STATE OF NORTH DAKOTA

OFFICE OF STATE TAX COMMISSIONER

Guide to Assessing Agricultural Land in North Dakota

2008 Edition

This publication is a joint project of:

NDACo
NORTH DAKOTA ASSOCIATION OF COUNTIES

ndTax
Office of State Tax Commissioner

TABLE OF CONTENTS

INTRODUCTION

Legislative Background

The 2007 North Dakota Legislative Assembly amended North Dakota Century Code (N.D.C.C.) Section 57-02-27.2, the section dealing with the valuation and assessment of agricultural lands. Effective August 1, 2007, subsection (7) of this statute provides:

"In determining the relative value of lands for each assessment district compared to the county average, the county director of tax equalization shall use soil type and soil classification data from detailed and general soil surveys."

Subsection (8) of N.D.C.C. Section 57-02-27.2 further provides that to determine the relative value of each assessment parcel, the local assessor must apply the following considerations (in descending order of significance) to the assessment determination:

1. Soil type and soil classification data from detailed or general soil surveys;
2. The schedule of modifiers that must be used to adjust agricultural property assessments within the county as approved by the state supervisor of assessments (under subsection 9); and
3. Actual use of the property for cropland or noncropland purposes by the owner of the parcel.

With regard to implementation of this system by counties, N.D.C.C. Section 57-02-27.2(10), provides:

"For any county that has not fully implemented use of soil type and soil classification data from detailed or general soil surveys for any taxable year after 2009, the tax commissioner shall direct the state treasurer to withhold five percent of that county's allocation each month from the state aid distribution fund under section 57-39.2-26.1 until that county has fully implemented use of soil type or soil classification data from detailed and general soil surveys."

As counties began to develop and implement this assessment method, many were seeking guidance. In recognition of this need, the North Dakota Office of State Tax Commissioner partnered with the North Dakota Association of Counties (NDACo) to provide assistance by:

- Evaluating and summarizing the various methods compliant counties have successfully used;
- Organizing a working group, the *Agricultural Land Valuation Advisory Committee*, comprised of various federal, state, and county government representatives and members of agricultural producer groups; and
- Developing this manual and suggested methods.

Purpose of this Manual

The Agricultural Land Valuation Committee recognizes counties throughout the state may have unique perspectives and concerns about the assessment of agricultural land. What may work well for one county's valuation procedure may not work well for another county. For instance, counties in the Red River Valley have topography and production factors very different from counties in the Badlands; counties in the Turtle Mountains have different issues from those in the Missouri Coteau region. Each county must make decisions about the implementation of their assessment methods according to their own distinct needs.

The purpose of this manual is not to dictate how each county must implement the law. Rather, it is to provide guidance and suggestions to counties developing procedures to implement the soils survey, use of modifiers, and consideration of actual land use into their agricultural land assessment method.

DIVISION OF DUTIES

Each county is encouraged to formally establish, in writing, the role of each entity involved in the agricultural property assessment process. The division of duties plan clarifies the duties assigned to each entity, as outlined in the following example from one North Dakota county:

AGENCY	ROLE IN DECISION MAKING
North Dakota State University	• Determines average value of agricultural land for each county
North Dakota Office of State Tax Commissioner	• Certifies average value of agricultural land for each county • Approves the Schedule of Modifiers for each county
County Commissioners	• Decide local taxation policy • Appoint Soils Committee members • Decide modifiers to be used • Decide how to incorporate land use
* Soils Committee **If a county chooses not to implement the use of a Soils Committee, these roles may fall to the county tax director or outside professionals.*	• Advises county commissioners about: - Modifiers - Wet-Phase soils - Noncrop and cropland valuation - Nonproductive lands
County Tax Director	• Determines the breakpoint between cropland and noncropland based on soil productivity indices (if appropriate for county assessment system) • Develops cropland value spread • Develops noncropland values
* Township Board **If a county has an unorganized township, these roles go to the county tax director.*	• Determines acreage of modifiers by soil type • Determines what soil types will require Wet Phase modification • Determines acreage of Nonproductive lands
Local Assessors	• Help the Township complete Data Sheets • Advise the Township on modifiers, Wet-phase soils, and Nonproductive land

Example 1: Establishing roles of each body

SOILS COMMITTEE DEVELOPMENT

The Agricultural Land Valuation Advisory Committee recommends each county develop a Soils Committee with members appointed by the county commissioners. Please note that counties are not required to use a Soils Committee. The Soils Committee may significantly assist the county tax director and county commissioners in gathering input necessary to implement an agricultural valuation process using soils. Soils Committees are routinely used to advise county officials how to effectively:

- Develop a methodology most beneficial for their county.
- Review Productivity Indices of soil types within their counties.
- Develop and apply modifiers based upon the county's unique needs.
- Consider land use in the valuation process.
- Answer questions from landowners regarding the assessment process.
- Review grievances from landowners.

Role of the County Director of Tax Equalization and County Commissioners with the Soils Committee

The recent changes in agricultural land valuation most significantly affect the duties of the county director of tax equalization. County commissioners should also be involved in the assessment process since they will be making decisions that affect the equalization procedure. For example, if a county decides to develop a Soils Committee, county commissioners would be invited to recommend potential committee members during the recruitment process and make the final appointment decisions during the selection process. In addition, county commissioners may wish to attend the Soils Committee meetings as observers in order to learn about any assessment issues.

The most significant role of the county director of tax equalization is to offer guidance to members about the provisions of the law and provide information and data necessary to complete assigned tasks.

In order to maintain the integrity of the Soils Committee, it is critical that the committee be allowed to pursue the best technical and unbiased solutions to issues and not be unduly influenced by outside interests.

Identifying Tasks of the Soils Committee

Prior to selecting Soils Committee members, it is important that the county tax director and/or county commissioners determine the goals and objectives to be addressed by the committee. This will help identify the necessary background or experience for committee members. Once the Soils Committee begins to meet, the goals may be expanded or redefined.

The following is an example of the goals for one county's Soils Committee:

1. Decide on land use classifications to use.
   A. The State classifications are Cropland and Noncropland. [County] is adding a third category of Nonproductive lands.
2. Productivity Index (PI).
   A. Decide which crops to use.
   B. Find Yield Data.
   C. List soil types, PI, and acres.
   D. Separate Cropland from Noncropland.
   E. Establish categories for Nonproductive land.
3. Valuation.
   A. Establish Cropland values.
   B. Establish Noncropland values.
   C. Establish Nonproductive land values.
4. Parcel Data.
   A. List soil types by parcel.
   B. Add in Nonproductive land.
   C. Find value for each parcel.
5. Using Modifiers.
   A. Determine the modifiers to be used.
   B. Establish amounts to be used.
   C. Add to parcel data.

Example 2: Identifying Goals of a Soils Committee

Recruiting and Selecting Soils Committee Members

It is important to determine eligibility criteria of the committee members prior to recruitment and selection of the members. Counties should select individuals from within the agricultural community to serve on the Soils Committee. Selected individuals should *not be currently serving on the county board of commissioners*.

In addition to seeking recommendations from the county commissioners, county tax directors may seek recommendations for Soils Committee membership from extension agents, soil conservation districts, and township officers.

