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APPRAISAL REPORT

KLA Timberlands

Prepared for:

Keweenaw Land Association, Limited

Effective Date:

December 31, 2018

Prepared by:

Timothy Mack

March 14, 2019

85479F

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March 14, 2019

Mr. Mark Sherman
Keweenaw Land Association, Ltd
PO Box 188
Ironwood, MI 49938

RE: 2018 Keweenaw Lands Appraisal

Dear Mr. Sherman:

As per your request, the following report is provided as a summary of our recent appraisal of Keweenaw Land Association's (KLA) timberlands. Intended use for the initial appraisal for asset tracking purposes. We understand you are in need of an abbreviated version of our original comprehensive report to be used by KLA and its board of directors. As such KLA is our client for this appraisal report and KLA and its board of directors are the intended users. Our opinion of value remains unchanged from our initial report. The assumptions and conclusions reported here remain unchanged from our original appraisal. Readers of this report should refer to the original report, dated March 6, 2019 for a more detailed description of the assumptions resulting in opinion of value presented in this report.

The subject is a fee simple interest in 184,003 acres in northern Michigan and Wisconsin. The purpose of the appraisal is to estimate market value for the subject as a single economic unit. Based on our analysis of market data, the estimated market value of the subject property, as of December 31, 2018, is:

ONE HUNDRED FORTY-EIGHT MILLION NINE HUNDRED THOUSAND DOLLARS
***** $148,900,000 *****
($809 per acre)
(72% of effective gross timber value)
(Market Value Range: $133,100,000 to $161,900,000)

The following report presents the assumptions and limiting conditions, pertinent facts about the market and the subject property, and the reasoning leading to the conclusions. It conforms to the *Uniform Standards for Professional Appraisal Practice.* (USPAP) and the Appraisal Institute's *Standards of Professional Appraisal Practice*. The signed Certification of Value is attached as Appendix A.

Sincerely yours,

Timothy Mack

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ASSUMPTIONS AND LIMITING CONDITIONS

1. Unless specified otherwise, this appraisal assumes that the subject properties are free of liens and encumbrances, in responsible ownership, and under competent management, with free and clear title. The appraiser assumes no responsibility for matters legal in nature, and infers no opinion of title.
2. The appraiser has taken legal descriptions and dimensions from sources thought to be authoritative, but neither assumes nor suggests responsibility for either. The appraiser has not surveyed the properties. Maps, drawings, and pictures presented in this report are intended merely to assist the reader.
3. This report is prepared for the sole and exclusive use of the *client* and *intended users*, as so identified in this report. No third parties may rely upon this report, or its contents or conclusions, without the prior written consent of the appraiser. No portion of this report or addendum material may be photocopied and/or distributed to a third party without the prior written consent of the appraiser.
4. Possession of all or any part of this report, or a copy thereof, does not confer the right of publication. Neither all nor any part of this report may be conveyed to the public through advertising, public relations, news releases, sales brochures, or other media without the written consent and approval of the appraiser. Nor shall the appraiser, firm, or professional organization of which the appraiser is a member be identified without prior written consent of the appraiser.
5. This report may not be used for any purpose other than the purpose for which it was prepared. Its use is restricted to consideration of its entire contents.
6. The preparation of this report shall not obligate the appraiser to testify or appear in court unless prior arrangements have been made with the appraiser.
7. In the event that this valuation relates to a portion of real estate that is part of a larger interest in real estate:
    7.1. The value reported is for such real estate as outlined only and should not be construed as applying with equal validity to other portions of a larger portion or interest;
    7.2. The sum of values estimated for individual portions of real property may not equal the value of the entire property considered in its entirety.
8. Unless specified otherwise, the appraiser has not considered the existence of potentially hazardous material on the property used in the construction or maintenance of improvements, if any, or the existence of toxic wastes. The appraiser is not qualified to detect such substances. It is assumed that the property is free of hazardous waste as that term is defined under both federal and state statutes. The appraiser has not been provided with an environmental study, nor has the appraiser undertaken any environmental study. The reader is urged to consult experts in this field if appropriate.
9. The appraiser has not undertaken a soils analysis in conjunction with this study, and assumes that some portions of the subject would support septic systems adequate to accommodate one or more improvements. Any development activity undertaken should be guided by soils analysis conducted by a licensed site evaluator.
10. Opinions regarding zoning and other land use regulations rendered by state and local officials are not binding on the state and local agencies; although they may be used in this report to provide a reasonable analysis of uses to which the property may legally be put.

11. It is customary for clients to make available to the appraiser certain data that are relevant to the market value of the subject property. In cases where the income capitalization approach is applied, these data would include income and expense data for the past three years or more. Standards Rule 1-4 of the Uniform Standards of Professional Appraisal Practice states that: "In developing a real property appraisal, an appraiser must...collect, verify, analyze, and reconcile: such comparable rental data as are available to estimate the market rental of the property being appraised; [and] such comparable operating expense data as are available to estimate the operating expenses of the property being appraised." KLA has provided market and property information for the subject.
12. The Uniform Standards of Appraisal Practice (2018-2019 ed.) defines an **extraordinary assumption** as "an assignment-specific assumption as of the effective date regarding uncertain information used in the analysis which, if found to be false, could alter the appraiser's opinions or conclusions." We make the following extraordinary assumptions for this appraisal:
    12.1. Area assumptions.
    12.2. Timber Inventory and Growth Assumptions.
13. The appraiser is not liable for any consequential or special damages arising from any error in the conduct or presentation of the appraisal. Any liability on the part of the appraiser or appraiser's firm is limited to the amount of fees actually collected for work conducted by the appraiser or appraiser's firm in connection with the appraisal.
14. Acceptance of this appraisal is subject to the understanding that Sewall's client indemnifies Sewall against any costs that Sewall incurs outside the scope of the assignment for which Sewall has been engaged. Such costs include labor and direct costs arising from: (a) extended discussions of our work product, provided these discussions do not arise from substandard performance by Sewall or by some other circumstance caused directly by Sewall, and provided these discussions could not have reasonably been anticipated by Sewall under the terms of our engagement; (b) requests for information, to the extent that such requests lie outside the scope of what would reasonably be expected of Sewall in performing the assignment; (c) re-work or additional analysis that lies beyond the scope of what would reasonably be expected of Sewall in performing the assignment; (d) compliance with audits of Sewall's client or any party or intended user connected with the client or the property that is the subject of this assignment, and regardless of whether such audit is conducted by the client, a representative of the client, or some external party such as the Securities and Exchange Commission, and where compliance includes demands for information and/or testimony; and, (e) other unanticipated matters related to the original assignment. Should such costs arise, Sewall reserves the right to charge reasonable fees for labor (hourly or daily rates) and direct expenses, and to expect payment within 30 days of invoicing.

EXECUTIVE SUMMARY

SUBJECT PROPERTY DESCRIPTION

The subject is 184,003 acres of timberland scattered across the Upper Peninsula of Michigan and northern Wisconsin. It is owned by the Keweenaw Land Association, Ltd. (KLA).

EFFECTIVE DATE OF APPRAISAL

December 31, 2018

PURPOSE AND INTENDED USE

KLA is our client for this appraisal report and KLA and its board of directors are the intended users of this report. We understand KLA and its board of directors will use this report for asset tracking purposes.

HIGHEST AND BEST USE

Sustainable timber production, with a secondary opportunity for opportunistic HBU-type sales.

ESTIMATED MARKET VALUE

Best Estimate:	$148.9 million
Sales Comparison Approach:	$160.0 million.
Income Approach:	$137.8 million.
Market Range:	$133.1 to $161.9 million

1. INTRODUCTION

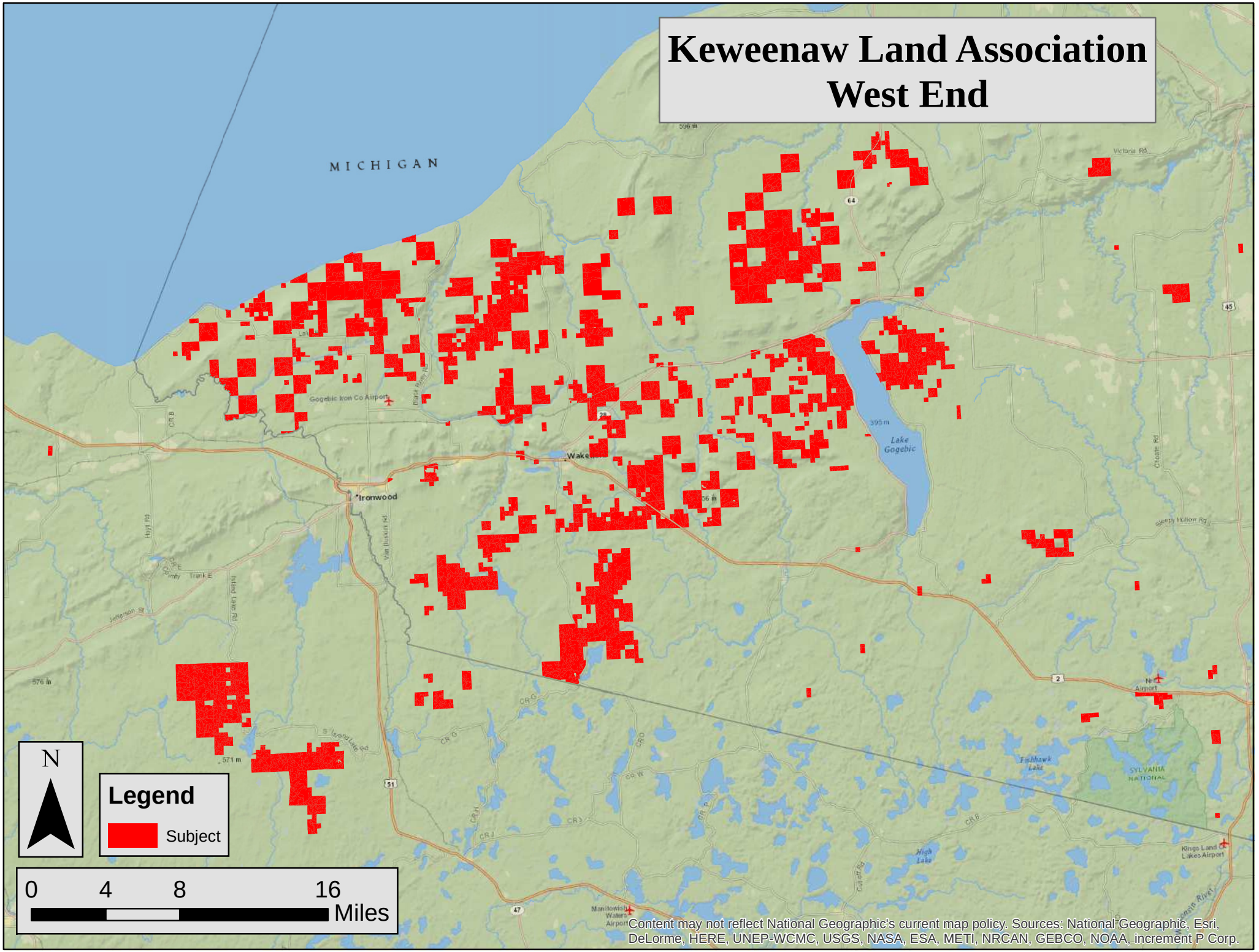
IDENTIFICATION & OWNERSHIP HISTORY

The subject is 184,003 acres of timberland scattered across the Upper Peninsula (UP) of Michigan and northern Wisconsin (Figures 1.1 to 1.3). It is owned by the Keweenaw Land Association, Ltd. (KLA). The KLA's ownership history dates back to the original Portage Lake and Lake Superior Ship Canal. The purpose of the canal was to reduce over a hundred miles travel for Lake Superior shipping, allowing ships to transit through the Keweenaw Peninsula, instead of sailing around its northern tip . The Federal Government granted 400,000 acres of land for the construction of the canal. After initial financial setbacks, the canal was completed by the Lake Superior Ship Canal Railway and Iron Company. The company was reorganized in 1908 as the Keweenaw Land Association, Ltd as a partnership, and then again in 1999 as a corporation, today's KLA. In addition to the timberland surface rights, the KLA also owns over 400,000 acres of mineral rights.

