COOPERATIVE EXTENSION SERVICE

MICHIGAN STATE UNIVERSITY • U.S. DEPARTMENT OF AGRICULTURE & COUNTIES COOPERATING
GRAND TRAVERSE COUNTY EXTENSION OFFICE • GOVERNMENTAL CENTER
400 BOARDMAN • TRAVERSE CITY, MICHIGAN 49684 • (616) 941-2256

January 13, 1986

Ann Sinclair
Chateau Grand Traverse, Ltd., Winery
12239 Center Road
Traverse City, Michigan 49684

Dear Ms. Sinclair:

There are several factors that make the Old Mission Peninsula unique in its fruit producing potential. Climate, topography, and soil type all influence fruit production.

The Old Mission Peninsula is a narrow slit of land nineteen miles long and less than a mile wide in most places. Its high rolling hills overlook the east and west arms of Grand Traverse Bay and are among the prime fruit sites to be found.

The proximity to Grand Traverse Bay and the southwesterly breezes off Lake Michigan tend to moderate air temperature. This results in mild winters, delayed springs, and relatively cool summers.

Delayed spring bloom on fruit crops, such as cherries, apples, peaches, and grapes, helps to minimize frost damage.

Leelanau-Kalkaska sandy loams dominate the soil profile on the Peninsula. This well-drained soil has an acidic topsoil and alkaline subsoil.

It is no wonder that the Peninsula has historically been one of the leading fruit producing areas of the nation.

If you need any more detailed information in the future, feel free to contact me.

Sincerely,

Steven B. Fouch
Extension Agricultural Agent

SBF:lw

CHATEAU
GRAND TRAVERSE

12239 CENTER ROAD
OLD MISSION PENINSULA
TRAVERSE CITY, MICHIGAN 49684
616 223-7355

Michigan's World Class Wines

Rec'd 1.23.86

Bureau of Alcohol, Tobacco and Firearms
Washington, DC 20226
ATTN: Director

15 January, 1986

Dear Sir:

In accordance with 27 CFR 4.25a(1) and (2), I, Edward O'Keefe, president of Chateau Grand Traverse Winery, do respectfully petition the Bureau of Alcohol, Tobacco and Firearms (BATF), to recognize the Old Mission Peninsula, located within the county of Grand Traverse, and in the state of Michigan, as an American Viticultural Area. This recognition will allow all present and future wineries of this area to use "Old Mission Peninsula" as the designated appellation of origin on wine labels and in advertising.

The following information, supported by enclosed documentation and references, provides evidence for proposed appellation name, geographical features and boundaries, and unique agricultural conditions of the area under petition, as requested in Industry Circular 80-15 of the BATF, dated 24 December, 1980. Also enclosed is a copy of the appropriate United States Geological Survey map showing the proposed area prominently marked.

Evidence that the area is known by the proposed name:

Settlement of the proposed area in the mid-1800's was the main undertaking of the Reverend Peter Dougherty, who founded the first Indian school on the northeast shores of Old Mission Peninsula, at Mission Harbor(Potter, 1956). After abandonment of the school in 1952, and establishment of a new school, or "New Mission", westward on Leelanau Peninsula, the old site became known as "Old Mission", and consequently "Old Mission Peninsula"(Wait, 1918). The Peninsula is now referred to as "Old Mission Peninsula", the name which identifies it as the strip of land extending into and separating Grand Traverse Bay(Vogel, 1967).

A narrative description of the boundaries based on features which can be found on a United States Geological Survey map of the largest applicable scale, and historical or current evidence that the proposed boundaries of the viticultural area are correct:

The Old Mission Peninsula is bounded on three sides by the waters of Grand Traverse Bay, and connected on the south end to the mainland of Michigan at Traverse City. The area is designated

as Peninsula Township 28; 29-30 North Range 10-11 West. The Township boundaries adequately designate the proposed viticultural area. Please see the enclosed Township map for reference.

Evidence relating to the geographic features such as climate, soil, elevation, physical features, etc., which set the proposed viticultural area apart from the surrounding areas:

The Old Mission Peninsula is a narrow land strip approximately 19 miles long, and no wider than one mile, which jets into the Grand Traverse Bay.

The surrounding deep waters of the Bay, coupled with southwesterly winds carrying warmth from the mainland, create a microclimate on the Peninsula. It provides delayed spring blooms as well as delayed fall frosts and mild winters(Fouch, 1986). This combination creates optimum conditions for delayed bloom fruit crops, such as grapes, allowing for a late bloom in the spring, and necessary ripening time for the fruit well into the fall.

The Peninsula soil type is of the Leelanau-Kalkaska series, a sandy loam that provides good drainage for fruit crops(Weber, et al, 1966). Please see enclosed letter from the Traverse County Cooperative Extension Service detailing these and other unique features of Old Mission Peninsula.

A USGS map has also been provided outlining the proposed viticultural area under petition.

The preceeding information and enclosed documentation satisfies all requirements for the appellation of Old Mission Peninsula. Any questions or comments may be directed to Ms. Ann E. Sinclair at the Winery address.

Sincerely,

Edward O"Keefe
President

Enclosures

REFERENCES

Cook, L. Grand Traverse County Leads World in Cherries. In: Detroit Free Press, Feb. 10, 1954, p. 10a.

Fouch, S. 1986. Personal communication and correspondence outlining Old Mission Peninsula's unique climatological and geographical characteristics. Grand Traverse Countey Cooperative Extension Service, Traverse City, MI.

Hilt, M.L. 1960. Early Days of the Cherry Industry in the Grand Traverse Region. Cooperative Extension Service report, Grand Traverse County, Traverse City, MI. p.1.

McMannis, G. 1970. The Cherry Story from the Cherryland of Northwest Michigan. Cooperative Extension Service report, Grand Traverse County, Traverse City, MI. p.1-2.

Potter, E.V. 1956. The Story of Old Mission. Edwards Brothers, Inc. Ann Arbor, MI. p.27.

Vogel, V.J. 1967. The Missionary as acculturating agent: Peter Dougherty and the Indians of Grand Traverse. In: Michigan History, vol. LI, no. 3, Michigan Historical Commission, p.185.

Wait, S.E. 1918. Old Settlers of the Grand Traverse Region. Black Letter Press, Grand Rapids, MI. p.18.

Weber, H.L., R. Hall, N.R. Benson, and G. Van Winter. 1966. Soil Survey of Grand Traverse County, Michigan. USDA Soil Conservation Service, series 1958, no. 34., issued January 1966., p.2.

U.S. Department of Commerce. 1971. Climatological Survey, no. 20-20. National Oceanic and Atmospheric Administration Environmental Data Service. Traverse City Station, Grand Traverse County, Michigan. In cooperation with Michigan Weather Service.