Additional means of recruiting committee members may include direct mail, local newspapers, or various association newsletters. Township meetings are another good source for recruitment of Soils Committee members.

Persons interested in becoming members of a Soils Committee may be asked to submit letters or applications outlining their interest in the committee process and describing any experience pertinent to the needs of the committee. A selection committee, usually consisting of the county commissioners and county tax director, will review the applications and select the members.

Selected Soils Committee members may be farmers and ranchers with local agricultural knowledge and experience. Township officers, county agents, and local professionals from within the fields of agronomy, Geographic Information Systems (GIS), or soil conservation are also excellent committee candidates.

An important consideration when selecting committee members is to seek an adequate geographic representation from the county. This will ensure the committee has a balanced cross-representation and knowledge of local areas and management practices.

The number of Soils Committee members may correlate directly to the number of townships within the county. Examples include:

1. One committee member to represent every four townships within the county.
2. Or a county may be divided into districts, such as the existing county commissioner election districts, and committee members selected to represent each district.

An odd number of committee members is recommended to avoid tie votes. Alternate committee members should also be selected, attend meetings, and be available to step into the member role in the event a committee member becomes unable to fulfill his or her duties.

It is important to establish written guidelines regarding Soils Committee selection and membership. The following is an example from one North Dakota county:

A. A member must be a resident landowner of [County].
B. A member must be actively involved in farming, ranching, a retired farmer/rancher still active in county activities, or actively involved in a farm/ranch related field.
C. Every two years the members change in rotation.
D. A member does not have to be a township officer.
E. County Commissioners may dismiss a Soils Committee member by a majority vote.
F. A member need not reside in the district he or she is representing.
G. Soils Committee will reorganize itself at the first meeting after the [County] Soils Committee Board election. This will occur every two years.
H. The Director of Tax Equalization will become the permanent secretary for the Soils Committee.

Example 3: Soils Committee membership

Establishing a Soils Committee Policy

The County Commission (with input from its Soils Committee) establishes a written policy outlining the duties and responsibilities of the Soils Committee. All decisions of the committee are to be documented for future reference. Counties may also consider establishing a policy that addresses the per diem reimbursement for Soils Committee members.

The following is the policy used by one North Dakota county:

1. Purpose of the Committee – It is the purpose of this Soils Committee to make recommendation to the County Commissioners. This board can only recommend and has no inherent powers of its own.
   - This committee will meet at least once every year to determine if any recommendation for change should be made to the county soils policy.
   - The main duty of the Soils Committee is to recommend changes in soil type values to the County Commissioners. The Soils Committee may also recommend changes in soils policy.
   - The Soils Committee will randomly audit a parcel (or parcels) within each township each year.

2. County Equalization – In the future, all adjustments should be made by soil type. Adjustments should not be made by changing valuation by individual townships.

3. At local equalization meetings, changes can be made in modifiers and acres of soil type. This would then be entered into the computer to determine the new value or can be penciled in by the assessor.

4. A Soils Committee composed of eight members (one from each district) will be selected by the County Commissioners and serve a six-year term. Districts are outlined on map. The County Tax Director, when visiting a township, will invite a Soils Committee member from that district to attend. Serving as advisors will be a representative of NRCS and the County Extension Agent.

5. When appointments to said committee are first made, the members from district one and six will serve a two-year term. Members from district two and five will a four-year term; and members from district three and four will serve a six-year term.

5. Taxpayers who disagree with soil type values, price structure, or soils policy may complete the Agland Assessment Form at the County Tax Director's office. This form will be directed to the Soils Committee. All complaints will be handled at the next scheduled Soils Committee meeting. All complaints must be answered in writing.

6. Modifiers – The total percentage of modifiers used by individual townships rests with the County Commissioners; but the County Commissioners must request the Soils Committee to provide a recommendation.

Example 4: Sample Soils Committee Policy

Assigning Leadership and Defining Requirements

The Soils Committee elects a chairperson and appoints a secretary to keep minutes. The county tax director usually fills the secretary's role. The county tax director may initially assume the role of "acting chairperson" until a chairperson is selected.

Soil scientists or other professionals may be invited to participate in the initial Soils Committee meetings. These individuals may provide guidance on the use of a soil survey for assessment purposes and on how to complete the committee's objectives.

Initially, the Soils Committee considers the frequency of meetings (e.g., weekly, semi-monthly, or monthly). Frequent meetings will help to clearly define the objectives and goals of the committee, as well as provide information about the law and any specific tasks, and will ensure that each committee member receives the same instructions and information.

As tasks are completed and the agricultural land assessment method is established, meetings of the Soils Committee may be limited to once or twice per year. The purpose of these annual or semi-annual meetings may be to address concerns from landowners, make needed adjustments to the valuation schedules, or to revise the modifiers used in the land valuation process.

Information Provided to the Soils Committee

The county tax director or the county commissioners provide the Soils Committee with the following tools and information:

- Copies of the law outlining North Dakota agricultural assessment.
- Items related to soil survey (orientation to soil survey, web soil survey, map unit design, productivity indices, and information on the potential uses of soil survey for assessment processes).
- Current parcel maps and United States Department of Agriculture (USDA) - National Agriculture Imagery Program (NAIP) photography of the land.

Keeping Minutes

The Soils Committee must keep detailed minutes of each meeting. This will ensure decisions, votes, and other issues addressed by the Soils Committee are documented. The minutes must be retained for any future state or county review.

In addition, because a Soils Committee is formed by a political subdivision, and reports to that entity, the Soils Committee may be subject to the North Dakota Open Records and Open Meetings laws. Counties forming a Soils Committee should consult with their State's Attorney to determine the extent to which they may be subject to these laws.

The following is an example of minutes from one North Dakota county:

[County X] SOILS COMMITTEE MINUTES February 04, 1999, 1 p.m. [County X] COURTHOUSE

Present: Chairman [X], Secretary [Y], Members [A, B, C, D, E, F, G, H, I, J, K], Director of Tax Equalization
Absent: Member L
Chairman [X] asked for any corrections from the previous meeting and there were three corrections to be noted on the spreadsheet distributed to the last meeting.

There was discussion on whether current CRP acre information is available on FSA fly-over maps and the question raised as to what year's maps should be used. It will be up to the local assessors to determine the CRP acres. Motion by [Member B] and seconded by [Member C]: **Motion that woodlands/shelter belts, excluding farmstead trees, be valued at the lowest noncrop price per acre and be coded 800 on data sheet.** Motion carried.

Motion by [Member B] and seconded by [Member D]: **Motion that waste lands, defined as "no production any year, any time, under any conditions", be valued at the lowest noncrop price per acre and be coded 801 on data sheet.** Motion carried.

Motion by [Member E] and seconded by [Member F]: **Motion that waterways, defined as any river, stream or grassed waterways, be valued at the lowest noncrop price per acre and be coded 802 on data sheet.** Motion carried.

Roads are to be valued at zero as per prior motion by [Member G] and coded 803 on data sheet.

Motion by [Member H] and seconded by [Member I]: **Motion that marsh (where rushes start) be valued at the lowest noncrop price per acre and be coded 804 on data sheet**. Motion carried.

Motion by [Member A] and seconded by [Member C]: **Motion that farmsteads, including any trees, be valued at the county noncrop average price per acre and be coded 805 on data sheet.** Motion carried.