RECENT SALES

KLA provided recent land sales/purchase history data for their overall timberland holdings dating back to 2010 (Table 1.1). KLA has sold 3,807 acres over the period for a total of $4,629,910, or $1,216 per acre. Land acquisitions over the same period total 26,888 acres for $24,297,296, or $904 per acre. Sales during the period have been HBU-type, in which end use by the buyer is higher in value than as continued timber management. Conversely, acquisitions have been for properties strategic to KLA's ongoing timber operations. The most significant of these was the $12.8 million 2017 acquisition from BTG Pactual (BTG) of nearly 14,000 acres in northern Wisconsin. Also acquired in late 2017 was a 2,784-acre parcel from GMO (now The Rohatyn Group) in Gogebic County. The GMO lands were purchased for $800 per acre, just over $2.2 million total. Both the BTG and GMO lands were purchased for timber production.

KLA marketed their overall landholdings in 2017 as part of a public offering. KLA reported receiving limited interest. The one offer received for the property was reportedly low and KLA chose not to pursue it further. KLA did not disclose the amount of the offer. The property is currently not being actively marketed.


Keweenaw Land Association
West End
MICHIGAN
Ironwood
Wakefield
Lake Gogebic
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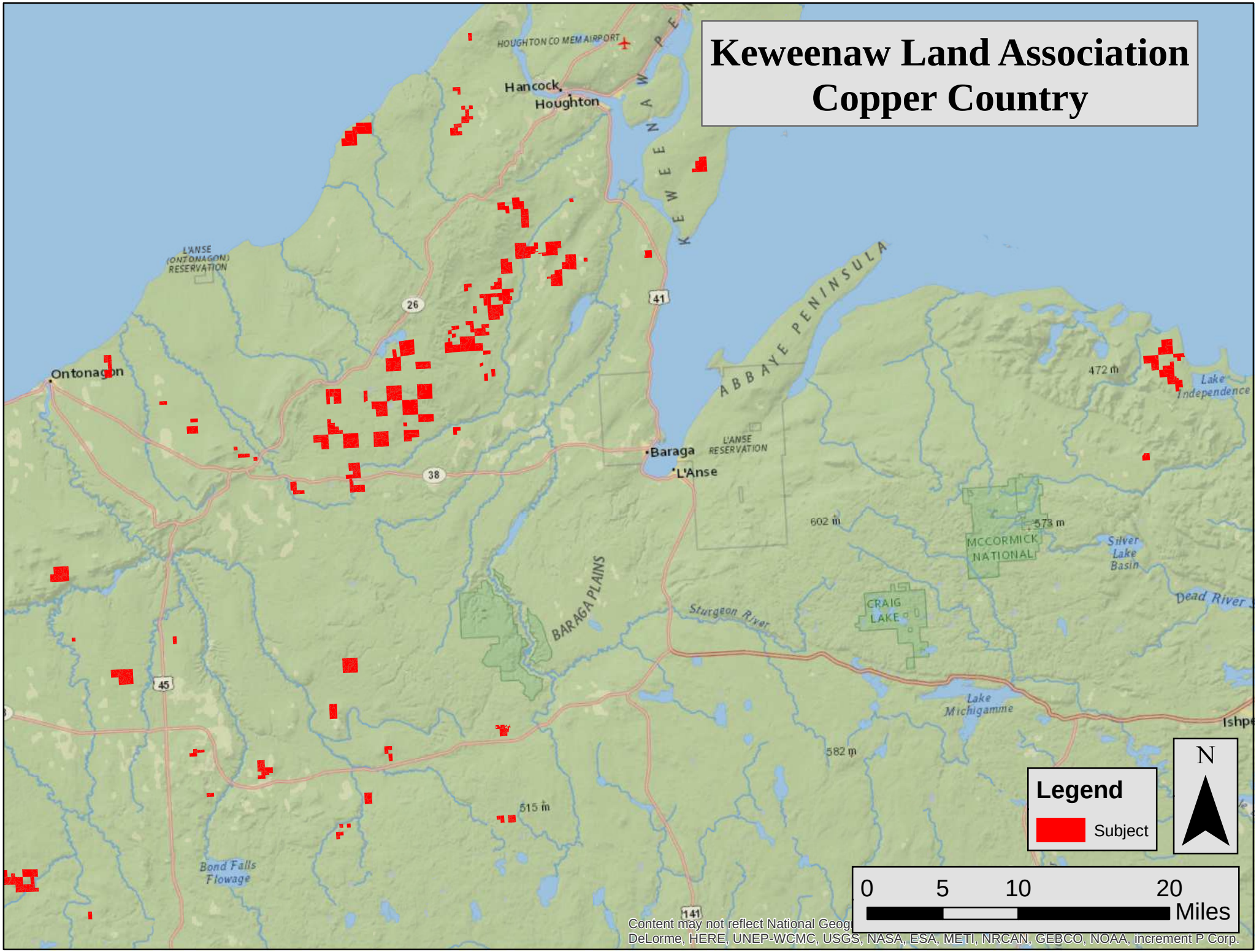
Keweenaw Land Association
Copper Country
HOUGHTON CO MEM AIRPORT
Hancock
Houghton
KEWEENAW PENINSULA
L'ANSE (ONTONAGON) RESERVATION
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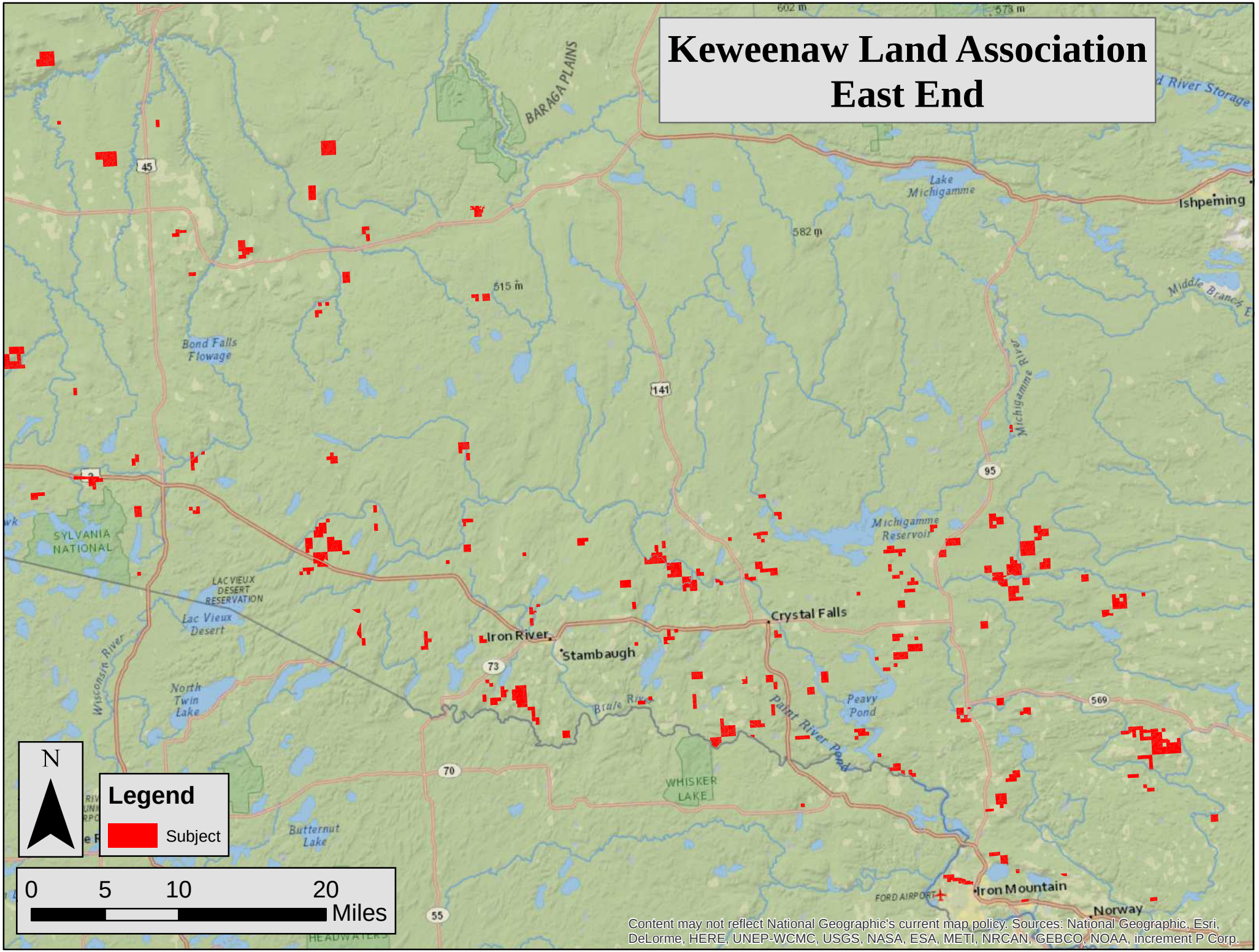
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Bond Falls Flowage
Michigamme River
Middle Branch
SYLVANIA NATIONAL
LAC VIEUX DESERT RESERVATION
Lac Vieux Desert
Michigamme Reservoir
Crystal Falls
Iron River
Stambaugh
Wisconsin River
North Twin Lake
Brule River
Paint River Pond
Peavy Pond
WHISKER LAKE
Butternut Lake
FORD AIRPORT
Iron Mountain
Norway
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Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Table 1.1. Land Sale History

Sales			
Year	**Acres**	**Proceeds**	**Price/Acre**
2018	1,823	$1,510,000	$828
2017	74	$167,000	$2,257
2016	127	$198,000	$1,563
2015	177	$310,000	$1,751
2014	617	$856,510	$1,388
2013	266	$316,100	$1,189
2012	140	$263,550	$1,883
2011	78	$130,000	$1,670
2010	506	$878,750	$1,737
Summary	**3,807**	**$4,629,910**	**$1,216**
Acquisitions			
County	**Acres**	**Cost**	**Price/Acre**
2018	77	$51,000	$667
2017	17,296	$15,213,213	$880
2016	974	$878,782	$902
2015	190	$189,000	$995
2014	1,316	$1,040,000	$790
2013	5,445	$5,969,220	$1,096
2012	627	$183,081	$292
2011	-	$0	$0
2010	963	$773,000	$803
Summary	**26,888**	**$24,297,296**	**$904**

Source: KLA

PROPERTY RIGHTS APPRAISED

As noted, KLA owns mineral rights to over 400,000 acres of land. The purpose of this appraisal, per KLA's request, is to estimate the market value of a fee simple interest in the subject property as a single economic unit, excluding mineral rights. As such, this appraisal makes no attempt to address mineral rights. We understand KLA may choose to have these rights appraised separately at their own discretion at a later date.