U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
ENVIRONMENTAL DATA SERVICE
IN COOPERATION WITH MICHIGAN WEATHER SERVICE

CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 20

LATITUDE 44° 44'
LONGITUDE 85° 35'
ELEV. (GROUND) 618 Feet

CLIMATOLOGICAL SUMMARY

Revised December 1971

STATION TRAVERSE CITY, MICHIGAN
GRAND TRAVERSE COUNTY

MEANS AND EXTREMES FOR PERIOD 1940-1969

Month	Temperature (°F) Means: Daily maximum	Daily minimum	Monthly	Extremes: Record highest	Year	Record lowest	Year	Mean degree days **	Precipitation Totals (Inches): Mean	Greatest daily	Year	Snow, Ice Pellets: Mean	Maximum monthly	Year	Greatest daily	Year	Mean number of days: Precip. .10 inch or more	Temperatures Max. 90° and above	Max. 32° and below	Min. 32° and below	Min. 0° and below	Month
(a)	30	30	30	30		30		30	30	30		30	30		30		30	30	30	30	30	
JANUARY	27.7	14.2	21.0	59	1944	-21	1964	1364	1.80	1.59	1960	23.3	41.9	1965	13.9	1947	5	0	21	30	4	JANUARY
FEBRUARY	29.2	12.8	21.0	52	1961+	-24	1963	1243	1.36	.88	1960	16.4	34.3	1967	11.0	1960	5	0	18	28	4	FEBRUARY
MARCH	37.8	19.8	28.8	81	1945	-30	1943	1122	1.69	1.57	1959	13.2	30.9	1959	13.1	1959	5	0	10	28	2	MARCH
APRIL	53.0	31.9	42.5	86	1961	1	1965	675	2.64	1.66	1952	2.6	8.8	1966	4.5	1965	6	0	*	17	0	APRIL
MAY	64.7	40.5	52.6	91	1962+	17	1966	394	2.71	4.18	1942	.1	2.2	1954	2.0	1954	6	*	*	6	0	MAY
JUNE	75.9	51.3	63.6	99	1964	28	1965	117	3.20	3.50	1954	0	0		0		6	2	0	1	0	JUNE
JULY	80.5	56.8	68.7	101	1941	31	1965	34	2.81	2.34	1952	0	0		0		5	3	0	*	0	JULY
AUGUST	78.6	56.3	67.5	100	1955+	34	1950	50	2.62	3.13	1945	0	0		0		6	3	0	0	0	AUGUST
SEPTEMBER	69.7	49.1	59.4	96	1953	26	1945	192	3.76	2.62	1945	T	T	1967+	0	1967+	8	1	0	1	0	SEPTEMBER
OCTOBER	59.3	40.0	49.7	86	1949	20	1965+	477	2.57	1.96	1969	.5	3.4	1962	2.0	1948	6	0	0	6	0	OCTOBER
NOVEMBER	43.6	30.1	36.9	75	1950	- 5	1950	843	2.86	2.56	1945	9.9	26.7	1951	10.1	1966	8	0	4	19	*	NOVEMBER
DECEMBER	32.0	20.0	26.0	64	1962	- 8	1964	1209	1.83	1.99	1946	18.6	39.2	1968+	10.0	1968	6	0	16	28	1	DECEMBER
Year	54.3	35.2	44.8	101	July 1941	-30	March 1943	7720	29.85	4.18	May 1942	84.6	41.9	Jan. 1965	13.9	Jan. 1947	72	9	69	164	11	Year

(a) Average length of record, years.

T Trace, an amount too small to measure.

** Base 65°F (H. C. S. Thom, Monthly Weather Review, January 1954)

+ Also on earlier dates, months, or years.

* Less than one half.

CLIMATE OF TRAVERSE CITY, MICHIGAN

Traverse City is located at the south end of the west arm of Grand Traverse Bay and in the Northwest Lower Climatic Division. The Old Mission Peninsula extends northward up the center of the Bay about 15 miles, with the Bay itself opening into Lake Michigan approximately 30 miles north of Traverse City. The surrounding terrain is hilly and the soil is a sandy loam.

The influence of Grand Traverse Bay and Lake Michigan is strong throughout most of the year. The climate of the finger-like Old Mission Peninsula is especially well suited for cherry orchards where the cool spring and early summer temperatures are desired. Cherry orchards are also found on many of the hillsides along the east shore of the Bay where prevailing westerly winds and the cold lake water is most effective in modifying the climate. During the fall and winter months, the then-warmer water temperatures and increased cloudiness give the Traverse Bay area milder temperatures. As the ice cover builds over the lakes, this influence diminishes, then with clearing skies and lighter winds, the colder temperatures more common to interior locations may be experienced. Thus, Traverse City's semi-marine climate may at times become continental in character.

Because the day-to-day weather is controlled largely by the movement of pressure systems across the nation, Traverse City seldom experiences prolonged periods of either hot, humid weather in the summer or extreme cold during the winter.

Temperature data available for Traverse City show the following extremes: a high of 105°F on July 7, 1936, and a low of 33°F below zero on February 10, 1899; the warmest monthly mean temperature, 76.8°F was recorded July 1921, while the coldest was February 1904 with 4.8°F. Summers are dominated by moderately warm temperatures with an average of 9 days exceeding the 90°F mark. Temperatures have reached 100°F 4 times between 1940-1969. During the same period, only 1949 failed to record a below zero temperature. On an average, 88% of the minimum temperatures from November through March, are 32°F, or below, with 11 days per year experiencing below zero temperatures.

Precipitation is well distributed throughout the year with the summer season, May-October, receiving an average of 17.67 inches or 59% of the average annual total. September, with 3.76 inches, is the wettest month while February, with a 1.36-inch average, is the driest month. Summer precipitation is mainly in the form of afternoon showers and thundershowers. Annually, thunderstorms will occur on an average of 31 days. The greatest monthly precipitation total on record, 10.78 inches, occurred in May 1942. June 1921 was the driest month when only 0.10 inch was observed. The greatest 24-hour total, 4.30 inches, fell on August 22-23, 1898, and a close second-greatest total, 4.18 inches, on May 29, 1942.

Evaporation from the class "A" pan during the summer season, based on data from Lake City is estimated to average about 28.0 inches for the Traverse City area. With average potential moisture evaporation during the summer season exceeding the average precipitation by 58% soil moisture replenishment during the fall and winter months plays an important role in the success of agriculture and growth of forests in this area. While drought may be periodically experienced, only 2% of the time will drought conditions reach extreme severity as indicated by the Palmer Drought Index.

The average annual snowfall for Traverse City is 84.6 inches. This total is more than twice the annual snowfall received over central and southeast Michigan, and reflects the importance that available lake moisture and increased elevation have in producing Michigan's "Lake Snow Belt." Snowfall totals increase to over 120 inches at the higher elevation east of Traverse City and near the crest of the west slope of the Lower Peninsula plateau. The heaviest single-day snowfall is 14.0 inches on April 1, 1926, while 13.9 inches occurred on January 30, 1947. The heavier single-day snowfalls of 10 inches or more are most frequent during the early fall or late winter months of November, March, and early April. These months will experience, on an average, at least 1 heavy snowfall every 4 years. The greatest snowdepth on record, 60 inches, was recorded February 26, 1904. The average date for Traverse City to accumulate the first 1-inch snowdepth is November 18; first 3-inch snowdepth, November 29; and first 6-inch snowdepth, December 13. Traverse City averages 108 days per season with 1-inch or more of snow on the ground but this will vary greatly from season to season. The greatest seasonal snowfall, 129.5 inches, fell during the winter of 1964-65, while the least seasonal snowfall recorded since 1940 was 47.6 inches in 1944-45.

The average date of the last freezing temperature in the spring is May 18, while the average date of the first freezing temperature in the fall is October 7. The freeze-free period or growing season averages 142 days annually.

Michigan is located on the northeast fringe of the Midwest tornado belt. The lower frequency of tornadoes occurring in Michigan may be, in part, the result of the colder water of Lake Michigan during the spring months, a prime period of tornado activity. Michigan has averaged 10 tornadoes each year since 1950. About 90% of Michigan's reported tornadoes occurred in the southern half of the Lower Peninsula. Since 1900, only 4 tornadoes are known to have touched down in Grand Traverse County.

Degree day data is provided as an index of heating requirements for buildings. The average for September is 192 and October, 477 degree days. This indicates that more than twice as much fuel will be required for heat in October as in September. "Degree Days" for a single day are obtained by subtracting the mean temperature from 65°F. When the mean temperature is 65°F, or higher, the need for heat is considered slight or none.