CRP is to be treated as cropland and no modifiers are to be applied to those acres. The question was raised on how to treat preventive planting acres and it was determined that is not an issue as it is a management decision.

The next [County X] Soils Committee is scheduled for [date, time, and place].

Meeting was adjourned.
Secretary_____

Example 5: Soils Committee Minutes

METHOD OF VALUATION

Each county must complete several generalized steps to change their valuation method in light of legislative changes.

1) Determine the Extent of Soils for Each Agricultural Parcel

First, each county must determine the acreage of each soil type or soil map unit within each property tax parcel classified as agricultural.

Acreage of soil types can be determined using paper soils maps, transparent overlays of parcel boundaries, and acre tabulation grids or planimeters to determine acres. This manual method may be labor intensive and time consuming.

A preferred method is creating a digital parcel layer in a Geographic Information Systems (GIS - a computerized mapping software system) environment and then overlaying the parcel layer with the digital soil survey available from the USDA-Natural Resources Conservation Service (NRCS). Using digital data and a GIS is the recommended method for counties just beginning the process of utilizing the soil survey in land assessment. The GIS approach has several benefits:

a) The most current soils maps from NRCS are readily available in a digital format;
b) A digital county parcel map may be used for other endeavors within the county and may offset the initial cost of development; and
c) Digital data may be updated regularly to reflect ownership splits or merges and re-linked with soils maps for accurate soil acre determination.

Counties that have already determined their soils acres manually are not required to create a digital parcel map for their county. Acres of soil types for agricultural parcels may be determined by manual methods.

The topic of digital parcel development will not be further addressed in this manual. For more information about this process, please refer to the North Dakota Digital Parcel File Standard developed in the fall of 2007 to assist North Dakota counties in determining soil acreage. More information concerning the Digital Parcel File is available from NDACo and the North Dakota Information Technology Department.

2) Assigning Value to Soil Types

After determining the extent of each soil type for every agricultural parcel of land, counties must assign a value to each soil type based on productivity. Soil productivity can be determined by using a Productivity Index (PI) or a measure of range production, either Pounds of Forage or Animal Unit Months (AUM). Soils Committees may assist the county tax director in determining soil productivity. Assigning value to soil types is discussed in more detail in the following section.

3) Applying Approved Modifiers

Counties must determine if appropriate local modifiers are needed in the assessment process. If modifiers are used, counties must decide on a maximum rate each modifier will affect the value of land as determined from soil productivity.

4) Considering Land Use

Land use must be considered when determining the true and full value of land.

Assigning Value to Soil Types Based on Productivity

The fundamental basis for agricultural property valuation in North Dakota is productivity. Productivity Indices (PI) can be used to estimate the long-term production capacity of a soil used for agricultural crops under a defined level of management. PI are a relative ranking of soils in an area based on soil and landscape properties. Soils with favorable properties (e.g., high water holding capacity, run-on landscape positions, etc.) receive higher rankings than soils with unfavorable properties. The ranking ranges from 0 to 100, with the best soils in an area having a PI of 100. Some counties may determine a maximum PI of less than 100 (such as 98 or 95) to begin their ranking system and adjust the range to meet the needs of that county over time.

Initial PIs can be obtained from the NRCS Web Soil Survey. If a Soils Committee is established, these values are reviewed by the committee. NRCS PIs are based on the long-term production of spring wheat at a high level of management. Under certain conditions (for example, deep-rooted crops grown on high water table sands), these values may not be applicable to specific counties and a composite PI, representing several commonly grown crops, may be determined locally (see example 10 under "Multiple Crop Productivity Index Averaging").

PIs derived from NRCS data bases represent the typical condition of the soil. For example, if the soil under consideration is commonly drained for agricultural production, the PI is listed for a drained phase. Because both drained and undrained conditions may exist in a county, local modifiers are used to adjust values for undrained soils. This situation may also apply to soils affected by salinity, sodicity (claypan), stones, channels, etc.

Counties should review their soil lists with NRCS representatives to determine which soils in their jurisdiction are susceptible to Wet Phase modification. Wet Phase modification may be applied to soils susceptible to a more or less *permanent* state of ponding, flooding, or surface saturation. Use of Wet Phase modification on these soils might be appropriate if the current PI does not adequately account for reduced productivity due to the wetness. Counties using Wet Phase modification may need to establish a new listing for those soils (for example Borup loam under wet conditions may be given a separate listing as 'Borup loam very wet'). A new PI for the wet type will also need to be determined. Examples of soils susceptible to saturation include Arveson, Rosewood, and Borup series.

Once a PI has been reviewed and accepted for each soil type (soil map unit), the PIs are sorted for each soil type from highest to lowest. Soils may be grouped into *Productivity Classes*, based on groups of soils with similar PIs. Use of Productivity Classes reduces the amount of computations needed and helps to clear up any confusion related to lengthy soil lists.

Please note many older county soil survey reports contain outdated yield information. Current PI information is available at ***websoilsurvey.nrcs.usda.gov/app/.***

Soils with the highest PI receive the highest value per acre and values decrease with lower PI as shown on the following sample condensed list (Valuation Schedule):

Soil Type (Map Unit)	Soil Name	Soil Productivity Class	PI	Bushels/ Acre	Maximum Value/Acre
44	Arnegard loam 1-3% slope	A	100	32	$343.00
96	Grassna	A	100	32	$343.00
102	Bowbells loam 1-3% slope	B	100	32	$343.00
28	Wilton silt loam 1-3% slope	B	97	31	$332.00
44B	Arnegard loam 3-6% slope	C	94	30	$322.00
7	Straw silty clay loam	C	94	30	$322.00
104	Magnus silty clay loam	D	90	29	$309.00
20	Lohler silty clay	D	90	29	$309.00
15	Lawther silty clay 1-3% slope	E	85	28	$292.00
10	Savage silty clay loam 1-3% slope	F	84	27	$288.00
40	Shambo loam 1-3%slope	F	84	27	$288.00
2	Tonka silt loam	G	81	26	$278.00
44C	Arnegard loam 6-9% slope	G	81	26	$278.00
36B	Williams loam 3-6% slope	H	75	24	$257.00
AOB	Amor loam 3-6% slope	I	72	23	$247.00
B0B	Belfield silt loam 3-6 slope	J	69	22	$237.00
77	Bowdle loam 1-3% slope	L	59	19	$202.00
71C	Searing-ringling loam 6-9% slope	Q	31	10	$106.00
111	Pits, gravel	H	10	0	$ 75.00

Example 6: County 'A' Valuation Schedule - Sorting Soils from Highest to Lowest PI

In the above example, the maximum value per acre is reduced to correspond to the soil's PI. In this case, the average value for the highest rated soil was determined using a formula provided by North Dakota State University (NDSU). The value of soils with lower PIs was determined by multiplying the highest PI soil price by the soil PI (divided by 100). For example, to determine the value per acre of Soil Type 7, multiply $343.00 by .94 to calculate a value of $322.00/acre. Note also, soil type 111 (Pits, gravel) does not have bushels/acre yield given, yet a productivity index was set at 10. In this case, the PI is not used to determine value. The county determined a minimum value of $75.00 per acre for the land. This county assumes all land has a value and a potential to earn income.