CLIENT, INTENDED USERS, AND INTENDED USE

KLA is our client for this appraisal report and KLA and its board of directors are the intended users. The purpose of this report is to estimate the market value of the subject property which KLA will use for asset tracking purposes.

IMPORTANT DATES

Tim Mack of Sewall inspected the property on February 11th through the 14th, 2019 in the company of various KLA staff. The appraisal analysis was completed on March 6, 2019. The appraisal report was completed on March 6, 2019. The effective date of the appraisal is December 31, 2018.

SCOPE OF WORK

For this appraisal, Sewall conducted the following tasks:

- Inspected the property in the company of KLA staff.
- Reviewed and analyzed data and materials provided by KLA;
- Conducted research at (and via telephone with) municipal and state offices;
- Interviewed the property manager;
- Interviewed market participants and other sources concerning trends that influence value;
- Reviewed files and contacted appropriate persons to identify and verify relevant market data (especially comparable sales data);
- Inspected comparable sales;
- Applied the sales comparison approach and income approaches;
- Prepared this appraisal report.

APPRAISAL STANDARDS

The appraisal analysis and reporting were performed in accordance with the Appraisal Institute's Code of Professional Ethics and Standards of Professional Appraisal Practice and the *Uniform Standards of Professional Appraisal Practice* (USPAP).

DEFINITION OF MARKET VALUE

The Dictionary of Real Estate Appraisal, 6th Edition, states that "The most widely accepted components of market value are incorporated in the following definition: *"The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress."*[1]

[1] Ibid. p. 141.

The Dictionary also cites the definition used by agencies that regulate federally insured financial institutions in the United States, and the definition of value used for this appraisal: *"The most probable price that a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:*

- Buyer and seller are typically motivated;
- Both parties are well informed or well advised, and acting in what they consider their best interests;
- A reasonable time is allowed for exposure in the open market;
- Payment is made in terms of cash in US dollars or in terms of financial arrangements comparable thereto; and
- The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale."

(12 C.F.R. Part 34.42(g); 55 Federal Register 34696, August 24, 1990, as amended at 57 Federal Register 12202, April 9, 1992; 59 Federal Register 29499, June 7, 1994)" [2]

It is important to observe that the following elements are common to each of the foregoing definitions:

- Market value results when the parties are typically motivated, are generally well informed, and are acting in their own best interests;
- Market value results when the property is exposed to the market for a reasonable length of time;
- Payment is in cash or its equivalent.

Sewall's market value estimate is our opinion of the probable price obtainable in a market free of abnormal influences. A basic limitation of any appraisal is that it is an opinion of value, and is therefore not a guarantee that a property will sell at the appraised value.

[2] Ibid, p. 142.

2. MARKET DESCRIPTION

AREA CHARACTERISTICS, ECONOMY, AND NEIGHBORHOOD

The ***physiographic neighborhood*** is defined by the locational and physical characteristics of the subject property's immediate environs. The subject's overall neighborhood is the Lake States region. A more focused view of the neighborhood would be limited to the western UP and northern Wisconsin, which has several unique physiographic features.

Lake Superior significantly controls the climate of the region, keeping winters milder than those in surrounding areas. Winter snowfall is high, resulting from "lake-effect snows" from nearby Lake Superior. Spring is cool and brief, transitioning into a summer with highs near 70°F - 80°F. Fall begins in September, with winter beginning in mid-November. Lake Superior, often referred to as an inland sea, rarely freezes and its summer temperatures average about 60°F over most of its surface.

The forests of the region are diverse. Upland forest types include northern hardwoods, aspen, hemlock, and pine; while lowland types are dominated by lowland hardwood mixes, black spruce, tamarack, and cedar. The forests surrounding and including the subject are dominated by northern hardwoods, with some hemlock on wetter sites and red oak on drier, rocky slopes. For the region as a whole, sugar maple reigns as the most commercially significant species.

The *economic neighborhood* for the subject property is defined by the market area within which similar properties are bought and sold. Unlike a year-round residence, where the neighborhood may be confined to an area of a few blocks, the neighborhood for the subject properties include all or a portion of the Lake States Region, including Michigan and Wisconsin. This is supported by the fact that the same buyers of timberland across the region compete against one another.

Forest industry dominates the local economy, augmented by tourism. The UP still supports mining activity, with a recent notable find located just to the west of Marquette. Lundin Mining has completed construction there of its new underground Eagle Mine in Michigamme Township. It ships its ore south to Lundin's processing facilities in Humboldt. Mining in the region is confined to the western UP, centered around the Keweenaw and Marquette areas.

With the exception of the City of Marquette, Michigan and the college community of Houghton/Hancock, the region is very rural. Numerous recreational opportunities abound. Sportsmen/women enjoy relatively unrestricted access to many of the large timberland parcels in the region. Recreational opportunities focus on hunting, fishing, boating,

canoeing, hiking, snowmobiling, snowshoeing, and cross-country and alpine skiing. Deer, bear, and upland birds offer the best game hunting, while the lakes, ponds, and streams are popular for fishing. Snowmobiling provides a significant winter-time boost to the economy.

Land ownership in the region is varied. Lands surrounding the subject are largely private. Notable exceptions include the Ottawa National Forest and several Michigan state forests. Private landowners include a mix of big and small owners. Larger neighbors include the likes of Longyear, Weyerhaeuser, The Rohatyn Group, The Forestland Group, and Molpus. Smaller individual owners are ubiquitous.

The subject property enjoys close proximity to a full range of wood markets, including sawmills and pulp mills. Logs and pulpwood harvested from area lands are shipped mostly to regional mills. Some international export of high-value veneer logs occurs. Highway 2 travels east-west across the length of the Upper Peninsula, connecting Duluth, Minnesota to Interstate 75 to the east. It is accessible from the region by Routes 41 and 141 traveling south. Routes 26 and 28 provide additional connectivity on the western end of the UP. The federal Interstate Highway system (I-75) services only the extreme eastern tip of the Upper Peninsula, a 3-hour drive east from Marquette via Route 41. Numerous other county or Forest Service roads abound throughout the area.

Hardwood logs are shipped to any number of the numerous hardwood mills found scattered across the UP and northern Wisconsin, while smaller softwood logs often get shipped to Potlatch's stud mill in Gwinn. Much of the UP's pulpwood goes to the Verso mills in Quinnesec and Escanaba, Michigan. Hardwood pulpwood also ships as far as mills in northern Wisconsin, and occasionally Minnesota. Louisiana-Pacific's mill at Sagola is a popular destination for aspen.

REGIONAL TIMBER AND TIMBERLAND MARKETS

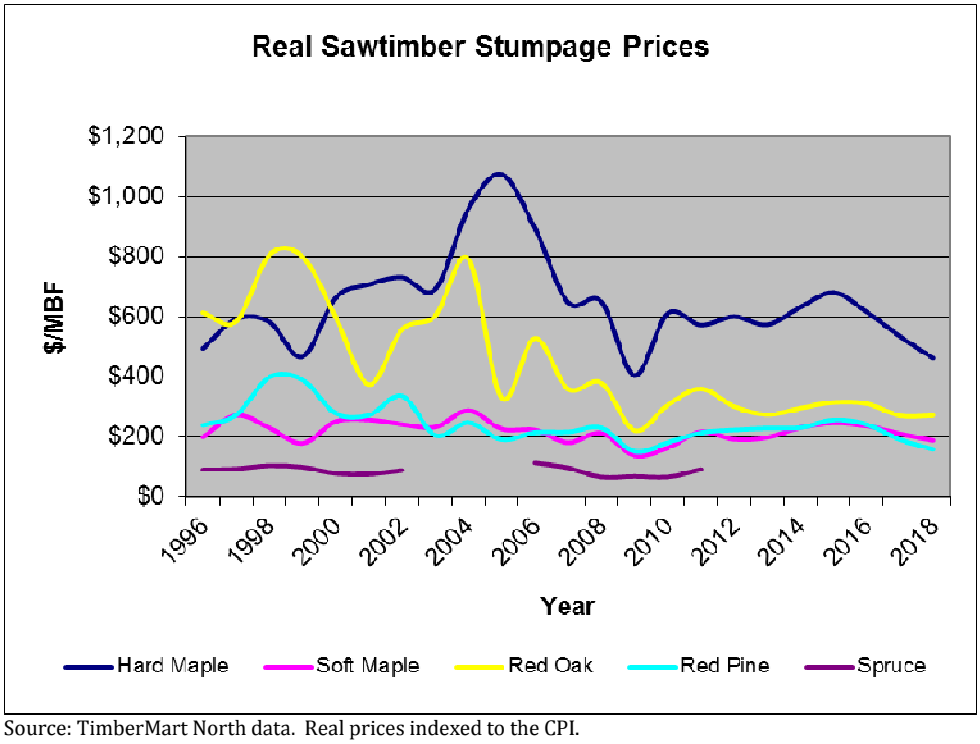
Lake States Stumpage Markets

Lake States stumpage prices surged between 2004 and 2005 (Figures 2.1 and 2.2). Much of this was associated with the overheated housing market at the time. Hard maple logs are the bellwether sawtimber product for much of the Lake States. Real prices (indexed to 2017) for hard maple sawtimber, which had traded in the $400 to $500 per thousand board feet (MBF) range since the mid-1990s, peaked at nearly $650 per MBF in Wisconsin in 2004**,** while real prices in excess of $1,000 were reported for Michigan's Upper Peninsula as late as 2005. Hard maple sawtimber prices dropped substantially beginning in 2006 through 2007 along with the decline in the housing market. The post-crash low point for log prices occurred in 2009 with prices struggling to reach above the $400 mark as the housing market remained exceptionally weak. Prices rebounded to approximately $600

shortly thereafter in 2010. Weather disruptions in logging and a strengthening housing market increased prices from both a supply and demand perspective in 2014/2015,[3] but prices have been on the decline since then, and it is possible we may be heading for a cyclical low.

Pulpwood stumpage prices were not as influenced by the effects of the housing bubble. While pulpwood experienced modest price increases at the height of the bubble and subsequent declines as the economy slipped into recession, the effects were less pronounced. Aspen, which is often used for oriented strandboard (OSB) and has structural applications for housing, was the most significantly impacted of the hardwood pulpwood species. This was especially true for the Minnesota market, which was home to five OSB mills at the time. Softwood pulpwood, to the extent it could be used by regional stud mills, also participated in the run-up and crash. Pulpwood prices recovered soon after the 2009 downturn, peaking in 2014/2015 as a result of weather-related disruptions described above.