Probability of First Occurrence of 1-, 3-, and 6-inch Snowdepth By A Given Date:

Snowdepth	10%	50%	90%
1"	Nov 1	Nov 18	Dec 5
3"	Nov 10	Nov 29	Dec 18
6"	Nov 17	Dec 13	Jan 8

Norton D. Strommen
Climatologist for Michigan
Room 202, Manly Miles Building
1405 South Harrison Road
East Lansing, Michigan 48823
321-7576

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1940	20.8	25.7	27.5	39.2	50.3	64.0	71.0	68.2	62.1	50.6	37.1	30.1	45.6
1941	24.9	24.3	27.0	47.6	55.8	64.8	69.8	65.9	61.2	49.3	39.5	31.8	46.8
1942	21.8	20.6	32.4	47.9	52.8	63.4	67.6	67.3	57.9	48.6	36.5	24.1	45.1
1943	16.9	21.8	24.3	38.1	52.0	67.2	69.7	68.6	56.9	48.0	34.5	25.3	43.6
1944	28.4	23.6	26.7	39.3	57.8	65.8	69.5	70.3	60.3	47.8	40.0	23.4	46.1
1945	15.6	22.7	41.1	44.4	48.0	59.9	66.4	67.3	58.4	46.9	37.4	23.9	44.3
1946	24.5	21.2	41.6	43.7	51.3	62.7	70.1	64.9	60.5	53.4	38.8	27.1	46.7
1947	24.5	19.4	27.3	39.9	47.3	60.7	67.9	74.2	61.8	58.6	33.4	26.3	45.1
1948	16.5	19.4	27.6	46.9	49.7	62.4	69.5	68.8	62.8	48.7	41.8	28.0	45.2
1949	26.2	24.7	30.4	43.4	54.5	67.9	71.4	69.7	57.5	52.5	35.4	28.3	46.8
1950	24.9	21.0	24.9	34.7	52.2	63.7	66.0	62.6	58.2	52.1	32.5	23.9	43.1
1951	21.0	22.8	28.8	42.0	56.4	60.8	67.4	63.9	56.8	48.9	29.2	25.6	43.6
1952	24.8	23.9	27.3	44.8	51.9	65.6	70.7	66.6	60.8	43.4	38.3	29.8	45.7
1953	24.6	25.3	32.8	40.2	54.3	65.0	69.5	69.8	60.1	52.4	41.2	30.4	47.1
1954	19.7	29.6	28.0	43.5	48.6	66.3	67.3	66.7	59.3	48.4	39.2	25.9	45.2
1955	21.8	22.0	28.4	49.2	55.8	65.6	75.3	73.9	59.5	51.2	33.1	24.0	46.7
1956	23.2	22.7	24.9	39.2	50.7	66.1	65.6	66.9	55.5	53.7	3.82	29.0	44.6
1957	17.6	24.8	30.0	43.9	52.8	63.6	70.0	66.3	57.8	46.5	37.6	28.2	44.9
1958	23.1	17.9	30.8	44.2	50.8	58.8	66.4	66.7	59.2	50.8	38.4	18.6	43.8
1959	16.7	15.8	25.9	41.7	59.1	65.7	69.3	72.9	62.3	46.3	30.9	31.0	44.8
1960	24.6	22.1	20.8	44.8	53.4	61.2	66.6	68.2	61.3	48.4	40.2	21.6	44.4
1961	16.7	22.0	32.0	39.4	48.8	62.0	67.1	66.7	63.0	50.3	37.2	24.9	44.2
1962	17.2	14.2	27.6	42.8	59.2	63.2	66.3	66.8	58.2	49.4	37.7	26.2	44.1
1963	12.5	10.3	26.8	43.5	50.0	64.7	69.1	64.5	57.2	54.8	40.2	19.0	42.7
1964	23.4	21.1	27.4	43.4	58.1	63.5	70.3	63.9	58.4	47.2	40.7	22.8	45.0
1965	15.7	17.7	21.3	35.8	55.1	59.3	63.0	63.0	58.9	48.3	38.1	30.1	42.2
1966	15.8	21.1	33.4	39.0	48.8	66.3	72.4	66.8	56.9	46.5	34.8	25.3	43.9
1967	24.2	16.1	28.1	42.7	47.6	66.5	66.3	62.9	56.6	47.0	32.5	27.1	43.1
1968	20.1	15.8	34.7	45.7	52.6	65.1	67.9	67.5	62.1	51.4	36.3	24.6	45.3
1969	21.7	19.9	24.1	43.8	53.7	57.6	70.5	72.3	61.1	49.0	35.8	25.5	44.6

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1940	1.68	.74	.81	2.61	4.10	3.46	2.38	4.40	2.31	1.74	3.10	1.46	28.79
1941	1.61	.96	.62	2.24	1.96	1.07	.90	3.38	4.90	6.10	2.68	1.32	27.74
1942	1.93	.63	2.53	2.39	10.78	2.34	2.81	1.33	7.64	1.28	2.47	4.21	40.34
1943	2.34	2.70	3.36	2.05	1.55	5.67	1.78	2.10	1.32	2.52	4.29	.96	30.64
1944	1.09	1.04	1.70	2.59	1.55	5.40	1.04	1.31	3.62	1.59	3.26	1.05	25.24
1945	1.55	1.47	.97	2.65	3.21	2.35	2.98	4.73	6.73	2.90	5.08	1.54	36.16
1946	2.87	1.05	1.43	.60	3.56	3.22	1.90	1.59	4.40	.89	2.61	3.17	27.29
1947	2.08	1.53	1.53	2.45	5.86	1.62	1.31	1.47	5.16	1.38	2.03	1.52	27.94
1948	1.14	1.33	3.48	4.22	1.37	2.03	4.64	1.72	1.10	2.10	4.25	2.07	29.45
1949	2.42	2.10	1.64	2.19	1.60	3.62	3.08	1.63	1.81	1.61	2.95	1.64	26.29
1950	3.63	1.33	2.02	2.29	1.85	1.70	4.70	3.80	3.52	2.37	2.00	1.38	30.59
1951	1.70	1.95	1.95	3.07	2.00	1.92	3.24	1.85	3.60	6.22	3.27	2.23	33.00
1952	2.39	.61	2.63	3.06	1.70	3.24	6.53	3.06	1.44	.56	3.89	1.92	31.03
1953	2.37	2.89	1.49	2.86	1.79	3.88	3.85	2.62	2.22	.96	1.73	2.33	28.99
1954	1.85	1.52	1.35	3.79	2.75	9.34	.90	.26	4.81	3.97	.75	1.84	33.13
1955	1.33	.85	1.46	2.78	2.46	1.88	3.95	2.25	.92	3.50	2.38	1.59	25.35
1956	.63	1.33	2.82	3.21	2.74	1.81	5.70	4.58	1.52	1.26	2.89	1.63	30.12
1957	1.38	.48	.98	2.86	3.19	4.02	3.89	2.78	2.60	1.85	3.39	1.72	29.14
1958	1.12	1.44	.52	1.71	.79	3.06	2.38	4.02	4.70	2.33	2.94	1.61	26.62
1959	1.98	1.73	3.09	3.39	2.60	1.19	1.38	5.30	3.10	5.10	2.55	2.23	33.64
1960	2.04	2.49	1.43	3.57	4.49	3.34	3.70	2.75	3.03	1.88	3.60	1.57	33.89
1961	1.09	1.44	1.97	1.93	1.83	2.84	3.01	2.01	8.55	2.41	2.44	1.56	31.08
1962	2.21	1.66	1.02	1.22	2.09	5.15	2.35	3.83	2.62	1.75	.41	1.28	25.59
1963	1.04	.43	2.26	.96	3.14	1.22	2.78	1.92	2.26	.99	3.31	1.93	22.24
1964	1.58	.77	1.91	2.73	2.94	.44	2.68	2.40	3.80	1.58	1.94	1.00	23.77
1965	2.14	1.02	1.01	3.28	2.23	2.27	.69	3.09	9.17	1.22	2.87	2.20	31.19
1966	1.35	1.87	2.47	2.29	.32	.66	1.97	2.31	3.65	2.81	4.52	2.16	26.38
1967	2.22	1.74	.88	4.68	2.56	4.31	.94	3.72	3.81	3.16	3.38	1.35	32.75
1968	1.14	1.50	.56	2.01	1.54	3.85	2.82	1.48	3.96	4.24	2.07	3.54	28.71
1969	2.22	.33	.90	3.42	2.78	9.20	4.12	.97	4.54	6.86	2.71	1.01	39.06

