-201(1), MCA

Slide 9

Biennial Report

https://mtrevenue.gov/wp-content/uploads/2019/01/2018-Biennial-Report-Property-Taxes.pdf



Slide 10

AG CHANGES FOR 2019-2020 REAPPRAISAL CYCLE			
Change	**2017-2018**	**2019-2020**	**Difference**
Commodity prices			
Spring Wheat *(Used for valuing summer fallow and continuous crop)*	$6.67	$6.50	-3%
Alfalfa hay *(Used for valuing dryland hay and irrigated land)*	$86.20	$98.20	14%
Private Grazing Fee *(Used for valuing grazing land)*	$19.53	$20.93	7%
Minimum value of irrigated land *(Based on 23 bu./acre spring wheat & continuous crop formula)*	$599.26	$583.98	-3%
Per Acre value of nonqualified agricultural land and nonproductive patented mining claims *(Based on the statewide average of grazing land @ .21 aums/acre)*			
Nonqualified agricultural land	$48.13	$51.51	7%
Nonproductive patented mining claims	$48.13	$51.51	7%
Specialty Crops *(Valued using the highest productive value of nonirrigated continuously cropped farmland)*			
Highest productivity of nonirrigated continuously cropped farmland	60 bushels/acre	60 bushels/acre	
Value of one acre of specialty crop	$1,563.00	$1,523.44	-3%
Value of one-acre homesite on agricultural land *(Farm site)*	$2,302	$2,144	-7%
Irrigated Land Energy Cost Variable Full calculated water cost (not midpoint from table)			

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Base crops

- §15-7-201 (4) (B) (c), MCA - The base crop for valuation of irrigated land is alfalfa hay adjusted to 80% of the sales price, and the base crop for valuation of nonirrigated land is spring wheat. The base unit for valuation of grazing lands is animal unit months, defined as the average monthly requirement of pasture forage to support a 1,200-pound cow with a calf or its equivalent.

Land Category	**Base Crop**	**Base Unit**
Non-irrigated farm land (Summer fallow)	Spring Wheat	bushels
Non-irrigated farm land (Continuous Crop)	Spring Wheat	bushels
Irrigated tillable land	Alfalfa	tons
Non-irrigated hay land	Alfalfa	tons
Grazing land	Private Grazing Fee	animal unit months

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Productivity

- Based on yield (§15-7-201, MCA)
- Measured in bushels, tons, or aums
- Base source is the Natural Resource Conservation Service (NRCS) Soil Survey
- Determined Income must reasonably approximate that which the average Montana farmer and rancher could have attained (15-7-201, MCA)
- Adjustments are made when appropriate

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Spring Wheat adjustments (.86, .77, & .70)

- Based on weighted average of spring wheat productivity for counties located within the three regions

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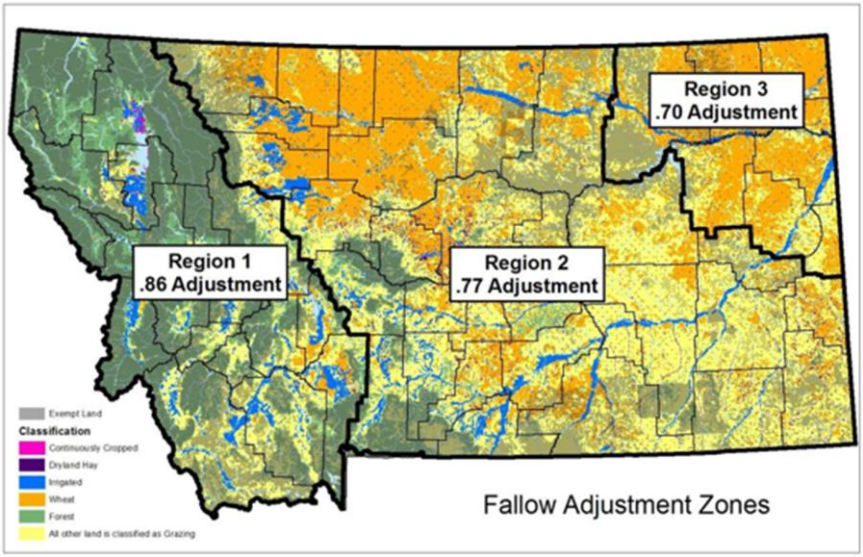

Slide 15
Irrigated land productivity
Measured in tons of alfalfa per acre

- Each county has at least one adjustment
    - More than 1, if appropriate

Slide 16
Crop Share
Used to estimate the net income based on income to landowner if the land were in a lease agreement.
For continuous crop, non-irrigated hay land and irrigated land

- Assumes
    - landowner receives 25% of the crop
    - renter keeps the remaining 75% of the crop produced