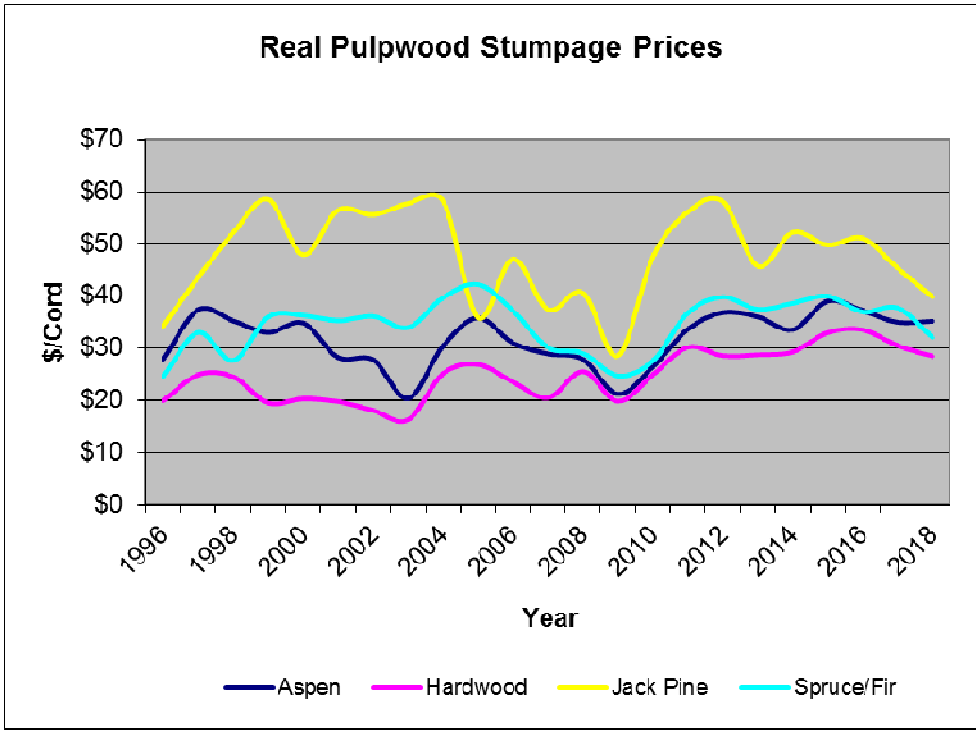
Figure 2.1. Michigan Sawtimber Stumpage Price Series



Source: TimberMart North data. Real prices indexed to the CPI.

[3] Note that the 2015 price peak described is not prominent in the TimberMart North Michigan data (both sawtimber and pulpwood). This is likely due to the noisy nature of the data, which is based solely on State of Michigan auction data from State Forest lands. A review of the data for Wisconsin, based on different data, finds a more pronounced peak, much like that reflected in the TRG price series (Figure 2.3).

Figure 2.2. Michigan Pulpwood Price Series

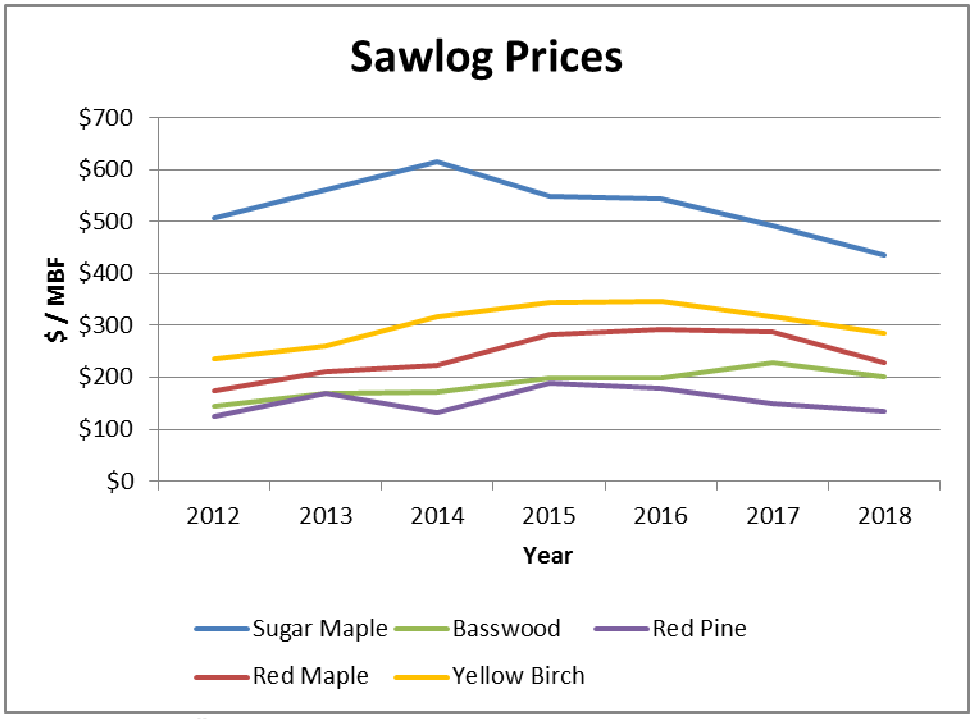


Source: TimberMart North data. Real prices indexed to the CPI.

Poor logging conditions in late 2013 and 2014 severely constricted mill inventories, contributing to upward price trends, as mill managers scrambled for both logs and fiber. Impacts were felt more heavily by regional pulp mills, with reports of empty wood yards in 2014. Subsequent drops in sawlog log prices likely reflected a stabilization of regional log inventories. Weather impacts were such that it took many mills longer than usual to rebuild inventories after the lows of 2014. Figures 2.3 and 2.4 illustrate recent pricing trends, based on Sewall stumpage survey data for the UP.

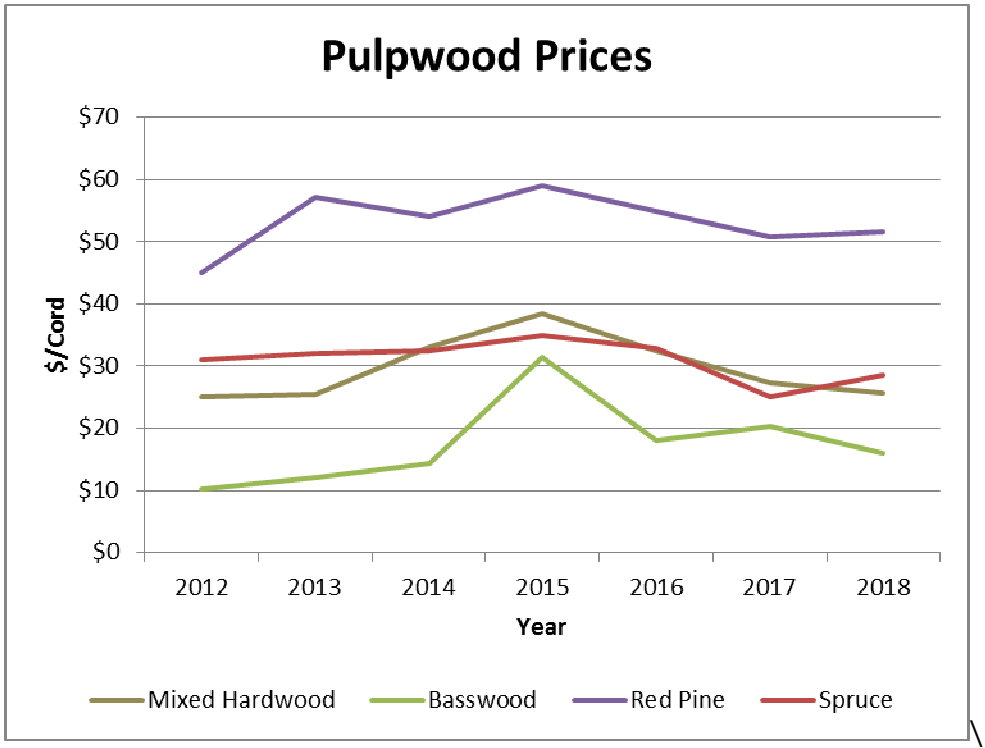
In summary, it appears that aggregate prices are cycling downward. As noted earlier, hardwood sawtimber prices peaked around 2015. Much of the weakness in the hardwood sawtimber markets is driven by declines in hard maple. Data provided by KLA and other clients in recent years suggest that sawtimber species other than hard maple have actually been holding. On the pulpwood side, mixed hardwood pulp prices are now trading below their long-term average, while softwood pulpwood prices in many areas are trading around the average.

Figure 2.3. Michigan UP Sawtimber Prices



Source: Recent Sewall stumpage surveys.

Figure 2.4. Michigan UP Pulpwood Prices



Source: Recent Sewall stumpage surveys.

Sewall conducts periodic stumpage price surveys to support ongoing appraisal assignments throughout the region. Table 2.1 summarizes the results of our most recent survey conducted for the western UP. Responses reflect stumpage sale data from the subject, a collection of agencies, procurement foresters, land managers, consultants, and secondary stumpage reporting services. The table shows the range of prices reported by respondents. Table 2.2 summarizes average pricing over a range of years for the same species and products.[4] Also shown in the table are the 3-year averages from the subject. The data shown in Tables 2.1 and 2.2 forms the basis for the stumpage price assumptions used in this appraisal.

Table 2.1. Sewall Stumpage Survey Results.

Michigan UP - Stumpage Survey Results: Late 2018										
Species / Product	Sawtimber ($/MBF)					Pulpwood ($/Cord)				
	Low	Mean	Subject - Current	Median	High	Low	Mean	Subject - Current	Median	High
Softwood										
White Pine	$55	$89		$75	$135	$18	$20	$18	$18	$23
Red Pine	$55	$123	$126	$131	$170	$18	$51	$44	$50	$90
Jack Pine	$57	$57		$57	$57	$18	$44		$46	$61
Spruce	$27	$60	$48	$62	$96	$20	$27	$23	$29	$36
Balsam Fir	$55	$55		$55	$55	$8	$22	$8	$22	$35
Hemlock	$53	$53		$53	$53	$9	$15	$13	$15	$21
Tamarack	$210	$210		$210	$210	$14	$20	$14	$22	$23
Cedar	$82	$154		$154	$227	$13	$27	$34	$34	$35
Mixed Softwood	$0	$0		$0	$0	$8	$22	$8	$24	$31
Hardwood										
Sugar Maple	$343	$451	$492	$440	$625	$27	$32		$30	$40
Red Maple	$115	$248	$203	$229	$381	$27	$32		$30	$40
Yellow Birch	$105	$276	$365	$285	$453	$25	$32		$30	$40
White Birch	$86	$254	$421	$248	$454	$18	$29		$28	$42
Basswood	$113	$199	$204	$201	$250	$8	$17	$11	$16	$26
Aspen	$45	$89		$91	$128	$22	$32	$25	$30	$44
Balsam Poplar	$0	$0		$0	$0	$18	$23		$22	$27
Red Oak	$193	$327	$314	$318	$500	$4	$21	$4	$23	$36
White Oak	$75	$75		$75	$75	$0	$0		$0	$0
Ash	$73	$211	$296	$229	$296	$25	$27		$26	$30
Black Cherry	$149	$222	$168	$229	$333	$25	$25		$25	$26
Beech	$49	$92		$100	$125	$22	$22		$22	$22
Mixed Hardwood	$103	$192		$200	$265	$20	$27	$28	$26	$40

[4] The overall average includes the years from 2012 to the present.