PROBABILITIES FOR SELECTED TEMPERATURES*

Temp. (°F)	Percent Probability of Indicated Temperature, or Lower, Occurring On or After Date in SPRING			Percent Probability of Indicated Temperature, or Lower, Occurring On or Before Date in FALL		
	90%	50%	10%	10%	50%	90%
32	May 3	May 18	Jun 2	Sep 21	Oct 7	Oct 23
28	Apr 16	May 1	May 16	Oct 9	Oct 25	Nov 10
24	Apr 1	Apr 16	May 1	Oct 27	Nov 12	Nov 28
20	Mar 21	Apr 5	Apr 20	Nov 6	Nov 22	Dec 8
16	Mar 11	Mar 26	Apr 10	Nov 13	Nov 29	Dec 15

*"Michigan Freeze Bulletin," Research Report #26, Michigan State University, May 1965.

STATION HISTORY

Weather records in Traverse City began in 1877, but were fragmentary until 1896. These early records are stored in the Smithsonian Institute. Details such as the exact location of the station and exposure of the instruments during these periods are unknown.

On June 1, 1896, a cooperative station was established on the grounds of the Pennsylvania Railroad Station, and observations continued at this location until July 1, 1927. The station was then moved to the grounds of the City Waterworks, 0.5 mile northwest of the Traverse City Post Office, and remained there until April 7, 1941. On December 1, 1940, observations began at the Municipal Airport, 2.5 miles southeast of the Traverse City Post Office and 3 miles southeast of the previous location. These observations were used officially for the record beginning April 8, 1941. On September 17, 1943, the station was moved 0.5 mile northeast. Civil Aeronautics Administration employees have made the observations since April 8, 1941.

Report to Coop Ext Service. p 1-2. (5p)

THE CHERRY STORY FROM THE CHERRYLAND OF NORTHWEST MICHIGAN

Cherry species grown: Tart cherries (Prunus Cerasus) Montmorency variety; Sweet cherries (Prunus Avium) many varieties. Approximately 2 million tart cherry trees are grown in Northwest Lower Michigan and in addition about 400,000 sweet cherry trees are grown.

Climatic Requirements for Cherry Production

Climate plays an important part in determining the location of the cherry production industry. Mild winters, delayed springs, and relatively cool summers seem to be ideal for the cherry industry. The Grand Traverse region meets these qualifications due to the tempering influence of the vast body of water to the west, Lake Michigan. The prevailing winds from the southwest direction tend to temper the climate during the fall and early winter and again during the heat of the summer. Cherry trees are reported to thrive best in a climate which provides the average mean temperature of 65° F. for June, July and August. While temperatures vary from season to season, the average temperature for these months at Traverse City is 65° F. In order to be productive, cherry trees also must have a dormant period during the winter. Between 900 and 1,000 hours of sub-growing temperatures are required for cherry trees to become productive the following year. Tart cherry trees are quite durable in winter temperatures. Sweet cherry trees are less durable to the extreme cold of winter. Both kinds are quite susceptible to spring frosts which may occur as the buds swell and come into bloom. This is the most hazardous time of the year as far as cherry production is concerned.

Topography of Fruit Lands

Air drainage on fruit sites is an important factor for profitable production of cherries. Cold spring frosts settle toward the ground and flow off the rolling topography to low areas. Consequently, fruit is generally much safer from spring

frosts on higher elevation. The soil which is best adapted to cherry growing is a well drained soil of reasonably good fertility. Roots of cherry trees are not well adapted to growth in soils with high water tables.

Composition of a Cherry Tree

Cherry trees are almost universally propogated in nurseries and sold to fruit farmers by the nurserymen. Almost invariably wild seedling roots are established in the nursery row. These are of two types: wild Mahaleb cherry and a wild sweet or Mazzard cherry. After the plant has been grown in the nursery one year, a bud of a known variety of fruit is grafted to the seedling cherry tree and is permitted to grow one year in the nursery before it is sold for planting to fruit growers. Newly established fruit trees in orchards are nursed carefully through the first four or five years by the fruit grower. All competitive weeds and grasses are removed in the vicinity of the tree in order to obtain a maximum growth until the trees are ready to come into production. Herbicides (chemical weed control) are frequently used to control the competitive grasses and weeds around fruit trees. This is economical and effective.

Cherry Production Dominates the Region

Over 50% of the agricultural income of the principal cherry producing counties of this region is from the sale of fruit. The average production of tart cherries is about 68 million pounds; the maximum experienced last year was near 120 million pounds. Sweet cherry production approaches the 20 million pound figure. This industry, however, is increasing rapidly.

Fifteen processing plants in the region are primarily cherry processors. Many of the plants, however, supplement their year's pack by processing apples, prunes, strawberries and other minor fruits.

Hill, M.L. 1960. Early days of the cherry industry in the Grand Traverse Region. Report to Cooperative Ext. Service, Grand Traverse County, T.C., MI. 10p. (p 1)

The production of cherries is a hazardous and unpredictable business. Only the most favorable locations offer economic opportunities for their production. It is no accident that cherry production thrives in Western Michigan and in the Grand Traverse region. A climatic heritage of favorable summer and winter climate caused by the influence of Lake Michigan is most pronounced in the Grand Traverse region. This was recognized early by explorers through the Middle West. In fact a report on the virtues of the Grand Traverse region as a fruit growing area was printed in the Atlantic Monthly in August, 1870. The following quotations taken from the article written by H.W.S. Cleveland illustrate this fact and are as authentic today as they were then:

"It is well known to all who have given special attention to meteorological phenomena that the most severe and blighting winds which prevail during the earlier winter are those from the southwest. It is equally true, but perhaps not so generally known, that the blighting effect of these winds is always greatly mitigated when they sweep over large bodies of water before striking the land.

It will be seen that the southwest winds must sweep the whole length of Lake Michigan before striking the shores of the Grand Traverse Region; and we find the same rule in force here as elsewhere in regard to its effect upon climate and vegetation. Apples, cherries, pears, plums and all of the best varieties of vegetables, attain their highest degree of perfection in this favored land.

Some of the principal fruit growers of St. Joseph have recently purchased large tracts in the Grand Traverse Region for horticultural

1954

Grand Traverse County Leads World in Cherries

Thousands gather every spring to see the cherry blossoms at Traverse City. Here is a report on a form of fruit farming in which Michigan leads the nation. The next in a Free Press series of Michigan agriculture will tell where the breakfast eggs come from.

BY LOUIS COOK
Free Press Staff Writer

TRAVERSE CITY — Grand Traverse County has done it again—it's still the greatest cherry county in the United States and probably the greatest cherry country in the world.