The next series of examples show the progression of data for one North Dakota county (County 'B') beginning with the NDSU County Average Value Calculations, followed by the Valuation Schedule for the same county, and a Rural Landowner Data Sheet derived from that information.

NDSU Agricultural Land Valuation Calculation 2007

Annual number of acres:	Year	Sugarbeets & Potatoes	NASS cropland	Govt Payments	CRP	Reported Cropland	Reported Non-cropland	Reported Total
	1996	0	800,600		99,597	900,197	315,226	1,215,423
	1997	0	767,000		93,077	860,077	315,226	1,175,303
	1998	0	700,800		93,077	793,877	315,226	1,109,103
	1999	0	678,900		93,077	771,977	315,226	1,087,203
	2000	0	693,800		93,077	786,877	315,226	1,102,103
	2001	0	687,300		93,077	780,377	315,226	1,095,603
	2002	0	677,600		93,077	770,677	315,226	1,085,903
	2003	0	686,800		93,077	779,877	315,226	1,095,103
	2004	0	675,227		77,843	753,070	315,226	1,068,296
	2005	0	657,551		77,843	735,394	315,226	1,050,620
Annual gross returns:	1996	0	85,680,852	9,666,490	1,941,077	97,288,419	6,888,274	104,176,693
50% of return on irrigated	1997	0	68,390,185	7,374,079	1,616,748	77,381,012	9,228,894	86,609,906
cropland is included in NASS	1998	0	62,648,296	13,862,400	1,616,753	78,127,449	9,498,055	87,625,504
cropland gross returns; CRP	1999	0	42,812,000	14,507,379	1,567,827	58,887,206	10,501,849	69,389,055
returns are 50% of payments	2000	0	40,344,582	28,833,090	1,244,975	70,422,647	12,013,885	82,436,532
reported by FSA	2001	0	54,511,040	30,369,061	1,130,531	86,010,632	11,514,673	97,525,305
	2002	0	64,311,289	11,433,977	1,167,276	76,912,542	10,709,233	87,621,775
	2003	0	84,915,578	8,165,395	1,165,415	94,246,388	12,643,068	106,889,456
	2004	0	87,995,327	11,456,013	1,160,361	100,611,701	14,828,103	115,439,804
	2005	0	80,013,132	16,381,352	1,162,574	97,557,058	16,116,883	113,673,941
Landowner share of returns		20.00%	30.00%	30.00%		30.00%	25.00%	29.68%
Annual landowner share of gross return	1996					30,545,280	1,722,069	32,267,348
	1997					24,346,027	2,307,224	26,653,251
	1998					24,569,962	2,374,514	26,944,476
	1999					18,763,641	2,625,462	21,389,103
	2000					21,998,277	3,003,471	25,001,748
	2001					26,594,561	2,878,668	29,473,230
	2002					23,890,856	2,677,308	26,568,164
	2003					29,089,707	3,160,767	32,250,474
	2004					30,995,763	3,707,026	34,702,789
	2005					30,080,919	4,029,221	34,110,140
These 8 years of data were used in the following calculations:								
Eight-year annual average acres:						800,919	315,226	1,116,145
Eight-year average annual landowner share of gross returns:						26,389,449	2,841,805	29,231,254
Adjusted for cost of production index @		118.3824%				22,291,699	2,400,530	24,692,229
Eight-year average landowner share of gross returns per acres:						27.83	7.62	22.12
Capitalized average annual value per acre @		8.30%			Inundated 9.18	335.33	91.75	
Acreage provided or reviewed by county:						954,692	206,189	1,160,881
Inundated acres						105	102	207
Capitalized average value based on acreage provided or reviewed by county:								292.02

Example 7: County 'B' NDSU County Average Value Calculations

Working from the data distributed by NDSU in the previous example, County B developed their Valuation Schedule. County B's schedule sorts the soils by PI and allows for the value calculations per soil, similar to the Valuation Schedule model demonstrating soil ranking in Example 6. County B has established a 'breakpoint' in their soils list, separating cropland from non-cropland soils. For further discussion on "breakpoint establishment," see page 22.

Value per Soil Class 2007

Cropland				Product	$ per Ac	Proof	Adjusted $
					$335.33		$292.02
Map Unit Symbol	Map Unit Prod. Index	Weighted PI	Acres	Avg PI x Acres	x PI ÷ Crop PI	$ per Ac x Soil Class Acres	x $ per Ac ÷ County $/Ac
Ma	99	1.0000	33,899.24	33,899	409.85	13,893,631	410.95
BoA	98	0.9899	46,489.78	46,020	405.71	18,861,369	406.79
St	95	0.9596	728.29	699	393.29	286,429	394.34
GaB	94	0.9495	136,878.61	129,966	389.15	53,266,311	390.19
WoA	92	0.9293	71,901.76	66,818	380.87	27,385,223	381.89
RpB	89	0.8990	1,634.59	1,469	368.45	602,265	369.44
MdB	89	0.8990	19,992.49	17,973	368.45	7,366,233	369.44
WoB	87	0.8788	55,988.12	49,202	360.17	20,165,241	361.13
LmB	84	0.8485	287,849.11	244,236	347.75	100,099,528	348.68
Tp	82	0.8283	11,307.89	9,366	339.47	3,838,689	340.38
FbB	79	0.7980	30,926.06	24,678	327.05	10,114,368	327.92
Pa	75	0.7576	8,139.40	6,166	310.49	2,527,202	311.32
RgC	70	0.7071	5,930.10	4,193	289.79	1,718,484	290.56
Gn	70	0.7071	34,211.52	24,190	289.79	9,914,156	290.56
Tr	64	0.6465	2,017.05	1,304	264.95	534,417	265.66
MlC	62	0.6263	116,195.47	72,769	256.67	29,823,891	257.36
VwC	58	0.5859	29,788.86	17,452	240.11	7,152,603	240.75
KrB	50	0.5051	21,234.45	10,724	207.00	4,395,531	207.55
Ac	50	0.5051	39,579.13	19,989	207.00	8,192,880	207.55
		Total Cropland Acres	954,691.92	781,113.00		320,138,451.00	
			Average Crop PI	0.8182			
Noncropland					$91.75		$292.02
Map Unit Symbol	Map Unit Prod. Index	Weighted PI	Acres	Avg PI x Acres	x PI ÷ NCrop PI	x MU Acres	x $ per Ac ÷ County $/Ac
MlD	45	1.0000	5,957.57	5,958	135.10	804,868	135.46
RzA	41	0.9111	2,340.51	2,132	123.09	288,093	123.42
RsA	40	0.8889	2,542.91	2,260	120.09	305,378	120.41
RtB	39	0.8667	580.51	503	117.08	67,966	117.39
Hs	39	0.8667	32,521.66	28,185	117.08	3,807,636	117.39
WaD	35	0.7778	23,013.79	17,900	105.07	2,418,059	105.35
NmD	30	0.6667	94,589.20	63,059	90.06	8,518,703	90.30
RyC	29	0.6444	395.14	255	87.06	34,401	87.29
CaE	18	0.4000	25,896.35	10,359	54.04	1,399,439	54.18
Af *	0	0.2000	11,244.95	2,249	27.02	303,839	27.09
W**			7,105.93	7,106	9.18	65,197	9.18
Inundated Land**			207.56	208	9.18	1,904	9.18
		Total Noncropland Acres	206,396.08	140,173.49		18,015,483.00	
			Average NonCrop PI	0.6791			
		County Totals	1,161,088.00			338,153,934.00	
			Average Value Before Adjust.		$291.24	After Adjust.	$292.02

* A non-water or inundated map unit that does not have a Map Unit PI, as determined by Natural Resource Conservation, is assigned a weighted PI of 1/2 the lowest non-cropland weighted PI.