Table 2.2. Historical Sewall Stumpage Survey Results.

U.P. Michigan - Historical Pricing								
	Sawtimber				Pulpwood			
Species	3-Year Average	Subject 3-Year	5-Year Average	Overall Average	3-Year Average	Subject 3-Year	5-Year Average	Overall Average
Softwood								
White Pine	$95	$64	$97	$96	$23	$20	$25	$23
Red Pine	$154	$133	$156	$154	$52	$48	$54	$53
Jack Pine	$127		$124	$101	$48	$29	$47	$45
Spruce	$83	$96	$86	$84	$29	$18	$31	$31
Balsam Fir	$94		$92	$84	$22	$7	$24	$25
Hemlock	$57	$61	$58	$59	$16	$11	$15	$14
Tamarack	$148		$104	$100	$22	$24	$23	$21
Cedar	$150		$107	$95	$25	$34	$25	$21
Other/Mixed Softwood	$47		$39	$69	$24	$8	$25	$24
Hardwood								
Sugar Maple	$492	$523	$528	$530	$33		$34	$31
Red Maple	$270	$241	$264	$243	$31		$33	$30
Yellow Birch	$316	$400	$322	$301	$32		$32	$30
White Birch	$312	$444	$277	$259	$30		$30	$28
Basswood	$210	$247	$200	$188	$18	$18	$20	$17
Aspen	$111		$103	$96	$29	$27	$31	$30
Balsam Poplar			$90	$90	$25		$28	$27
Red Oak	$387	$380	$372	$362	$29	$12	$31	$28
White Oak	$174		$164	$178	$19		$26	$25
Ash	$210	$310	$186	$175	$27		$25	$25
Black Cherry	$271	$203	$289	$295	$32		$29	$30
Beech	$106		$112	$116	$24		$25	$25
Mixed Hardwood	$192		$197	$197	$28	$29	$31	$30

Source: Sewall & KLA

Regional Timberland Market

Despite a recent slowdown in sales, Lake States timberland markets have been active over the past 18 years. Table 2.3 summarizes the larger Lake States sales over that time. The region throughout the last decade or more saw integrated forest products firms divesting their timberlands to REITs or investment managers. Sales of this type were quite large, ranging from 300,000 to 650,000 acres in size. Notable sales during that time included Ned Lake to the Forestland Group, Stora Enso to Plum Creek, Bishop to Forestland Group, Boise Cascade to Forest Capital Partners, Escanaba Timber (formerly Mead) to Plum Creek, International Paper (IP) to Forest Investment Associates, IP to GMO, and Wausau to Lyme Timber.

Table 2.3. Large Lake States Timberland Sales Since 2000.

Sale #	Grantor	Grantee	State	Date	Acres	Sale Price
4287	Ned Lake	Forestland Group	WI	4/15/2001	90,179	$40,500,000
4799	Stora Enso	Plum Creek	WI	9/19/2002	308,800	$142,000,000
5115	Bishop Trust	Forestland Group	MI	5/30/2003	389,202	$144,250,000
5582	Boise Cascade	Forest Capital Partners	MN	3/1/2005	308,000	Undisclosed
5807	Escanaba Timber	Plum Creek	MI	11/15/2005	650,211	$345,000,000
6650	IP	CFP/FIA	WI	6/30/2006	63,391	$69,795,257
6270	IP	GMO	MI	6/30/2006	447,781	$267,507,373
6175	Tomahawk	Potlatch	WI	1/15/2007	76,237	$64,500,000
6422	Plum Creek	Forestland Group	WI	12/15/2007	99,420	$69,951,840
6646	Plum Creek	Forestland Group	MI	12/23/2007	31,159	$14,092,575
6617	Potlatch	Marlow Timber	MN	3/15/2008	42,447	$16,300,000
6423	Forestland Group	Molpus	MI	6/15/2008	68,392	Confidential
6618	Plum Creek	RMK	WI	9/15/2008	27,810	$22,260,000
6705	Plum Creek	RMK	WI	6/24/2009	59,103	$38,542,000
6811	Plum Creek	RMK	WI	3/1/2010	21,509	$12,909,184
6810	Plum Creek	RMK	WI	3/1/2010	18,540	$15,708,542
6904	Potlatch	RMK	WI	8/15/2010	29,695	$13,535,401
6839	Potlatch	RMK	WI	8/31/2010	28,847	$13,198,425
6996	Forestland Group	Molpus	MI	8/31/2011	90,153	Confidential
7031	Wausau Paper	Lyme Timber	WI	12/23/2011	72,822	$37,000,000
7097	Forest Capital Part	Molpus	MN	7/13/2012	286,000	Undisclosed
7098	Plum Creek	Forestland Group	WI	9/15/2012	99,750	$67,154,000
7187	Nicolet Hardwoods	Forestland Group	WI/MI	12/21/2012	15,996	$17,754,000
7298	Tigerton	TIR	WI	5/29/2013	4,856	$9,300,000
7299	Molpus	KLA	MI	10/29/2013	4,979	$5,487,000
7361	Plum Creek	TIR	WI	6/5/2014	49,536	$45,321,600
7490	BTG	The Conservation Fund	WI	7/28/2014	13,723	$11,700,000
7540	Pine River Lumber	TFG	WI/MI	10/16/2015	8,448	$16,100,000
7703	TFG	TIR	WI	2/1/2016	13,434	$12,800,000
7654	TFG	Lyme Timber	WI	4/5/2016	12,778	$12,100,000
7606	TFG	Hancock	MI	5/31/2016	362,389	$209,500,000
7694	BTG	KLA	WI	3/2/2017	14,034	$12,800,000
7764	Lyme Timber	Hancock	WI	9/14/2017	79,238	$46,224,000
7863	Marlow	TFG	MN	4/18/2018	25,001	$7,500,000

Wausau Paper's divestment of its Wisconsin timberlands in 2011 was the last really large forest products firm divestiture in the Lake States. Since 2006, transaction sizes have declined to the 10,000 to 100,000-acre range, with much of the activity involving institutional managers selling between one another, which tends to support relatively higher unit pricing. The 2012 Molpus acquisition of the Forest Capital Partners Minnesota property and Hancock's more recent acquisition of 360,000 acres from the Forestland Group are two notable exceptions involving larger transactions.

Timberland markets across the country, the Lake States included, witnessed an increase in transaction values through early 2008, as investors lowered their return expectations in the form of lower discount rates. Lower interest rates and increased institutional interest in timberlands caused prices around the US to rise dramatically from late 1998 to early 2008.

However, the US housing collapse put an end to the increases, as evidenced by Sewall's timberland investor surveys, which saw discount rates rise by over 100 basis points, translating into price decreases on the order of 15% to 20% during the period. As of 2011, prices seemed to have stabilized. The global financial crisis spawned a wide bid-ask spread that had virtually paralyzed timberland sales in most regions of the US. Deals continued during this time, but at a much slower pace. Sporadic negotiated deals replaced the frenzied pre-2008 bid process years.

It took until 2011 for the market to recover, as market activity returned, accompanied again by declining interest and discount rates. This phase of the market lasted until 2016. Since then, markets nationwide have slowed with reports of investors only interested in "high quality" offerings.

The pace of recent activity within the Lakes States timberland market exemplifies this recent trend. Since 2016, there were only three sales of notable size in the region. BTG Pactual sold 14,000 acres of mostly northern hardwood to Keweenaw Land Association in early 2017. Later the same year, Lyme exited the region, selling its 79,000-acre red pine property to Hancock. Finally, the Forestland Group recently closed on a 25,000-acre pulpwood-grade property in northern Minnesota.

Just as notable in recent years are the number of offerings that have failed to sell:

- FIA's Goodman, WI property (twice),
- TRG's Skyline property in the eastern UP,
- A large portion of the BTG Wisconsin Portfolio,
- Keweenaw's recent offering of its entire land base, and
- The Conservation Fund lands in Iron County, Wisconsin.

Market participants over the last several years report that investors are more discriminating in regard to the quality of property they will pursue, choosing to focus their attention on high-quality properties. While the list of "no-sales" above includes a number of low-value properties, it does contain several properties we would have expected to sell. Of particular note are the recent Keweenaw offering and the FIA offering. While the FIA property is easement-encumbered, it still contains considerable quantities of high-value northern hardwood that should have attracted attention. On the other hand, the Keweenaw property is large, unencumbered, and also stocked with high-value northern hardwood.

Buyer and seller expectations appear to have diverged, slowing the pace of sales in the market. This phenomenon is not necessarily limited to the Lake States. For the time being, we expect the Lake States timberland market to remain active, but subdued.

3. PROPERTY DESCRIPTION

The property is scattered across the western UP and northern Wisconsin (Figures 1.1 to 1.3). It is located in Gogebic, Ontonagon, Houghton, Iron, Dickinson, Marquette, and Baraga Counties in Michigan; and Iron, Florence, and Forest Counties in Wisconsin. Much of the property is located on the Michigan side of the border. The largest portion of the ownership can be found in Gogebic and Ontonagon Counties. A second large cluster is located in Houghton County between Houghton, L'Anse, and Ontonagon; and the rest of the property is clustered in Iron and Dickinson Counties, Michigan. The largest concentration of Wisconsin lands is located in Iron County, Wisconsin.

ACREAGE SUMMARY

Table 3.1 summarizes land cover types for the subject. The property totals 184,003 acres, of which 94.7% is productive timberland. Northern hardwood remains the largest timber type at 60.3% of total area. Other typical Lake States types can be found in smaller proportions across the property. Non-forested area is comprised mostly of flowages, muskegs, and lowland brush or grass.

Table 3.1. Acreage Summary by Timber Type

Keweenaw Land Association December 31, 2018		
By Timber Type		
Forested Type	**Acres**	**Percent**
Northern Hardwood	110,883	60.3%
Swamp Hardwood	11,527	6.3%
Lowland Conifer	14,352	7.8%
Upland Conifer	10,170	5.5%
Hemlock/Hardwood	6,238	3.4%
Aspen	21,101	11.5%
Forested Subtotal	**174,271**	**94.7%**
Non-Productive	9,732	5.3%
All Acres	**184,003**	**100%**

Source: Keweenaw Land Association (Tax Acres)

TIMBER VOLUME AND VALUE

The KLA forest is well-stocked with primarily northern hardwood species, dominated by sugar maple. Volumes per acre fall within normal ranges for the region. Timber values are above-average owing to the influence of sugar maple. Gross timber value is estimated at $207,985,137, or $1,130 per acre.

ACCESS

Access is generally good with a large collection of public roads providing external access and a collection of well-maintained private roads providing internal access. Overall access is typical for Lake States properties of this type and size. Investors familiar with the region would look favorably upon the access for the larger blocks and be undeterred by winter-time challenges posed by some of the smaller parcels. In short, the current level of access for the subject is satisfactory and poses no particular challenges.

NON-TIMBER VALUE

Portions of the property enjoy highest and best use above that of timberland. In particular, the subject includes valuable lake and river frontage. Of particular note are three miles of frontage on the south shore of Lake Superior in Gogebic County. There is also over a mile of frontage on the east side of Lake Gogebic and nearly four miles of frontage along the Paint River in Iron County, Michigan. Such frontage would be desirable to potential developers or conservation interests.