This refers to tart cherries although a lot of sweets are grown around here.

Orchardists seldom refer to tart cherries as sour cherries. They argue, with reason, that there's nothing sour about a juicy, plump Montmorency, the most prevalent variety here.

* * *

MICHIGAN produced 77,000 tons of tart cherries in 1953. Average production for the whole United States is only about 107,000 tons annually.

And most of the cherry country is around Traverse City, in Grand Traverse and Leelanau counties.

Greatest concentration starts within shouting distance of Traverse City and extends out on the peninsula jutting into Grand Traverse Bay.

This is a slender spit of land 19 miles long and only a mile wide in many places. Between the East and West Arms of the bay it is solid orchard.

Climate and land did it. The cherry country, and particularly the choice peninsula sites, is solidly watered in by Lake Michigan, which keeps the land relatively warm even in the dead of winter.

* * *

A FEW MILES out on the peninsula it is considerably more temperate than in Traverse City itself, of course. And the west shore of Leelanau county gets excellent warming from Lake Michigan.

The soil is the light, sandy loam that cherry trees thrive on.

Mass production of cherries is new here. It owes its beginnings to the late B. J. Morgan, a shrewd Traverse City horse dealer and business man.

He noticed that farmers who had cherry orchards seemed best able to pay off their horse notes. So in 1907 he set out a small commercial orchard, first in the area.

Within a few years he was making fine profits from the venture and all the neighbors jumped into the business, too.

* * *

OLD-TIMER on the peninsula is Harold Titus, who has been farming for more than 40 years and also is well-known as a magazine writer on agricultural and out-door subjects.

"We've had years of bad prices and freeze-outs, but the orchards have been good business over the years," says Titus.

He has 80 acres in fruit, and, like other farmers on the peninsula, a magnificent view of blue water from his living room.

Titus grows considerable apple acreage, as well as cherries, in line with recent attempts to diversify fruit production in the area.

One small mishap is sufficient to ruin a year's production for the orchardists and more and more of them are attempting to spread out their risks.

* * *

ORCHARD MEN, like Vernon Kroupa, well remember incidents like the 1945 spring freeze, while the blossoms were still on. Few trees produced much that year.

Kroupa, whose father was a fruit farmer before him on the peninsula, has 65 acres. There are 32 acres of sweet cherries, 27 acres of tart, and a sprinkling of plums.

"The cool springs hold back the blooms, usually, until past the danger period," says Kroupa.

Then the cherry country breaks out in a fantastic display of blossoms, starting about May 1.

Crowds of tourists visit Traverse City in the first weeks of May to see the gorgeous spectacle and to witness the annual Blessing of the Blossoms.

* * *

WHEN THE cherries ripen in

But there is a large cherry packing industry in the cherry country. A flourishing business is growing in pie mix, ready to be poured into a pastry shell for baking.

"It's a pretty exciting time, the pick," says Kroupa. "All the results of a year's work either pay off then, or we go broke."

There's plenty to do during the year, besides the activity during the ripening.

* * *

THE TREES must be sprayed six times during the year. Tree pruning often starts late in the fall and is carried on through the cold months.

Despite the moderating effect of the near-by water, the cherry country is a raw place to work outside in winter-time. Snow fall is heavy, the breeze off the bay bitter.

It takes a lot of equipment, including special gadgets to throw fertilizers under the trees, 50 or 60 picking ladders per farm, and a variety of pruning tools.

Kroupa keeps on hand a variety of farming tools as well as two tractors and a truck for hauling fruit.

Despite the vast numbers of trees — hundreds of thousands — individual trees are held in great reverence.

"You plant a tree, cultivate it, prune it, spray it, and wait eight years for it to come into production—and it becomes very important to you," says Kroupa.

We rented a house for the winter and the next spring purchased the residence of Daniel Rodd, the interpreter, which remained in possession of the family until 1884. A project of removing the Indians beyond the Mississippi was at one time seriously considered by the Government. They cultivated small patches of ground, from one acre to six. They had no title to these. The terms of the treaty by which they were to retain their lands had expired. The white settlers wanted the lands, and the question arose what to do with the Indians. A deputation sent to examine their proposed new home in the West reported unfavorably. They determined not to be removed. At this juncture the adoption of the revised State Constitution of 1850 made citizens of all civilized persons of Indian descent not members of any tribe. They could purchase land of the Government as citizens. The land on the Peninsula was not yet in market. That on the west shore was.

By the advice of Mr. Dougherty several families agreed to set aside a certain amount from their next annual payment for the purchase of lands. The Indians on the Peninsula held possession of considerable portions of the lands but could give no legal title. They could, however, sell their possessory rights, and the whites recognizing the eligibility of the location for agricultural pursuits became purchasers, taking the chances of obtaining a title from the Government at a future time.

NEW MISSION

Seeing that the Indian community at the mission would finally be broken up Mr. Dougherty concluded to change the location of the mission itself. Accordingly purchase was made of an eligible tract of land suitable for a farm and a manual labor school on the point near the place now called Omena, in Leelanau County, to which he removed early in the spring of 1852. This was now the New Mission and the other has ever since been known as Old Mission. The New Mission point had been occupied by a band of Indians called by the name of their chief Shawb-wah-sun's band, some of whose gardens were included in the tract purchased by Mr. Dougherty. The tribe known a s the Pa-shaw-ba Indians, who were located on the east side of the peninsula, about half way up the East Bay, moved at this time to a point on the west shore of West Bay, about half way between New Mission and Suttons Bay, and a Catholic Mission was established there. Father Mrack, who was afterwards bishop of the Northern Peninsula, had charge of this Mission for a number of years. The manual labor school at New Mission was opened in the fall following the removal. The number of pupils was limited to fifty, twenty-five of each sex. Young children were not received, except in one instance, the rule was suspended in favor of two homeless orphans. When received into the school, the pupils were first washed and clothed; the common clothing of both sexes consisted of coarse but decent and serviceable material. The boys were employed on the farm, the girls in housework and sewing. At five o'clock in the morning the bell rang for all to rise. At six o'clock it called all together for worship. Soon after worship breakfast was served, the boys sitting at one table, the girls at another. After breakfast all repaired to their daily labor and worked till half past eight, when the school bell called them all to the school room.

At the time of the war of the rebellion the Board became financially embarrassed and the work of the mission was discontinued.

In 1868 Mr. Dougherty sold the farm consisting of 568 acres, 100 of which were improved, to Valentine C. Mills of Iowa, for $5000. In 1883 the property was purchased by a party of Cincinnati gentlemen who proposed to improve it mansard roof and to be 60x76 feet in size. It is 113 feet above the bay, sev six feet from ground to top of cupola, contains thirty-five sleeping rooms, t parlors, spacious halls, verandas, dining room, etc.

PIONEER WEDDING

The pioneer wedding was that of Miss Olive Dame of Old Mission, to Mr. Ansel Salisbury of Wisconsin, in the fall of 1842. Mr. Dougherty wished that the Indians should profit by acquaintance with the institutions of Christian civilization. Accordingly, by the consent of all parties, it was arranged that the ceremony should take place in public. At a convenient hour in the morning the little school house was filled with a mixed company of whites and Indians. The bride was in simple attire as befitted the occasion and surroundings. The Indian women in their bright shawls and beaded moccasins, and the Indian men, some of them clothed in a style only a degree or two removed from the most primitive undress, all looking gravely on apparently unmoved. The whites were dressed in their Sunday best, which, in most cases, were somewhat rusty. The marriage rite was simple and impressive. The couple departed immediately on their wedding tour in a large birch bark canoe for Mackinaw, navigated by four Indians. They remained a few days in Mackinaw then embarked on a steam boat for their home in Wisconsin. The next wedding of the pioneers was that of Lewis Miller to Miss Catherine Kiley. They were married in Mackinaw in September, 1845, took their wedding trip on the vessel, "Lady of the Lake," and after a tempestuous voyage landed at Old Mission. Their first child, Henry L. Miller, was the pioneer white child of Grand Traverse.