** Water, intermittent water, rivers, lakes, etc. will not be assigned a PI. The value per acre is 10% of the average noncropland value.

Example 8: County 'B' Valuation Schedule – With breakpoint between Cropland and Noncropland Soils (See Breakpoint Establishment under Considering Land Use)

The next example shows a Rural Landowner Data Sheet, with a full assessment of the owner's land based on soils, derived from the data in the previous two examples from County B:

RURAL LAND OWNER - DATASHEET

PARCEL NUMBER 11-0002-09381-000
TOWNSHIP 150
RANGE 86
SECTION 02
LEGAL DESCRIPTION: S2NE4, LOTS 1-2 2-150-86

SOIL TYPE	INDEX	SOIL NAME	MOD CODE	MOD %	MAX PRICE	MODIFIED PRICE	NUMBER ACRES	VALUE OF LAND
Pa	75	PARNELL SILTY CLAY LOAM			311.32		17.00	$5,292.44
Tp	82	TONKA-PARNELL COMPLEX			340.38		15.00	$5,105.70
Ma	99	MAKOTI SILTY CLAY LOAM			410.95		8.00	$3,287.60
BoA	98	BOWBELLS LOAM, 1-3% SLOPES			406.79		9.00	$3,661.11
WoA	92	WILLIAMS-BOWBELLS LOAM, 1-3% SLOPES			381.89		95.00	$36,279.55
WoB	87	WILLIAMS-BOWBELLS LOAMS, 3-6% SLOPES			361.13		14.00	$5,055.82
R	0	ROADS - EXEMPT FROM TAXATION			0.00		1.58	0.00

TOTAL DEEDED ACRES:	159.58
TOTAL EXEMPT ACRES:	1.58
TOTAL TAXABLE ACRES:	158.00

UNMODIFIED PRICE PER ACRE AND TOTAL VALUE	$371.41		$58,682.22
MODIFIED PRICE PER ACRE AND TOTAL VALUE			$58,682.22
AVERAGE VALUE PER ACRE, TAXABLE ACRES AND TRUE AND FULL VALUE (ROUNDED TO HUNDREDS)	$371.52	158.00	$58,700.00

PRICE PER ACRE CALCULATED BY DIVIDING TOTAL VALUE BY TAXABLE ACRES
MODIFIER CODES: A - Salinity
B - Nonconformity
C - Inaccessibility

Example 9: County 'B' Rural Land Owner Datasheet (No Modifiers Applied)

Multiple Crop Productivity Index Averaging

When NRCS Productivity Indices are not adequate or a county wants to refine them, another option is to use a composite or weighted PI derived from multiple crops. This is especially useful in counties where wheat production accounts for a relatively small portion of overall production or the wheat PI does not represent the productivity of the soil. An example of one county's utilization of this method is below:

[COUNTY 'C'] - NEW FORMULA FOR FINDING COMPOSITE OR WEIGHTED PI

The old system rated soils in [County C] based on ability to grow wheat. Yet, wheat represents only 24 percent of planted acres. Under the new system, we have rated soils using wheat, corn, and soybeans. This now represents 79 percent of planted acres.

Some will question why we did not use sugar beets, sunflowers, etc. Sugar beets represent only 4.5 percent of the total acreage in the county. If you assess higher on certain soil types because of their ability to grow sugar beets, this would be correct. The problem arises when you consider that 9 out of 10 farmers who own that soil type do not raise sugar beets and, therefore, would be penalized. Soils capable of raising sugar beets already have good ratings anyway.

We will use soil type Kratka fine sandy loam (Kr) as an example to find the rating of a specific soil type. First, using the yield determined by the Soils Committee, we must find the Productivity Index (PI) of each crop. Wheat rating is 29 bushels per acre, divided by the top yield in the county of 45 bushels per acre gives a PI of 64 for wheat. The yield for soybeans is 32 bushels, divided by the top yield of 38, equals a PI of 84 for soybeans. Using 109 as the yield for corn, divided by 115 for top yield, we have a PI of 95 for corn. We now have a PI for each crop -- wheat 64, corn 95, and soybeans 84.

1. **PI of each crop**	**WHT**	**SOY**	**CORN=**	**Total PI**
	64	84	95	=243
2. **PI of each crop / total PI (243) x 100**				
	26%	35%	39%	=100%
3. **PI x %**	16.64	29.4	37.05	=83.09 (Avg PI)

Line 1) This information represents the PI for each crop that we have already calculated. Add these three together to find the total PI.

Line 2) We now divide each individual PI by the total PI and multiply it by 100 to convert to a percentage. This gives us the percent each PI contributes to the total PI.

Line 3) Individual PI multiplied by the percent of contribution gives us the amount of PI that contributes to the total. Finally, we add the three contributing PIs together to find our composite or weighted PI of 83.

Example 10: County 'C' Multiple Crop Productivity Index Averaging

Applying Approved Modifiers

N.D.C.C. Section 57-02-27.2 provides that local assessors must apply the consideration of modifiers to the assessment determination, but those modifiers must first be approved by the state supervisor of assessments. Specifically, N.D.C.C. Section 57-02-27.2(8)(b) provides:

> ***The schedule of modifiers that must be used to adjust agricultural property assessments within the county as approved by the state supervisor of assessments.***

With regard to approval by the state supervisor of assessments, N.D.C.C. Section 57-02-27.2(9) further provides:

> ***Before February first of each year, the county director of tax equalization in each county shall provide to all assessors of agricultural property within the county a schedule of modifiers that must be used to adjust agricultural property assessments within the county and directions regarding how those modifiers must be applied by assessors. Before the schedule of modifiers is provided to assessors within the county, the county director of tax equalization shall obtain the approval of the state supervisor of assessments for use of the schedule within the county.***

Modifiers are used to show and document a reduction in soil values caused by a limitation on the functional utility of a soil type. Modifiers reduce the upper limit of a soil type's Productivity Index.

Modifiers must be approved by the county board of commissioners and the state supervisor of assessments prior to use. Counties must send their schedule of modifiers, definition of modifiers, and descriptions of how they are used to:

State Supervisor of Assessments
North Dakota Office of State Tax Commissioner
600 East Boulevard Avenue
Bismarck, ND 58505-0599

It is important to use modifiers consistently and equitably throughout the county. Modifiers may be determined based on field notes, field visits, aerial photographs, and applicable township and Soils Committee observations.

When determining which modifiers will be applied throughout the county, it is also important to remember that the productivity index of the soils already accounts for many factors that may affect productivity. In many cases, factors such as salinity, sodicity, presence of rocks, sand, and gravel, erosion rates, and drainage problems are reflected in the soil PI. In some cases, this eliminates the need to inventory each agricultural parcel for these factors during the assessment process. However, there may be cases where local modifiers are needed to supplement the soil survey. For example:

- NRCS Productivity Indices usually reflect the dominant drainage condition in the county. Modifiers may be needed to reflect localized conditions.