TOPOGRAPHY AND SOILS

The topography is generally rolling to flat. Soils are glacial in origin, generally ranging from loamy sands to sandy loams, and interspersed with peat wetlands. Timber types are largely a function of depth to water table and soil type. Northern hardwood occupies the better-drained soils, while swamp species such as black spruce, tamarack, cedar, and black ash predominate on the wetter sites.

REAL ESTATE TAXATION

Michigan

Timberland owners in Michigan may enroll their properties in one of two programs: the Commercial Forest Program (CF) and the Qualified Forest Property Tax Program (QFP). The programs differ in the size of land area qualifying for the program and the level of tax reduction gained.

Commercial Forest (CF):[5] Timberlands under CF are taxed at $1.30 per acre, with the State of Michigan paying an additional amount of $1.30 per acre to the county on behalf of the landowner. Program requirements are as follows:

[5] Act 451 (NREPA) Part 511, under Michigan law.

- The land must be devoted to commercial forest management.
- The land must contain 40 contiguous forested acres or more.
- The land owner must have a forest management plan written by a registered forester or natural resources professional that describes how the land will be managed and that schedules treatments such as reforestation and timber harvesting.
- Harvesting forest products is allowed, if prescribed in the forest management plan and upon written notice to the Department of Natural Resources (DNR).
- Sand and gravel may be removed from CF land under limited circumstances after application to and approval by the DNR.
- Listed land must be open to the public for fishing, hunting, and trapping. Land listed in CF with an approved sustainable forest conservation easement is also open to the public for non-motorized recreational use.
- The DNR must be notified 30 days prior to any harvesting.
- The tax liability for lands under conservation easements is 15 cents per acre less.
- There is a significant penalty for withdrawal from the program.
- CF status transfers with the land.

Qualified Forest Property Tax Program (QFP): Timberlands taxed under QFP are exempt from school operating taxes (18 mills). Landowners are liable for all other property taxes, such as county or township taxes. Program requirements are as follows:

- No more than 320 acres may be enrolled in any one taxing unit.
- The land must be 20 contiguous forested acres or more.
- At least 80% of the parcel must be productive forest (capable of growing 20 cubic feet per acre per year). The land must be stocked with forest products.
- The land must have a DNR-approved management plan.
- The amount of timber harvested each year must be reported to the DNR.
- QFP lands may be closed to the public.
- There is a penalty for withdrawal from the program.
- QFP status transfers with the land.

QFP targets small timberland owners willing to give up tax savings in exchange for the ability to close lands to the public. CF provides greater tax savings, but requires public access. QFP is limited to small landowners, whereas CF allows landowners of all sizes.

Nearly all of the subject is enrolled under the CF program. Timberland owners enrolling their lands in the program are required to record an encumbrance on the property at the local county courthouse. Most large commercial timberlands in the state are enrolled in the CF program. Large-scale timberland investors typically view the presence of the CF

program favorably, as tax liabilities from straight ad valorem rates are often cost-prohibitive from a timber production perspective. Were a typical investor to purchase a large Michigan timberland property not enrolled in the program, they would likely do so with an eye towards enrollment immediately following the purchase. Virtually all large-scale commercial timberland properties sold in Michigan since the 1970s have sold subject to the CF program. It is our experience that lands enrolled in the program do not lose value. If anything, the absence of the program in the case of large-scale timberland properties would be more detrimental to value than its presence.

Activities that require withdrawal and associated penalties under CF are agriculture, mineral extraction, grazing, industry, developed recreation, residences, resorts, commercial purposes, or developmental purposes. Land managed for Christmas trees must also be withdrawn. Most owners avoid withdrawal except where the benefits outweigh the cost, as in the case of tract sales to recreation buyers. The 2017 per-acre withdrawal penalty under CF was:

(2017 land value) x (2016 millage rate) x (county factor) x (years in CF; max. 7)

Using a DNR example for Gogebic County timberlands, the 2017 land value was $744 per acre; the 2016 millage rate was 0.03978; and, the county factor was 0.6. For timberlands that had been in CF for 7+ years, the withdrawal penalty would therefore be:

744 x 0.03978 x 0.6 x 7 = $124.30 per acre

This is a substantial disincentive for withdrawal for a large property, but not so onerous as to discourage withdrawal of small acreages for non-timber uses.

Wisconsin

A small part of the property is located in Wisconsin. Timberland owners in Wisconsin may enroll their properties under the Managed Forest Law (MFL). The purpose of this program is to encourage timber production by offering landowners reduced property taxes. Eligible properties must be at least 20 acres in size. Lands eligible for MFL must also be at least 80% productive forest and capable of producing at least 20 cubic feet of wood per acre per year. Landowners enrolled in the program must commit contractually to the program for a length of either 25 or 50 years. MFL contracts run with title to the property. Purchasers of MFL lands may choose to remain in the program or withdraw.

Withdrawal triggers a significant penalty, which most owners choose to avoid. According to the Wisconsin DNR MFL website: "The most common method multiplies the net tax rate by the previous year's assessed land value. The amount is multiplied by the number of years

the land was enrolled in the MFL program or by 10, whichever is less. In other words, the withdrawal is capped at a maximum 10 years."
MFL participants must have a management plan written by a certified planner. Management prescriptions set forth in plans are, for the most part, mandatory. The primary purpose of the program is to encourage timber production. The development of buildings or structures for any use other than forestry is prohibited.[6] Lands must be withdrawn before significant development may proceed.

Enrolled landowners must allow public access to their lands for hunting, fishing, hiking, sightseeing, and cross-country skiing. A limited portion of an ownership may be closed to the public; this acreage is limited to 320 acres per ownership per municipality (city/town/village). Closed lands may be leased for recreational use, such as hunting.

Lands enrolled between 1987 and 2004 are taxed at a rate of $0.79 per acre for open lands and $1.87 per acre for closed lands. If enrolled in 2005 or later, lands are taxed at a rate of $2.14 for open lands and $10.68 per acre for closed. Rates are recalculated every 5 years. The most recent recalculation occurred in 2018.

The MFL replaced the Forest Crop Law (FCL) in 1986. Lands enrolled in the FCL in some cases remain enrolled; that is, transition to MFL was not mandatory. The FCL was very similar to MFL in many ways. The FCL differs from the MFL in several respects. For lands still enrolled under FCL:

- Owners are not allowed to close the property to the public.
- $0.10 per acre annual tax if enrolled before 1972, $2.52 thereafter.
- Must pay 10% of assessed stumpage value should owner not wish to enroll in MFL upon expiration of FCL contract.

KLA reports an annual property tax liability of $370,214, or $2.01 per appraised acre. The property is a mix of the Michigan CF, Wisconsin MFL, and ad valorem.

LAND USE REGULATIONS

Michigan

Land use regulations in Michigan are minimal. There is no forest practices act and the state forestry Best Management Practices (BMPs) are voluntary. The Michigan BMPs, similar to

[6] Small hunting cabins were allowed prior to ACT 358 in 2015. The same act also allowed for recreational leasing on "closed" lands and eliminated the timber severance taxes for both the MFL and FCL tax programs.

those in Wisconsin or Minnesota, are not particularly onerous compared to forest management standards common to other regions.

Zoning in Michigan is handled by the townships or cities. There are no zoning regulations for any of the subject parcels that would affect normal forestry operations and recreational uses. Minimum lot size restrictions below the 40-acre level can vary from town to town, but there is nothing to prevent the owner from making sales at that level or higher.

Wisconsin

Land use regulations in Wisconsin are also minimal. Salient provisions are summarized below:

Additional MFL and FCL Regulations: MFL and FCL land use restrictions are primarily limited to development and leasing, as described above. Both programs also require landowners to have a timber management plan for their property. There is an expectation that landowners enrolled in the program will harvest their timber as prescribed by the plan. Harvest prescriptions are limited to those approved by the Wisconsin DNR. A copy of the DNR silviculture guidelines exists in Sewall files. Overall, the guidelines represent a range of options typical of what might be employed across the region.

General Forestry Regulations The Wisconsin DNR publishes a set of forestry Best Management Practices (BMPs) for water quality. Adherence to these BMPs is voluntary. Stream crossing permits are required from the DNR when installing culverts or bridges, but there is rarely any difficulty in obtaining such permits.

Notice of Intent to Cut All landowners must file a Notice of Intent to Cut with the County Clerk for the county in which the lands reside. Owners enrolled in the MFL program must also file with the Wisconsin DNR. Notice includes the owner's identity, date of cut, logger's name, a description of the property, and check-off indicating the category of products to be harvested: logs, pulpwood, Christmas trees, or miscellaneous.

Shoreland Zoning Wisconsin's Shoreland Management Program established statewide minimum standards for shoreland development. Counties are required to adopt and administer shoreland zoning ordinances that meet or exceed these minimum requirements:

Lot Size

- Sewered lots must have a minimum average width of 65 feet and a minimum area of 10,000 square feet.
- Unsewered lots must have a minimum average width of 100 feet and a minimum area of 20,000 square feet.

2. Buffer Strips

- Clearcutting of trees and shrubs is not allowed in the strip of land from the ordinary high water mark to 35 feet inland.

- One exception exists for a 30 foot wide path, for every 100 feet of shoreline, down to the water.

3. Setbacks
    - All buildings and structures must be set back at least 75 feet from the ordinary high water mark.
    - Exceptions: piers, boat-hoists, and boat houses are allowed along the shore.
    - "Setback averaging" – if an existing pattern of development exists, counties may allow new homes to be built closer than 75 feet from the ordinary high water mark at the same setback as the average setback of neighboring homes.

In general, the impact of zoning on the subject property is minimal. A potential buyer of the property would note the zoning, but would most likely not be discouraged from buying and operating the property as commercial timberland and selling scattered lots into the recreation market.

4. HIGHEST AND BEST USE

Highest and best use (HBU) is the cornerstone of value in the appraisal process. *The Dictionary of Real Estate Appraisal* defines HBU as: *"the reasonably probable use of property that results in the highest value. The four criteria that the highest and best use must meet are legal permissibility, physical possibility, financial feasibility, and maximum productivity" (Appraisal Institute, 2015, p.109).*[7] The subject property is vacant timberland. Consequently, we will only consider the highest and best use "as vacant".

For a use to pass as the HBU, it must be **legally permissible, physically possible, financially feasible,** and **maximally productive**. Above all, it must be supported by land use trends for similar property in the market area. Therefore, it must be plausible when considering the most likely buyers and the uses they anticipate. The actions of the marketplace must ultimately guide the appraiser's HBU analysis.

Supportable physical and legal uses of the property focus on timber production. The property contains well-stocked forest types and has an established history of timber management. Timber investment is therefore financially feasible at present. Net income from timber management has historically produced positive returns on land. Strong timberland markets uphold values for this purpose. Increased familiarity with timberland investments in recent years has resulted in increased demand for such investments. Use of the property for timber management is both legal and feasible.

The sale of small parcels from the property for development, conservation, or recreational use is both legal and feasible. Frontage along Lake Superior, Lake Gogebic, and the Paint River would appeal to development or conservation-minded interests. Additionally, there are numerous small parcels scattered across the property that would appeal to recreational hunting interests. Depending on location and timber stocking, these parcels often have HBU in excess of generic timber production.