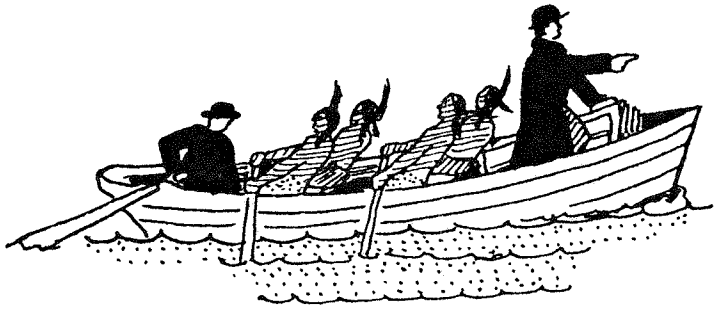
It was discovered by the early settlers that there were extensive abandoned Indian gardens on the high lands back of where Norwood now stands. These were covered by dense grass and a bearing apple orchard. My father decided that here would be a good opportunity to get trees with which to start an orchard. Accordingly, when the school had closed in the spring of 1852, on the schooner Madeline in Bowers Harbor, he engaged her to bring the trees to Old Mission. There being no dock at the place she was obliged to anchor out some distance while the trees were brought on board with the yawl. They were set out on our farm, grew finely aud are now the oldest trees on the peninsula.

REV. GEORGE N. SMITH

The pioneer of Northport was Rev. George N. Smith, a Congregational minister, who had spent two years in missionary work among the Indians of Black River, Allegan County. In 1838 a meeting of Ottawa and Chippewa Indians was called at Allegan for the purpose of talking over a scheme for their colonization. Mr. Smith was the foremost actor in the movement. He at once went to work to perfect the colonization scheme, laboring day and night, sometimes to the neglect of his family. During this time he visited different tribes of Indians, raising means wherever possible. In hunting a suitable location it became necessary to travel from the Straits of Mackinaw to the southern boundary of the state. One memorable trip was made in canoes from Allegan to Cross Village, north of Little Traverse Bay. This trip occupying a month and three days was attended with perils and dangers by land and water. The Indians finally determined to locate on Black River in Ottawa County, whither they moved in the summer of 1839. Mr. Smith also established his family there, having first erected a log house in which to live.

In 1847 a colony of Hollanders settled on Black Lake in close proximity to the Indians. It seems the former encroached upon the latter to such an extent as to make it necessary for the Indians to locate elsewhere

alcoholism took a dreadful toll, and pioneer settlers were coming ever closer, demanding more land for themselves, and the removal of the Indians. In 1839 a policy was being considered by the government of sending all the Indians to the west, beyond the Mississippi. Some of the chiefs investigated the contemplated site of their removal and found the land unsuitable for their tribes, which had always lived in the forests by the lakes. They were fearful of government action at any moment and so led their people to the north instead, and so into Canada. It is said that at least one half of the population of the Grand Traverse Region joined this exodus, but new inhabitants were to soon replace them.



Chapter VI

The Old Mission

In 1820 the Protestant Reverend Morse, uncle of Samuel Morse who was to invent the telegraph in 1837, came to Mackinac to preach. He reported the deplorable religious poverty of the settlement to the United Foreign Missionary Society which established a Protestant school there under the Reverend Ferry. By 1837 Mr. Ferry reported that: "the population had so changed that this was no longer a desirable location for such an institution, and that a more suitable area should be found" for their work among the Indians.

In the summer of 1838 the Reverend Peter Dougherty was sent to the Grand Traverse Bay region to determine a suitable location for mission activities. He returned the following spring, with the Reverend John Fleming, to establish a mission school at the Indian village situated on the eastern shore of the little peninsula.

It was on May 10, 1839, that the two white men arrived at the harbor in an open Mackinaw boat, with four Indians at the oars. They carried, besides the usual provisions, a door and four windows for a school house. The boat was

Books Reviewed

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The Missionary As Acculturation Agent: Peter Dougherty and the Indians of Grand Traverse

BY VIRGIL J. VOGEL

The French *voyageurs* who paddled southward in Lake Michigan from the Straits of Mackinac saw two indentations on the eastern shore. In crossing the bays from one headland to another, they called the smaller one La Petite Traverse and the larger La Grande Traverse.[1] The big bay is divided by Old Mission Peninsula, at the foot of which, today, lies Traverse City. In the spring, miles of blooming cherry orchards give the low hills in this vicinity the appearance of a sea of popcorn balls, while the sandy beaches, mixed forests of evergreen and hardwood, and clean lakes make it an attractive resort region.

In this picturesque setting, 130 years ago, were several villages inhabited by some hundreds of Ottawa and Ojibwa Indians, members of two closely related tribes, identical in language and customs, belonging to the ubiquitous Algonquian family. Many of their descendants, though lacking a reservation, still cling to their ancient soil. The former lords of the wilderness left a lasting mark on the land with such names as Waugoshance Point, Wequetonsing, Petoskey, Kewadin, Omena, and Peshawbestown. They did a little gardening, but were mainly a hunting and fishing people. Every winter they left for hunting excursions along the river courses in the southern part of the state, and each spring they made maple sugar and packed it in birch bark boxes called

1. Elvin L. Sprague and Mrs. George N. Smith, *Sprague's History of Grand Traverse and Leelanau Counties* (n.p.: B. F. Bowen, 1903), p. 219.

Dr. Vogel is assistant professor of history, Chicago City College, Mayfair campus. He reviewed Robert Berkhofer's Salvation and the Savage *in* Michigan History, *L (December, 1966),* 363-65.

mococks.[2] From white traders who had been in contact with them since the seventeenth century, they had learned to use guns, traps, knives, axes, cloth, glass beads, and liquor, yet they still clung largely to old customs and beliefs. Although Catholic missionaries had been active at L'Arbre Croche and Little Traverse, the Grand Traverse in 1838 was still untouched by the acculturative impact of mission work. With the intent to banish heathen customs and white man's liquor, and to introduce Christian religion and civilization, the Reverend Peter Dougherty came to Grand Traverse in the summer of 1838.