- Salinity is a temporal property that can change with climate and management. NRCS soil survey maps only delineate areas of moderate or severe salinity that are more or less permanent. Modifiers may be needed to reflect changes in saline levels.
- NRCS usually mapped "channeled" phases along small meandering streams. The soils in these areas are commonly of high quality but accessibility or conformity may be poor. A local modifier may be needed for these areas.
- NRCS soil maps were usually developed at a scale of 1:20,000 or 3.2 inches to the mile. Map units may have small inclusions of contrasting soils that may affect productivity. In some cases, modifiers may be needed to manage these areas. However, it is important to establish size limitations to maintain consistency in the use of such modifiers.

Most parcels of land may contain several small areas containing modifications. Counties may consider setting a minimum number of continuous acres affected by each modifier per parcel during the valuation process.

Potential Modifiers

The following is a list of potential modifiers typical to the state of North Dakota that may be considered when valuing agricultural property:

Inaccessibility: (obstacles; obstructions) Agricultural land with access restricted by rivers, canals, ravines, roads, towers, buttes, rock piles, etc.

Irregular Fields: Small areas of land that may have good quality soil yet are difficult to cultivate due to their irregular shape.

Nonconformity: Small areas of productive soils surrounded by less productive soils, making cultivation less economical. The land is not fulfilling its highest and best use due to the distribution or intermingling of soil characteristics.

Poor Drainage: Low-lying areas on the landscape susceptible to flooding, ponding, or drowning out crops during heavy rains, resulting in lower productivity.

Rocks: Used as a modifier where production, operating expenses, and crop selection are affected due to the presence of substantial rock outcropping or surface stones. This modifier is not meant for the presence of incidental rocks that may be accounted for in the soil productivity index.

Saline Deposits (Salinity): This modifier includes areas where soluble salts precipitate on the soil surface or in the soil's rooting zone, resulting in reduced vegetative production or the elimination of crops and grasses on agricultural lands. In some cases, laboratory analysis is needed to confirm salinity.

Stream Overflow: Low-lying areas of land which are susceptible to overland flooding from a nearby stream or river after a crop has been planted. This modifier is not to be used in areas that are prone to flooding during the typical spring runoff before the crop is planted.

Wind Erosion: Areas of sandy soils or clay soils that are prone to wind erosion, resulting in a loss of topsoil, which can affect the productivity of the soils.

When deciding which modifiers will be considered throughout the county, it is important to establish criteria for using the modifier and determine a set percentage or valuation procedure by which each modifier will reduce the valuation of the land. This will ensure county-wide consistency and equity in the assessment process.

The following example illustrates how County B has assigned fixed percentages or valuation rules to its modifiers:

COUNTY 'B'

Inaccessibility Adjustment: Values are reduced 70% for the affected acres.

Salinity Adjustment: 10% reduction of affected soil type.

Nonconformity Adjustment: Reduce to value of best, surrounding soil type.

Rocks Adjustment: Reduce to noncrop value of these soil types, or 50% of crop value

Example 11: County 'B' Modifier Valuation Rules

The following is an example of a County B landowner data sheet in which modifiers were applied:

RURAL LAND OWNER - DATASHEET

PARCEL NUMBER 11-0002-09381-000
TOWNSHIP 150
RANGE 86
SECTION 02
LEGAL DESCRIPTION: S2NE4, LOTS 1-2 2-150-86

SOIL TYPE	INDEX	SOIL NAME	MOD CODE	MOD %	MAX PRICE	MODIFIED PRICE	NUMBER ACRES	VALUE OF LAND
Pa	15	PARNELL SILTY CLAY LOAM			311.32		17.00	5,292.44
Tp	40	TONKA-PARNELL COMPLEX			340.38		0.00	0.00
			A	10%		306.34	15.00	4,595.13
Ma	85	MAKOTI SILTY CLAY LOAM			410.95		0.00	0.00
			C	70%		123.29	8.00	986.28
BoA	99	BOWBELLS LOAM, 1-3% SLOPES			406.79		7.00	2,847.53
			C	70%		122.04	2.00	244.07
WoA	88	WILLIAMS-BOWBELLS LOAM, 1-3% SLOPES			381.89		95.00	36,279.55
WoB	74	WILLIAMS-BOWBELLS LOAMS, 3-6% SLOPES			361.13		14.00	5,055.82
R	0	ROADS - EXEMPT FROM TAXATION			0.00		1.58	0.00

TOTAL DEEDED ACRES:	159.58
TOTAL EXEMPT ACRES:	1.58
TOTAL TAXABLE ACRES:	158.00

** UNMODIFIED PRICE PER ACRE AND TOTAL VALUE	$371.41		58,682.22
** MODIFIED PRICE PER ACRE AND TOTAL VALUE	$350.01		55,300.82
AVERAGE VALUE PER ACRE, TAXABLE ACRES AND TRUE AND FULL VALUE (ROUNDED TO HUNDREDS)	$350.00	158.00	$55,300.00

** PRICE PER ACRE CALCULATED BY DIVIDING TOTAL VALUE BY TAXABLE ACRES
MODIFIER CODES: A - Salinity
B - Nonconformity
C - Inaccessibility

Example 12: County 'B' Rural Land Owner Datasheet with Modifiers Applied

Considering Actual Use of the Land

After a county has determined the agricultural value based on soil types and applied the approved modifiers, the final consideration a local assessor shall apply is the actual use of the land in comparison to the property's potential. See N.D.C.C. Section 57-02-27.2(8)(c). For agricultural land assessment purposes, common land uses considered are cropland and noncropland.

For this discussion, the following definitions apply:

Cropland: Land used for the production of adapted crops for harvest. Crops include alfalfa hay, sudan grass, conservation reserve program, etc.

Noncropland: Includes permanent pastureland and rangeland:

Permanent Pastureland: Land managed primarily for the production of introduced forage plants for livestock grazing. Pastureland cover may consist of a single species in a pure stand, a grass mixture, or a grass-legume mixture. Management usually consists of cultural treatments: fertilization, weed control, reseeding or renovation, and controlled grazing such as fencing. Land composed of introduced or domesticated native forage species used primarily for the production of domestic livestock, which receives periodic renovation and/or cultural treatments, such as tillage, fertilization, mowing, and weed control. (Cropland grazed in between crops is NOT permanent pastureland. These areas are to be viewed as cropland and valued accordingly.)

Rangeland: Land on which the ecological climax or potential plant cover is composed principally of native grasses, grass-like plants, forbs, or shrubs suitable for grazing and browsing, and introduced forage species managed like rangeland. Rangeland is considered land that has never been broken and can be used for grazing.

Considering actual use of the land requires an inventory of land use or management practices currently employed within each taxable parcel. There may be instances where a landowner is cultivating crops on low-productivity soils better suited for noncropland activities. On the other hand, a landowner may not be cultivating a soil with a high PI, choosing instead to use the land for noncropland activities.