Several classes of investors might compete for the subject in today's market. Institutional buyers like Molpus, BTG Pactual, FIA, The Forestland Group, Lyme Timber, TIR, The Rohatyn Group, and timber REITs project long-term sustained yield management, and their bids typically reflect conservative management with upside for capital appreciation. There is ample precedent for this in the Lake States. Private timberland investors would likely manage the property similar to that of the institutional investors. Logging Contractors often project relatively heavy cutting and associated inventory reduction in the near term, followed by either resale or continued holding at low harvest levels while inventories recuperate. However, the size of the property would likely discourage this class of investor.

[7] In Federal condemnation, HBU is defined as "That use of property which may reasonably be expected to produce the greatest net return to the land over a given period of time. It is sometimes called the 'optimum use'."

Public Agencies would project long-term sustained cutting levels with an eye towards conservation and locking up land for public recreation. Once again, the size and generic nature of the property would make it less attractive to the public buyer. Non-Government Organizations such as The Nature Conservancy would project limited cutting with an eye towards preservation. There is ample precedent for this nationally, including two notable instances here in the Lake States. In one case TNC purchased the Two Hearted River property from The Forestland Group in the eastern UP. More recently, The Conservation Fund purchased over 13,000 acres of timberland from BTG in Wisconsin. (Their ultimate goal was to purchase the land, place it under a conservation easement, and sell it to another institutional investor.) However, many NGOs' preferred method is to purchase working forest conservation easements, with the intention of transferring them to government agencies. A common investment model for conservation-minded timberland investors is to partner with NGOs at the outset, with a commitment to spinning off sensitive fee lands and conservation easements, whereby the NGO initially takes title and then rolls the property over to state or federal agencies. However, given the current political environment in Michigan, the likelihood of another significant conservation easement deal remains low.

These factors, in combination with historical and current use patterns and recent timberland sales, indicate that the highest and best use of the subject property is for sustainable timber production, with a secondary opportunity for HBU land sales or conservation sales. The most likely buyers of the property in the current economic environment are institutional timber investors and timber REITs. HBU remains unchanged from past appraisals of the subject.

5. VALUATION PREMISES

Appraisal technique seeks to duplicate the process, conscious or unconscious, by which the typical buyer of the property would arrive at the price to be paid. That is, in appraising property, the appraiser must put himself in the shoes of the typical buyer. What process would this prospective purchaser use to arrive at the price to be paid? It is also important to consider the willing seller's viewpoint. The purpose of this assignment is to estimate the market value of the property. Appraisal theory holds that market value can be estimated in three ways: by the income capitalization approach, the sales comparison approach, and the cost approach.

The **sales comparison approach (SCA)** is founded on the principle of substitution, which holds that a buyer would pay no more for the property than the price at which he could obtain a substitute property having similar utility. Analysis is based on open market prices recently paid for similar properties in the market area. These prices are adjusted to account for value differences attributable to the influences of financing, time, location, physical characteristics, conditions of sale, and other factors that drive sale price. The approach is particularly useful for commercial timberland, where intangibles such as aesthetics are important to the marketplace. Therefore, the SCA is appropriate for estimating the market value for the subject.

The **income capitalization approach (ICA)** is based on the principle of anticipation, which states that value is derived from the anticipation of future benefits (net operating income). It is most appropriate for properties which are regularly bought and sold based on their ability to generate a net income stream. Large commercial timberland properties fall into this category. Such properties are generally 20,000 acres and larger. The size of the subject lends itself to the ICA; therefore, our analysis includes the use of the income approach.

The **cost approach (CA)** consists of the summation of two elements: vacant land and the depreciated replacement cost of improvements. It also is founded on the principle of substitution; that is, a buyer would pay no more for the subject property than the cost to purchase a comparable parcel of land and construct improvements having similar utility. When applied to timberland, it can be useful if there are several distinct economic units that can be valued separately. The bare land component can be valued from sales of cutover land, or from land allocations in timberland sales. Timber is treated as an improvement, and is valued by comparing it with open market stumpage sales of similar timber. Other assets such as water frontage, sand and gravel, and other non-timber resources can also be valued separately.

A difficulty with the CA is that it violates the "unit" rule by assuming that the property is purchased piecemeal instead of as a package of assets. The CA is applied to extracting the value of these separate economic units from different sales transaction, and then "assembling" the value components into an indication of total property value. In the North, applying the CA to large timberland properties often results in grossly inflated total values due to the large quantities of land and timber involved. In the Lake States, the CA might produce reasonable values for smaller "retail"-sized properties, however, buyers and sellers in this region do not trade on the basis of land value plus timber value. Therefore, we do not use the CA for this appraisal.

6. SALES COMPARISON APPROACH

In our sales comparison approach, we summarize pertinent information regarding each of the comparable transactions, and the adjustment process leading to an estimate of market value. The analysis is based on recent sales of timberland properties in the region.

We select six sales from the Sewall database as comparable to the subject property. In doing so, we focus on sales of with significant high quality northern hardwoods, similar to that of the subject. All sales occurred in the Lake States region since mid-2008. For the class of buyer that would compete for the subject property, these transactions represent the best available evidence of market value.

UNITS OF COMPARISON

Table 6.1 presents sales that Sewall used in this analysis. Comparative analysis requires selecting an appropriate unit of comparison, the most common being sale price per acre.

The sale adjustment process derives indications of what the buyer of each sale would have paid, on the effective appraisal date, if the sales were identical to the subject. It is therefore necessary to "normalize" each sale so that it is equivalent to the subject.

The analysis focuses on variables that influence prices paid, adjusting for factors in the sales that are different from attributes of the subject property. Initially, the broad ranges for these raw variables reflect appreciable variation in the size of the sales and in the timber volume and timber quality from sale to sale. Adjustments to unit prices reflect differences between each sale and the subject property. Adjustments are made in sequential fashion for interest conveyed, financing, sale conditions, and market conditions. Then adjustments for physical and locational features are applied to the adjusted price to arrive at each sale's indicated value.

The final step is to weight the sales according to their relative reliability as indicators of value, and then settle on a best estimate and value range.

Table 6.1. Sale Comparison Approach Comparable Sales

Sale Number	Seller	Buyer	Location	Date	Acres
7694	BTG	KLA	northern WI	March 2, 2017	14,034
7606	The Forestland Group	Hancock	MI UP	May 31, 2016	362,389
7540	Pine River Lumber	The Forestland Group	WI / MI	October 16, 2015	8,448
7490	BTG	Conservation Fund	northern WI	July 28, 2014	13,732
6996	The Forestland Group	Molpus	western UP	August 31, 2011	90,153
6423	The Forestland Group	Molpus	Keweenaw (MI)	June 21, 2008	68,392

The indicated value of the subject property by the sales comparison approach as of December 31, 2018 is $160,000,000 ($870 per acre).

7. INCOME CAPITILIZATION APPROACH

Applying the income capitalization approach requires forecasting net operating income (operating revenues less operating expenses). Two basic applications of this approach are discounted cash flow analysis and direct capitalization. Our analysis focuses on the former. This section describes the rationale for projecting operating revenues and expenses for the subject property, and then converting the resulting net operating income stream into an indication of market value.

PROJECTION PERIOD

The projection period should reflect or account for the holding period anticipated by typical investors. Responsible management is assumed in the definition of market value, and in this case, the tenure of ownership would be expected to correspond to that of a REIT or Timberland Investment Management organization (TIMO). Because of the property's size, complete timber liquidation and resale of the bare land is unlikely. However, some investors might plan a substantial reduction in the timber inventory and/or liquidation of some portions of the property.

The holding period modeled is 10 years, with a reversion (terminal value) based on an expected percentage of future GTV. Some TIMOs and loggers would model shorter holding periods in the 5-10 year range, while other private investors would model longer holding periods upwards of 20 years or indefinite ownership.

DISCOUNT RATE

For this appraisal, Sewall is applying a discount rate of **5.5% real.**

The discount rate is used to convert future net cash flows into a present value. A market-based derivation is critical to providing an accurate appraisal, particularly for long-term forestry investments where the value is particularly sensitive to the timing of cash flows.

We considered the following indicators in developing our discount rate:

1. Survey market participants
2. Derive the implied discount rate (internal rate of return) from transaction evidence
3. Calculate a weighted average cost of capital (WACC)
4. Capital Asset Pricing Model (CAPM)
5. Corporate bond analogies

We placed primary weight on Sewall's annual investor survey (#1 above).

The subject is best categorized as a generic timberland property. That is, there are no aspects to the property that would make it any more or less risky than any other property in its class. It is therefore reasonable to apply a discount rate of 5.5% to the KLA lands.

ANNUAL GROWTH AND YIELD

Forest managers in the north employ a variety of growth and yield information, ranging from Continuous Forest Inventory (CFI) data, growth and yield models, and yield equations provided by the public and private sectors. Growth projections for investment analysis purposes often take the form of heuristics that are more or less based on a combination of CFI data and observations from USFS surveys (FIA). Investment analysis models commonly assume net annual growth, for all species combined, of 0.40 to 0.70 cords per acre across large ownerships in the Lake States. Growth and yield has been measured on the property using a 390-plot CFI first established in the late 1950s. Data provided by KLA support growth rates on the high side of the Lake States range, based on empirical evidence from the CFI.

OPERABILITY

On virtually every timberland property in the region there is some timber that is inoperable. On properties with higher-than-typical proportions of marginally operable timber (or areas requiring substantial road-building), the expected stumpage revenues (per-cord expectation) would be adjusted downwards in our DCF. However, the subject property is for the most part already well-roaded and does not appear to merit any adjustment to anticipated stumpage revenues.

Similarly, properties with atypically high proportions of their timber in protection zones might require stumpage rate adjustments in the DCF approach (based on an expectation of higher operating costs per cord harvested). The subject does not suffer from atypical regulation of standing timber, owing to Michigan's lenient regulatory environment.

PROJECTED REVENUES

Timber Revenues

The element of income is timber revenue from stumpage sales. The property is well stocked. Buyers and bidders in numerous transactions have anticipated (and ultimately accomplished) near-term reductions of standing inventory. This can significantly increase present values in DCF calculations, leading to successful bids. We project an inventory reduction close to 10%, drawing the inventory down to a target stocking of 20 cords per acre by the end of the 10-year holding period. This assumptions reflects the fact that deals often go to the most aggressive bidder. In so doing, we are modeling the behavior of the most likely successful buyer in a competitive sale process.

Lake States stumpage prices have recovered markedly over the last several years, with many species-product combination now selling at or above their long-term averages (Figure 2.1 and Figure 2.2). This is especially true for sawtimber prices. While prices have softened in recent years, they remain around their long-term averages. Given the current mixed state of the economy, prices could go either way from here. We therefore project flat pricing going forward in our DCF model.

Land Sales

A subset of the property includes classes of lands offering HBU potential over and above that of timber production. Superior HBU potential includes the following:

- Three miles of frontage along Lake Superior,
- A mile of frontage along the east shore of Lake Gogebic,
- Significant frontage along the Pain River in Iron County, Michigan, and
- Numerous scattered parcels with potential for generic recreational land sales.