Summer fallow crop share is 12.5% to account for rotational cropping

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Grazing Expenses

- Used to estimate the net income
- Landowner contributes 25% of rent received for expenses such as fence upkeep and water development

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Estimated 2021 commodity Prices

2021 Olympic Average	Indicates price not included in average		
Commodity	**Spring Wheat**	**Alfalfa @80%**	**Private Grazing Fee**
2019	4.85	116.00	24.50
2018	5.37	118.40	24.50
2017	6.21	113.60	24.50
2016	4.76	107.20	24.00
2015	4.80	101.60	23.00
2014	6.08	101.60	23.00
2013	6.70	112.80	21.00
2012	8.39	116.80	20.50
2011	8.36	78.40	19.40
2010	6.87	63.20	18.40
~~2009~~	~~5.72~~	~~76.80~~	~~18.00~~
~~2008~~	~~7.36~~	~~93.60~~	~~18.10~~
2021 Estimated Average	**$6.16**	**106.00**	**$22.49**
2021 Average	$6.16	$106.00	$22.49
% change from 2019	-5.31%	7.94%	7.44%
2019 Average	$6.50	$98.20	$20.93
% change from 2019	-2.55%	13.92%	7.17%
2017 Average	$6.67	$86.20	$19.53
% change from 2017	*4.9%*	*12.7%*	*8.0%*
2015 Average	*$6.36*	*$76.50*	*$18.08*
% change from 2015	*5.1%*	*12.9%*	*8.0%*

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2019-2020

Examples of the Agricultural Land Productivity Valuation Formula

Per 15-7-201, MCA the formula used to determine the per-acre value of agricultural land is V=I/R where:

V	=	productivity per-acre value of agricultural land
I	=	per-acre net income associated with agricultural use[1]
R	=	capitalization rate. The rate converts an on-going income stream into value; the rate is 6.4%

Summer Fallow Farm land

Avg. price for spring wheat	= $6.50/bu.
Productivity	= 23 bu/ac
Gross Income/ac. = $6.50 * 23 bu/ac	= $149.50/ac
Net Income = $149.50 * 0.125	= $18.69
$18.69/.064	**= $291.99 Productivity Value/acre**

Non-Irrigated Hay land

Avg. price for alfalfa	= $98.20/ton
Productivity	= .71 tons/ac
Gross Income/ac. = $98.20/ton * .71 tons/ac	= $69.72/ac
Net Income = $69.72 * .25	= $17.43/ac
$17.43/.064	**= $272.35 Productivity Value/acre**

Grazing Land

Avg. private grazing lease	= $20.93/aum
Operating Expense/aum = $20.93 * .25	= $5.23/aum
Adjusted Gross Income/aum = $20.93- $5.23	= $15.70/aum
Statewide Average Productivity	= .21 aum/ac
Net Income/ac. = $15.70/aum * .21 aum/ac	= $3.30/ac
$3.30/.064	**= $51.51 Productivity Value/acre**

Irrigated Land

Avg. price for alfalfa	= $98.20/ton
Productivity	= 3 tons/ac
Water cost	= $37.00/ac
Gross Income/ac. =$98.20 * 3 tons/ac	= $294.60/ac
Net Income/ac = $294.60 * .25	= $73.65/ac
$73.65 – Water Cost ($37.00)	= $36.65/ac
$36.65/.064	**= $572.66[2] Productivity Value/acre**

CC Farm land

Avg. price for spring wheat	= $6.50/bu
Productivity	= 23 bu/ac
Income/ac. = $6.50 * 23 bu/ac	= $149.50/Ac
Net Income = $149.50 * .25	= $37.38
$37.38/.064	**= $583.98 Productivity Value/acre**

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[1] A crop share approach is used to determine the net income attributable to agricultural production. In a crop share approach, a percentage of the income from production (the share) is attributed to the landlord (owner) of the land. The remaining percentage is considered the tenant's share and includes expenses of production.

[2] Based on Legislative recommendations contained in HB658 and 15-7-201(7) (f) MCA, the minimum value of irrigated land is established at $583.98 per acre. When the valuation formula calculates a value that is less than $583.98, the minimum value is used. In the example the value of the irrigated land would be $583.98 and not the calculated value. The minimum value is determined based on the statewide average spring wheat production (23 bu/ac) and the CC Farmland crop share formula.

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Capitalization Rate

Set at 6.4% unless this committee recommends a different rate and the department adopts it by rule

§ *15-7-201(4)(c), MCA*

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Effective interest rate + Effective tax rate = Capitalization Rate

Effective interest rate is the average of the most recent interest rates on new loans charged by Farm Credit Services

Effective tax rate is the total taxes levied divided by the total assessed value