It is important to remember that land use for a few parcels in each county may change from year to year. For example, a producer may choose to clear woodlands and cultivate the field, or a producer might convert rangeland into cropland. Counties must review the land use of each parcel periodically and update data records to reflect any changes.

Land use information may be obtained from aerial photographs with land cover delineated from sources such as the Farm Services Agency or AgriData web sites (depending upon availability). To obtain actual land use information, landowners may also be required to report annual activities directly to the county, or local assessors may have to travel to various parcels of land to evaluate the annual management practices. The county may adopt an application program by which property owners request a physical inspection of the land to change the classification from cropland to noncropland or vice versa.

Finally, a lack of use does not necessarily change the actual use classification. An example of this is Conservation Reserve Program (CRP) acres. The land at one time must have supported a mechanically harvested crop to qualify for CRP. If the soils present are tillable in character, no adjustment for actual use will be made, the land remains assessed as cropland.

Cropland and Noncropland Breakpoint Establishment

Another option when instituting a distinction between land use values is to establish a dividing line between cropland soils and noncropland soils. If crop PIs are used as a proxy for estimating range production, it may be necessary to re-classify soils into either cropland or noncropland based on the assumption of highest and best use.

After the soils are arranged from high to low based on PI or estimates of range production, a 'breakpoint' between cropland soils and noncropland soils may be determined. The breakpoint is the point on the soil list where the highest and best use changes from cropland to rangeland or permanent pasture ("Highest and best use is that use which will generate the highest net return to the property over a reasonable period of time." – Property Assessment Valuation, International Association of Assessing Officers, 1996. In other words, highest and best use of an agricultural property is its *potential* as cultivated cropland versus rangeland or permanent pasture.).

The county tax director determines the breakpoint by considering county average values, production factors, and soil properties. The primary example of this type of valuation is given in Example 8 of this manual.

Example 13 illustrates this type of breakpoint valuation. The county in this example took another step in separating yield data into bushels per acre for the cropland soils (C) and pounds of forage per acre (LBS/AC) for the noncropland (NC) soils:

SOIL TYPE	SOIL NAME	LAND USE	SOIL CLASS	INDEX RATING	BUS/AC LBS/AC	MAXIMUM PRICE
8	Grail silty clay loam 1-3%slope	**C**	A	100	**32**	$350.00
28	Wilton silt loam 1-3% slope	**C**	B	97	**31**	$340.00
94	Makoti silt loam	**C**	C	94	**30**	$329.00
104	Magnus silty clay loam	**C**	D	91	**29**	$319.00
15	Lawther silty clay 1-3% slope	**C**	E	88	**28**	$308.00
47	Havrelon loam	**C**	F	84	**27**	$294.00
2	Tonka silt loam	**C**	G	81	**26**	$284.00
43	Colvin silt loam	**C**	I	71	**23**	$249.00
55B	Vebar fine sandy loam 3-6% slope	**C**	K	63	**20**	$221.00
71B	Searing loam	**C**	M	56	**18**	$196.00
53	Banks loam	**C**	Q	34	**11**	$119.00
Breakpoint – Cropland above, Noncropland below						
5	Dimmick silty clay	**NC**	A	44	5200	$115.00
88	Harriet clay	**NC**	C	42	2200	$110.00
38E	Zahl loam 15-35% slope	**NC**	E	36	1900	$105.00
86E	Wabek soils 3-25% slope	**NC**	H	13	700	***$75.00***

Example 13: County 'E' Soils List with Breakpoint Separating Cropland from Noncropland Soils

As indicated above, noncropland is designated specifically for the purpose of sustaining livestock. They are also referred to as grassland, rangeland, and pastureland. Soils 'production' on these lands refers to the amount of livestock the soil and landscape can sustain, rather than the crops it may grow.

Because the PI rating system is based on crop production, counties with a higher interest in grazing land productivity may opt to further expand upon the soils capability as it relates to livestock production (shown in Example 13). The correct measure of grazing land soil productivity is based upon a determination of the land's carrying capacity, stocking rate, or Animal Unit Months (AUM). Currently, no standard for determining these measures of range productivity is readily available. Each rangeland site's past history must be evaluated to determine future production potential. For this reason, NRCS range specialists must visit the land when determining carrying capacity or designing a range management program. Range specialists estimate AUMs when developing a range management program, but the data is for a specific piece of land and as such, is not readily available on a regional basis.

However, as part of NRCS' soil survey, every map unit component is assigned an ecological site. Each ecological site has several transition phases and vegetative species are identified for each phase. Total production is often determined, but because of differences in plant palatability, does not correlate exactly with carrying capacity (e.g., a wetland site produces much vegetation but little is used by the grazing animal). Having the county Soils Committee assign a productivity value to each ecological site may be a viable option for counties choosing to expand upon their noncrop valuation method. If this method is pursued, a composite range productivity estimate of a soil map unit would have to be determined from the individual ecological sites of the components. Because of the large amount of work involved in developing estimates of range production, the Productivity Index (PI) as determined by NRCS or local Soils Committee may still be the most readily available method of ranking the productivity for rangeland.

Assigning Cropland and Noncropland Values to Each Soil Type or Class

Counties must establish a procedure to separate cropland values from noncropland values. One option would be to establish cropland and noncropland values for each soil type that falls within the county's jurisdiction.

An example of this type of valuation methodology is below:

Soil Type (Map Unit)	Soil Name	Soil Class	PI	Actual Use: CROPLAND Value/Acre	Actual Use: NON-CROPLAND Value/Acre
44	Arnegard loam 1-3% slope	A	100	$343.00	$211.11
96	Grassna	A	100	$343.00	$211.11
102	Bowbells loam 1-3% slope	B	100	$343.00	$211.11
28	Wilton Silt loam 1-3% slope	B	97	$332.00	$204.78
44B	Arnegard loam 3-6% slope	C	94	$322.00	$198.44
7	Straw silty clay loam	C	94	$322.00	$198.44
104	Magnus silty clay loam	D	90	$309.00	$190.00
20	Lohler silty clay	D	90	$309.00	$190.00
15	Lawther silty clay 1-3% slope	E	85	$292.00	$179.44
10	Savage silty clay loam 1-3% slope	F	84	$288.00	$177.33
40	Shambo loam 1-3%slope	F	84	$288.00	$177.33
2	Tonka silt loam	G	81	$278.00	$171.00
44C	Arnegard loam 6-9% slope	G	81	$278.00	$171.00
36B	Williams loam 3-6% slope	H	75	$257.00	$158.33
AOB	Amor loam 3-6% slope	I	72	$247.00	$152.00
B0B	Belfield silt loam 3-6 slope	J	69	$237.00	$145.67
77	Bowdle loam 1-3% slope	L	59	$202.00	$124.55
71C	Searing-Ringling loam 6-9% slope	Q	31	$106.00	$ 65.44
111	Pits, gravel	H	10	$ 50.00	$ 50.00

Example 14: County 'D' Valuation Schedule with Separate Values for Cropland and Noncropland for Each Soil Type

Assigning Other Use Categories: Nonproductive Lands

When considering land use in the assessment process, another category of use that may be encountered is nonproductive land. Nonproductive lands are those areas not managed for cultivating crops or sustaining livestock and are often given values comparable with the lowest ranking soil or lowest ranking noncropland value.