These lands add value to the property over and above that of a generic timberland play. Typical timberland investors recognize this form of value, often times including land sales as part of their due diligence efforts. It is therefore reasonable to include a land sales program as part of our DCF model.

Non-Timber Revenues

KLA reports annual non-timber related revenues from gravel sales and camp leases. We model this rate going forward.

COST ASSUMPTIONS

Property Taxes

Nearly all of the property is enrolled under the Commercial Forest program (CF) or the Wisconsin MFL program. A small portion of the property is taxed as ad valorem. We assume a blended rate for the appraised area of $2.01 per acre, based on data provided by KLA. We model this rate going forward.

Management Expenses

Annual operating costs associated with managing the forest property vary according to how many parcels there are for a given acreage, the total acres being managed, type of management activities, and other factors. Owning many parcels often results in a higher proportion of property lines to maintain and a higher probability of management problems and conflicts; while large properties generally benefit from economies of scale. The property is large, and at the same time, moderately parcelized. Timberland investment managers and REITs would be the likely bidders for the property, were it placed on the market as of the effective date. We model an annual administrative cost of $8.00 per acre going forward. This rate is on par with that projected by competing timberland investors. Our model assumes revenues from stumpage sales; therefore, there is no need to assume marketing costs in our analysis.

DCF RESULTS

Our DCF model projects cash flows over a 10-year holding period with a reversion based on the expected selling price of the property at the end of the holding period.

INDICATED VALUE BY DCF ANALYSIS

The sensitivity analysis demonstrates that DCF analysis is highly sensitive to certain inputs. While market practices regarding stumpage price appreciation factors suggest a conservative conclusion, aggressive bidders' market practices regarding target stocking suggest a higher conclusion. In real management situations, the two may well offset one another. If prices lag behind expectations, harvests may be increased. If harvests are heavier, there may be less in-growth to higher value product classes, and there will be either a shorter time horizon for recognizing real price increases or less long-term flexibility to capture positive market movements. The base case scenario, representing sustainable cash flow from timber management, indicates a value of $137,758,772.

Therefore, the estimated market value of the subject, by the income capitalization approach, as of December 31, 2018, is **$137,800,000** ($749 per acre). Several variables can exert an appreciable effect on the present value calculation. The gross estimated value range is $117.3 million to $158.3 million. Our analysis indicates a high degree of sensitivity regarding stumpage pricing, forest growth rate, target stocking, and other assumptions. This range reflects the degree to which these assumptions on the part of a prospective buyer might affect value.

8. RECONCILIATION OF VALUE

Table 8.1 summarizes the results of the two approaches and our final estimate of value. The cost approach is not relevant to this appraisal.

Table 8.1. Reconciliation summary.

Keweenaw Land Association - December 31, 2018				
	LOW	BEST	HIGH	WEIGHT
Sales Comparison Approach	$148,800,000	$160,000,000	$165,500,000	50%
Income Capitalization Approach	$117,300,000	$137,800,000	$158,300,000	50%
Indicated Value	**$133,100,000**	**$148,900,000**	**$161,900,000**	
Per Acre	$723	$809	$880	
% GTV	64%	72%	78%	

The SCA is generally regarded as the more empirical of the two approaches. It requires both objective and subjective adjustments, but compared to the ICA, it depends less on the appraiser making explicit assumptions about underlying variable economic factors. It captures all of these assumptions in the prices paid by active investors. It serves as a good indicator of value in an active market. However, as noted earlier, the pace of sales in the Lake States has slowed noticeably. Notably, there have been numerous "no sales" of a variety of offerings. Because of this, the SCA may not be as strong an indicator of value as in the past.

The ICA generally is subject to greater variability depending on the inputs used. In the sensitivity analysis presented, values ranged widely, based on defensible inputs. In times of market flux, it becomes difficult to model market perceptions in discounted cash flow analysis because investors have such varied opinions about future prices and management practices. The challenge increases where there are significant differences in management anticipated by active investors. As the sensitivity analysis presented in the table above shows, the results are quite sensitive to certain key inputs.

In reconciling the ICA and SCA, it is generally not appropriate to simply average the two, for a reconciliation process has already occurred within each approach. In many cases it will be clear that one approach or the other is stronger and better reflects the manner in which investors evaluate timber properties. The SCA conclusion is $160.0 million, while the ICA is $137.8. The two conclusions differ by $22.2 million.

The ICA typically represents how most investors perform acquisition analysis; that is, it reflects the buyer's position. The SCA provides a more empirical measure of value and often reflects the seller's position. In negotiations some meeting of the minds should be expected. Therefore, a price somewhere in between is warranted. In this case, we weight

to the SCA equally with the ICA (50%). Normally, we would give more weight to the SCA; however, given the current pace of sales in the region, we are inclined to give the ICA more weight than usual.

Therefore, the estimated market value of the KLA Property, as of December 31, 2018, is:

ONE HUNDRED FORTY-EIGHT MILLION NINE HUNDRED THOUSAND DOLLARS
***** $148,900,000 *****
($809 per acre)
(72% of effective gross timber value)
(Market Value Range: $133,100,000 to $161,900,000)

Our best estimate of value falls within the upper end of the ICA and just below the low end of the SCA range.

EXPOSURE PERIOD

Exposure period is the estimated length of time the property interest being appraised would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of the appraisal; a retrospective estimate based on an analysis of past events assuming a competitive and open market. Exposure time is always presumed to occur prior to the effective date of the appraisal.

The Lake States remains a desirable investment geography among investors, especially for those looking to invest outside of other geographies. Moreover, the subject contains high-quality northern hardwood that should attract significant interest. The Pine River Lumber deal in Wisconsin and Michigan was marketed over the course of a year. Twelve months for property of its type is longer than we would expect for the region. In this case, it may have more to do with the nature of the seller, who had been marketing the property for some time, with a higher-than-normal asking price. It is our experience that exposure times between knowledgeable buyers and sellers in the Lake States market are generally shorter. Indeed, on the other end of the spectrum is Lyme Timber's acquisition from Wausau Paper in 2011, which took only three months. More recently, Hancock reported a 7-month process in the case of their recent Lake States acquisition (SCA Sale 7606). Hancock also recently purchased the Lyme Timber assets (70,000 acres) in northwestern Wisconsin (sale not used), taking approximately six months to close that deal. Given our familiarity with the market, along with the character of the property, we estimate an exposer period for the subject of 6 to 9 months.

Appendix A
Certification of Value & Qualifications of Appraiser

CERTIFICATION OF VALUE

1. The statements of fact contained in this report are true and correct.

2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.

3. I have no present or prospective interest in the subject property, nor do we have personal interests or biases with respect to parties involved.

4. I have appraised the subject property within the three-year period immediately prior to accepting this appraisal assignment.

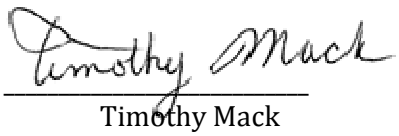
5. My compensation is not contingent upon: (a) the reporting of a predetermined value or direction in value that favors the cause of the client, (b) the amount of the value estimate, (c) the attainment of a stipulated result, or (d) the occurrence of a subsequent event.

6. My analyses, opinions, and conclusions are developed and presented in conformity with and subject to the Uniform Standards of Professional Appraisal Practice.

7. I inspected the subject property on February 11 through 14, 2019.

8. No one outside James W. Sewall Company has provided significant professional assistance in preparing this report.

9. Appraisers are required to be licensed and are regulated by the Michigan Department of Licensing and Regulatory Affairs, P.O. Box 30018, Lansing, Michigan 48909. Mr. Mack is licensed Certified General in the State of Michigan – License Number: 1201075236.



Timothy Mack

March 14, 2019
Date

QUALIFICATIONS OF APPRAISER

TIMOTHY MACK

APPRAISER / BIOMETRICIAN

Tim Mack specializes in timberland appraisal, forest inventory, growth and yield modeling, harvest scheduling, and acquisition due diligence for Sewall out of its Lakes States office. Mr. Mack has appraised timberland all over the world, including properties in North America, Hawai'i, Central & South America, Australasia, Europe, and Africa. Species for which Mr. Mack has had experience range include aspen/spruce/pine in the north, to northern hardwoods in the Lake States and New England region. International experience includes eucalyptus in Australia, Uganda, Uruguay and Brazil. Mr. Mack has done pine work in Uganda, New Zealand, Argentina, Uruguay, and Brazil. Mr. Mack's international specialty is teak, having cruised, appraised, or modeled it in Panama, Costa Rica, Nicaragua, Guatemala, Colombia, and Brazil.

During his career, Mr. Mack has developed expertise with various growth and yield models throughout the Eastern United States and has designed and built forest-level harvest schedule models, implementing their results on the ground. This expertise includes the use of the US Forest Service's Forest Vegetation Simulator (FVS) and linear programming (Woodstock and FORPLAN). He has designed and supervised forest inventories and implemented forest information systems at small and large scales. In addition, Mr. Mack has experience with forest information system design and discounted cash flow analysis, and financial analysis for silvicultural alternatives. He is also a regular contributor to wood supply studies conducted by Sewall.

Education

M.S., Forestry--Biometrics and Business, University of Minnesota
B.S., Forest Resources, University of Minnesota

Professional Affiliations/Designations

Licensed & Certified General Appraiser, Minnesota, Michigan, Wisconsin
Licensed Professional Forester, Michigan
Association of Consulting Foresters of America

Relevant Experience

2006 - Present, James W. Sewall Company, International Falls, Minnesota
Appraiser/Biometrician: Timberland appraisal, due diligence assistance, timber inventory, and resource study support.

2005 - 2006
Independent Forestry Consultant: Oversaw a large inventory project in Pennsylvania. Assisted with due diligence work for timberland investors. Conducted financial analysis for forestry properties.

2004 - 2005, James W. Sewall Company, Old Town, Maine
Biometrician: Supervised forest inventory design and implementation, performed due diligence analysis for land acquisitions, appraised timberlands, and developed mill resource studies. Also performed forest modeling.

2002 - 2003, MeadWestvaco, New England Region
Inventory and Analysis Forester: Designed, implemented, and oversaw new inventory systems for MeadWestvaco timberlands in Western Maine. Advised field staff regarding forest inventory needs. Assisted with the maintenance of the region's forest information systems.

2000 - 2003, College of Natural Resources, University of Minnesota
Research Assistant/Pawek Fellowship: Developed a model-based approach for the development of a density management diagram for red pine in the Lake States (RESINOSA model).

1991 - 2000, Boise Cascade, Northern Minnesota Region
Planning Forester: Performed forest planning and allowable cut determination for 308,000 acres, including extensive use of linear programming (FORPLAN) and growth and yield modeling (FVS). Coordinated with the operational foresters to achieve the region's planning goals in the field. Performed financial analyses for silvicultural alternatives. Responsible for the region's forest information systems including two year's experience managing the GIS (ArcInfo). Oversaw the design, upkeep and implementation of various forest inventory systems including an operational stand inventory and a continuous permanent plot inventory. Analyzed and executed land deals involving company property. Participated in wood supply analyses for the company's International Falls paper mill.

JAMES W. SEWALL COMPANY / *Since 1880*

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