It is important a county defines nonproductive land to meet local conditions and applies the concept consistently and equitably (e.g., land falling into this category may not have high agricultural value but may still command a high market value).

Descriptions of nonproductive lands are provided:

Farmsteads/Farm Plants/Ranch Headquarters: A category that includes dwellings, outbuildings, barns, pens, corrals and feedlots next to buildings, farmstead or feedlot windbreaks, and family gardens associated with operating farms and ranches. These lands are still assessed based on the soil type.

Inundated Lands: Agricultural land that has become flooded due to rising water levels. These lands are subject to classification under N.D.C.C. Section 57-02-27.2(6). Application for consideration as inundated land must be made annually.

Manmade Features: This category includes abandoned railroads, man-made drains, waterways, dikes, abandoned towns and farmsteads, communication towers, power lines, billboards, guy lines, wind towers, etc. Please note that land leased for commercial purposes, such as communication towers, power lines, billboards, guy lines, and wind towers, is not assessed as agricultural land.

Marshland (Wetland): A land cover/use described as a non-forested area of land partly or intermittently covered with water and usually characterized by the presence of such marsh grasses and plants. (Some wetlands may already be classified under N.D.C.C. Section 57-02-10 or the Emergency Watersheds Program 16 U.S.C. Section 2203, as amended and 7 U.S.C. Section 428a, or identified in the soil survey.)

Mines, quarries, and pits: Uses of land for extraction of ores, minerals, and rock materials. Where the mine, quarry, or pit is active, this land is considered 'Commercial Property' and assessed accordingly. When the mine, quarry, or pit is inactive and reclaimed, the land reverts to agricultural property. Some of these areas are identified in the soil survey.

Planted Shelterbelts (Planted windbreaks): Trees planted for the purpose of reducing wind erosion on agricultural lands. Some shelterbelts may already fall under the Forest Stewardship tax in chapter 57-57 of the North Dakota Century Code.

Roads: Includes roads, trails, and rights-of-way (Road Permanent Easement, N.D.C.C. Section 57-02-10 may apply). Some four lane roads are identified in the soil survey.

Rural Residences: Residences on agricultural lands, which are not eligible for the farm residence exemption.

Woodlands (Natural growth trees): Includes natural growth trees and brush in and around fields. Some woodlands may already fall under the Forest Stewardship Tax, N.D.C.C. chapter 57-57.

Water: A category consisting of permanent water, such as a *perennial* stream, lake, or pond. Typically categorized as inundated land and valued at 10% of the lowest valued soil. Some of these areas have been identified in the soil survey.

The following example illustrates how one North Dakota county assigned a separate, set value to their non-productive lands:

Valuation for Nonproductive Land

Shelterbelts	$108.00/acre
Pits/Gravel	75.00/acre
Woodlands	30.00/acre
Waterways	30.00/acre
Marsh	30.00/acre
Roads	10.00/acre

Example 15: County 'F' Valuation Schedule for Non-Productive Lands

Agricultural Improvements

Individual landowners may choose to invest and implement the use of various management tools to increase the production of their fields. Practices such as irrigation and surface and subsurface drainage to remove wetness or salinity are typical throughout the state. These improvements are considered part of an agricultural operation or management decision and would not increase the valuation of the land established on soil productivity.

PUBLIC NOTIFICATION METHODS

It is important to keep landowners informed of the changes in the assessment methods used in a county. Some landowners' property values and taxes may be raised due to the high quality of their soil, while some may see a decrease in value and taxes due to the lower value of their soils or application of modifiers, or both. Providing landowners with an understanding of how their property is assessed may help eliminate many questions and concerns.

Options for public notification include newspaper articles, radio announcements, public mailings, letters of explanation with tax statements, and county and township meetings.

RECORDS MAINTENANCE

To assist with state compliance audits, it is important to maintain records of all Soils Committee minutes, county board decisions regarding land use consideration, soils lists showing ranking from PIs, Valuation Schedules, schedules of modifiers, and any documents outlining how the county considers land use. Counties should maintain these documents indefinitely, as well as any landowner datasheets.

For counties that use a Geographic Information System (GIS) mapping program to determine acres of soil type per parcel, it is very important to maintain a parcel map layer separate and distinct from the soil map layer for updating property splits and boundary changes. An additional copy of the county parcel layer should be stored in a remote location to protect against fire or other disaster. Copies of the parcel file annually linked with the soils layer for acreage determinations should also be maintained separately by year.

REPORTING COUNTY ACRES TO NDSU

County Tax Directors are advised that the average county agricultural land values as provided by NDSU through the state productivity formula are established by land use, not soil type. When county tax directors annually submit the county acres to NDSU, the acres submitted should closely reflect the taxable acres represented by the land use (i.e., cropland, noncropland, and inundated). These acreage counts may be acquired from the county Farm Service Agency, or a summarization of local assessment inspections. The acres reported are NOT simply to be determined by the soil type categorization as cropland/noncropland acres as produced by their computerized tax system.

SUMMARY

This manual is meant to provide guidance to North Dakota counties in implementing a cohesive agricultural assessment process. Township and local assessors are an integral part of the assessment process for each county. It is very important for county officials to keep township and local assessors updated on state, county, and Soils Committee decisions regarding the agricultural assessment methods to be used in that county.

The Agricultural Land Valuation Advisory Committee may reassemble and make changes to this document as deemed necessary. Counties are invited to contact members of the Advisory Committee or the State Supervisor of Assessments with questions or suggestions regarding the content of this document.

ACKNOWLEDGEMENTS

The Agricultural Land Valuation Advisory Committee extends its gratitude to each county tax director and local assessor serving in North Dakota who assisted us over the past several months. Many willingly sent us documents, data sheets, Soils Committee minutes, etc., for use in this manual.

Agricultural Land Valuation Advisory Committee		
Elwood “Woody” Barth	Secretary, Board of Directors	North Dakota Farmers Union
John Bollingberg	Chairman	Wells County Soils Committee
Robert Christman	Deputy Tax Commissioner	Office of State Tax Commissioner
Sandra Clark	Public Policy Director	North Dakota Farm Bureau
Dwayne Erickson	Commissioner	Foster County
Sara Hewson	Property Tax Specialist	Office of State Tax Commissioner
Scott Hochhalter	Soil Conservation Specialist	North Dakota Soil Conservation Districts
Wade Moser	Executive Director	North Dakota Stockmen’s Association
Brion Norby	Director of Tax Equalization	Williams County
Larry Osborn	Director of Tax Equalization	Richland County
Jerry Ratzlaff	Director of Tax Equalization	Ramsey County
Kate Ronning-Schimetz	Natural Resources and Cartography Consultant	North Dakota Association of Counties
Terry Traynor	Assistant Director	North Dakota Association of Counties
Mike Ulmer	Senior Regional Soil Scientist	United States Department of Agriculture
Bob Wisness	Director	North Dakota Grain Growers
Ken Yantes	Executive Director	ND Township Officers Association

Office of State Tax Commissioner
Cory Fong, Tax Commissioner

600 E Boulevard Ave., Dept. 127
Bismarck, ND 58505-0599

www.nd.gov/tax
taxinfo@nd.gov

701.328.2770

24714 ndTax June 2008