The immediate cause of his coming lay in certain provisions of a treaty negotiated with twenty-two chiefs and headmen of the Ottawa and Chippewa (Ojibwa) tribes in Washington on March 28, 1836, by United States Commissioner Henry Rowe Schoolcraft. There the Indians had been induced to sign away their aboriginal title to that part of the Upper Peninsula of Michigan lying east of the "Chocolate River" (Chocolay, near present Marquette), and their remaining territory in the western Lower Peninsula from the Straits of Mackinac southward to Grand River. They were allowed to retain possession of several tracts of land for five years, pending their removal to a yet unselected territory "southwest of the Missouri river." One of these temporary reserves consisted of twenty thousand acres on Grand Traverse Bay.[3]

In return for the surrender of this empire, the Indians were to receive for twenty years an annuity of $30,000 (to be divided among 6500 Indians), ten times that amount to settle their alleged debts to traders, and another $30,000 in thinly disguised bribes for the chiefs. There were provisions for the delivery of goods and medicines, tools, live-

2. Andrew J. Blackbird, *History of the Ottawa and Chippewa Indians of Michigan* (Ypsilanti: Ypsilanti Job Printing House, 1887), p. 37.
3. In *ibid.*, p. 97, Blackbird maintained that the Indians were "unwilling parties" to the treaty, that they were "compelled to sign blindly," and that they were "ignorant of the true import of its conditions," believing that they were getting permanent reservations.
4. Charles J. Kappler (ed.), *Indian Affairs. Laws and Treaties* (2 vols.; Washington: Government Printing Office, 1904), II, 450-56.
5. Instructions to Dougherty, September 23, 1838, in *Foreign Missionary Chronicle*, VI (November, 1838), 348.
6. While preaching at Mackinac he complained that "the pulpit was very high. My head could scarcely be seen above it"; "Diaries of Peter Dougherty," *Journal of the Presbyterian Historical Society*, XXX (June, 1952), 108. This issue carried the first portion of the diaries, on pages 96-114. Remaining portions were published in September (pp. 175-92) and December (pp. 236-53) of the same year.
7. Ruth Craker, *First Protestant Mission in the Grand Traverse Region* (2nd ed.; Leland, Michigan: Leelanau Enterprise, 1935), p. 46.
8. Most of the following information on his exploratory trip is from the diaries.

stock, implements, two blacksmith shops and a gunsmith, an interpreter, two farmers and assistants, and two mechanics. In addition, $5,000 annually was to be spent for "the purpose of education, teachers, schoolhouses, and books in their own language, to be continued twenty years, and as long thereafter as Congress may appropriate for the object," and $3000 for the maintenance of missions.[4]

The Presbyterian Board of Foreign Missions decided to take advantage of the financial grants provided by this treaty and to establish a mission in the wilderness.[5] In the summer of 1838, they dispatched the Reverend Peter Dougherty, of Newburgh, New York, to the northern country to choose an appropriate site for the venture. Born in Plattekill, New York, November 15, 1805, Dougherty was graduated from the College of New Jersey in 1834, and from Princeton Theological Seminary three years later. When he was chosen to minister to the Indians, Dougherty was still unmarried and unordained. He was a short man,[6] heavy set, with blue eyes and dark hair, and was described as a serious person with strong willpower and capacity for work.[7]

Dougherty set forth from New York by steamer up the Hudson on June 19, 1838,[8] and from Albany he travelled by canal boat and rail to Buffalo. A steamer brought him to Mackinac Island on July 7, where he found "the whole shore was line[d] with Indian tents made of poles and mats." Mackinac was then the headquarters of Henry R. Schoolcraft, Indian agent. Schoolcraft was in Detroit when Dougherty arrived, but his half-breed wife, who had been told of the expected visitor, welcomed him to their home. When Schoolcraft returned on

Peter Dougherty—serious, dedicated, and strong-willed.

July 25, Dougherty sought his opinion as to the most likely place to establish a mission, and recorded the reply in his diary:

> He think[s] the grand Travers[e] as favourable a point as any to which my attention can be directed. He recommends to go and establish under the patronage of the government which will give recommendation to the Indians, make the mission more independant of the influence from any source against it.[9]

Schoolcraft promised to prepare a letter of introduction for the chiefs, and his brother-in-law, John Johnston, would procure a boat, an interpreter, two men, and enough provisions for the trip to Grand Traverse. Dougherty left the island on the afternoon of July 28, accompanied by a Mr. Buck, an old Indian and his son, and an interpreter. That day he wrote in his diary:

> It is most shameful to see how the traders at Mackinac do take advantage of those ignorant people. We were to give the old man $20 to take us through—after pursuading [*sic*] him to take it all in provisions we found on his bill he was charged $3.50 for about one bushel of corn when it is selling for $1 per bush[el.][10]

After some days of fighting the wind and rain, the party stopped at L'Arbre Croche (Middle Village, near Good Hart)[11] for provisions, and Dougherty declared the ancient settlement to have "the most appearance of civilization here of any place I have seen." On August 3 the party entered Grand Traverse Bay, finally landing at an Indian village on the east side (Elk Rapids) which was inhabited by about sixty men and their families. The chief was absent, and as nothing could be decided without seeing the chief, Dougherty "told his prime minister that Mr. Schoolcraft would explain the whole matter to the chief." Dougherty was then paddled across the east arm of the bay and landed near a small village (Old Mission) where he was "very much an[n]oyed by dogs and children," who appeared "poor and dirty."

Dougherty next went north around the point into Lake Michigan, and coasted south, landing next day by a small river emptying into the lake (Carp River?), where he found a village. When his purpose was explained, Dougherty reported, "the chief did not give a decided answer but said he would like to have a school and they would send a teach[er.] He would consult and give an answer at another time."

9. "Diaries," *Journal of the Presbyterian Historical Society*, XXX (June, 1952), 112.
10. *Ibid.*, p. 113.
11. Blackbird (*History of the Ottawa*, p. 10) is authority for the location of L'Arbre Croche, named for a crooked pine tree which stood on the shore. He adds that the name was also applied to the shore for some miles, north and south. Catholic missionaries had long been active in this region.

Fighting more inclement weather, Dougherty passed "the sand hills of Sleeping Bear" and on August 8 reached the mouth of the Manistee, where Mr. Buck resided. The local chief was on a mission to the West to examine sites for the relocation of the tribe, but was reported to be friendly and anxious to learn to live like the white man. Dougherty continued to coast southward, changing guides at the Muskegon, and reached Grand River, the southern limit of Ojibwa occupation, after sundown on August 14. There Dougherty met the Rev. William Montague Ferry, a former missionary at Mackinac, who advised him that Grand Traverse was the most promising place for mission work, but doubted that much could be done for the Indians.

On August 16 Dougherty boarded a passing sloop bound for Chicago, arriving there in time to board the steamer "General Wayne." He disembarked at Cleveland a week later and went by stage to Princeton, where he visited old friends before proceeding to New York. There he met the Reverend John Fleming, who with his wife and small daughter was destined to accompany Dougherty back to Michigan to assist in the mission venture.

On Sunday, September 23, at Dr. McElroy's church on Grand Street, the two missionaries received public instructions of the executive committee of the Foreign Mission Board, delivered by Mr. Lowrie.[12] "You are about to leave a land of bibles and sabbaths," the Rev. Lowrie announced, "ε community regulated by the precepts of the gospel, and where civil and religious liberty have their home, for a land of moral darkness, and the company of the savage tribes." They were being sent, he declared, "as the messengers of the churches to a people perishing for lack of knowledge, degraded and wretched, suffering under an accumulation of the evils of this life, with no hope for the future."[13]

The two missionaries left two days later, arriving at Mackinac Island on October 8, but found that their goods were delayed, and met further difficulty in obtaining an interpreter. Winter would come early in the

12. There are discrepancies in the dates for this period in Dougherty's diary. This date, and the instructions quoted, are from the *Foreign Missionary Chronicle*, VI (November, 1838), 345-49.
13. To this condescending view of the Indians, contrast the opinion of Andrew Blackbird, son of an Ottawa chief who, though he was a Christian and served as postmaster at Good Hart, maintained that all of the worst vices of the Indians were introduced or caused by white influence. Included among these were drunkenness and illegitimacy; Blackbird, *History of the Ottawa*, pp. 13-17.

north, and it was soon decided, much to Dougherty's regret, to wait until spring before proceeding to Grand Traverse. He moved into the government dormitory for three weeks, after which he accepted lodging with a Mr. Drew in return for instructing his children. His leisure time was spent in studying the Ojibwa language, with the assistance of Mr. Johnston. His observations of the treatment of the Indians during this period caused him to dispatch an indignant letter to the mission board in which he castigated the inhumanity of Christians in dealing with their red brethren:

> It is enough to make the heart bleed to see the numberless wrongs they have suffered from men who bear the christian name. There must be a fearful judgement in store for those who, instead of giving the gospel in exchange for their fertile lands, have only bound upon them the curse of intemperance. Must not the Church be partaker in the guilt of these wrongs which the Indians has suffered at the hands of our people, when she knows these wrongs, & yet makes no stronger efforts to save the sufferers from being pursued to extermination, by those who are reckless of everything but their own selfish interests. . . . It is the gospel alone that can save them. . . . Why cannot christian families, traders, mechanics, and farmers enlist in this cause?[14]

Dougherty and Fleming set forth for Grand Traverse in May, 1839, travelling in a Mackinaw boat rowed by four Indians.[15] They first touched on the peninsula, temporarily deserted, then landed at Elk Rapids on the east side of the bay. After consulting with Chief

14. *Foreign Missionary Chronicle*, VII (May, 1839), 148.
15. The date of the arrival of Dougherty and Fleming at Grand Traverse is indefinite, since there is a gap in Dougherty's diary from December 27, 1838, to June 29, 1839. Much of the following information about the establishment of the mission is based upon Ruth Craker's work, which is partly based on local sources and traditional accounts. She stated that Dougherty settled at Elk Rapids about May 20.
16. Chief at Elk Rapids, whose name was variously spelled Aishquagonabe, Aish-quay-go-nay-be, Aish-qua-gwan-aba, and so forth.
17. Harold S. Faust, "The Growth of Presbyterian Missions to the American Indians During the National Period," *Journal of the Presbyterian Historical Society*, XXII (December, 1944), 159-61. Strangely, these events are not mentioned in Dougherty's diary, which also omits all mention of Fleming and his family during the winter at Mackinac.
18. In the 1840's, Graveraet headed the first party of settlers at the site of the city of Marquette; Federal Writers Project, *Michigan: A Guide to the Wolverine State* (New York: Oxford University Press, 1941), p. 345.
19. Chief at Old Mission, and a signer of the Treaty of 1836; see biographical details in Craker, *First Protestant Mission*, pp. 35-36.
20. *Ibid.*, p. 29. It seems more likely, however, that Schoolcraft's decision was the cause of Dougherty's move to the peninsula. The date of Dougherty's removal is uncertain; Craker assumes that it occurred prior to June 30, when the first service was held. Dougherty's diary entries for June 29-30 seem to suggest otherwise.
21. "Diaries," *Journal of the Presbyterian Historical Society*, XXX (September, 1952), 190. All bracketed insertions, except the last, are mine. The published version has "one" for "me," which makes no sense, and was probably misread in the manuscript, which is in the Michigan Historical Collections, University of Michigan, Ann Arbor.

Old Mission was the first Protestant church in the Grand Traverse region.

Esquagonabe,[16] they chose a mission site near the mouth of Elk River. The two men at once began to cut logs for a house and school. While they were thus engaged, a messenger from Mackinac brought word of the death of Mrs. Fleming, who had remained at the island with her child pending the erection of a shelter. Fleming left at once, never to return.[17]

Dougherty finished his house with the aid of Peter Greensky, an Ottawa interpreter, and had Chief Esquagonabe and his wife as early house guests. On June 20, 1839, Schoolcraft came to Elk Rapids by boat, with interpreter Robert Graveraet,[18] and Isaac George, an Indian blacksmith. He was looking for a site on which to locate the government employees, including a farmer and carpenter, who were to aid the Indians. After some indecision, the site of Old Mission, on the peninsula, was chosen, and George encamped there. Soon Dougherty was visited by Chief Ahgosa[19] and several members of the peninsula band, who informed him that the Indians were unwilling to join those at Elk Rapids, and offered to transport him and his goods back to the peninsula and build him a "house," if he would establish his mission there. Dougherty accepted, and was ferried back to his earlier landing place.[20] Plans were made for opening a school, with Greensky as teacher, in Dougherty's bark wigwam. Apparently the strenuous activity of this period caused Dougherty to neglect his diary, but on June 29 he wrote that:

> A merciful God has brought [me] through an other week of toil and labor. This day laid the foundation of a second house. Mr. George rendered [me] essential service. Agousa absent across the bay and not to return until tomorrow. Esquagonabe and some of his people came up today. I invited them to attend our meeting[.] Tomorrow is the Sabbath[;] O that the Lord would come down by the influence of his Spirit and convert these ignorant and dying peopl[e.][21]

The next day Dougherty conducted the first Protestant religious service ever held in the Grand Traverse region. Esquagonabe attended with some of his men, Dougherty wrote, and all listened attentively to his sermon on the origin of man.

Sometime in August, Dougherty returned to the East, in order to receive his ordination in September from the Presbytery of New York. By this time, it was reported:

> He has succeeded in building a log cabin in the woods, in forming a small school of Indian children, and in persuading some of the natives to receive instruction through a pious interpreter, whose services he has been able to obtain; and he considers the prospects of the mission favorable, though, as in nearly all the missions among the Indian tribes, there are still serious difficulties to be overcome. A Presbyterian minister is still greatly needed to be stationed at Mackinac, and a Teacher to assist Mr. Dougherty in his labors among the Indians on Grand Traverse Bay.[22]

One of the seasonal annoyances which upset Dougherty's plans for the Indians was their annual departure, in late fall, for the traditional winter hunt, which was an economic necessity for them.[23] In the fall of 1839 Dougherty induced Ahgosa and two other Indians with their families to remain with him until sugar making time in the spring, by offering to build them comfortable winter houses. Before the work was finished, the weather became so cold that they had to use boiling water to thaw out the clay for plastering the chinks.[24] That same autumn, Schoolcraft sent John Johnston, equipped with a yoke of oxen, to serve as the government farmer. Because of the scarcity of food on the peninsula, the mission group had to comb the woods all winter in search of game.

In the spring of 1840 the log school at Elk Rapids was dismantled and the materials transported across the bay to be used in the construction of a new schoolhouse. The school reopened on May 10 with twenty-five pupils in attendance. Participation varied according to the activities and whims of the Indians, and ranged in those early years from a dozen to thirty-five pupils, including eventually a handful of white children, as the staff grew.[25] Not only the winter hunt, but the

22. *Foreign Missionary Chronicle*, VIII (January, 1840), 2.
23. Dougherty letter of January 31, 1842, in *Foreign Missionary Chronicle*, X (May, 1842), 149-50.
24. Craker, *First Protestant Mission*, p. 30.
25. "Diaries," *Journal of the Presbyterian Historical Society*, XXX (September, 1952), 190; (December, 1952), 242-43.

resort in spring to maple syrup camps, and the trips to Mackinac for trading and to receive annuities were an impediment to regular attendance. Dougherty, however, looked to the school as the best ultimate means of combatting intemperance among the Indians.

During the summer of 1840 Dougherty journeyed eastward again for a private purpose: his marriage, in August, to Miss Maria Higgins of Pennington, New Jersey.[26] She was to share in his missionary labors for the next thirty-one years, and was to bear him one son and eight daughters, of whom four were to serve later as mission teachers.[27] Dougherty and his wife reached Grand Traverse by steamer at sundown on the last day of August, and next day landed their goods and commenced housekeeping.

That fall the youthful Andrew Blackbird was hired by John Johnston to serve at Old Mission as an apprentice blacksmith at a salary of $240 a year. He remained five years, and in later life wrote that Dougherty "was indeed a true Christian, and good to the Indians."[28]

Dougherty neglected his diary until January 13, 1841, when he wrote that pressing and laborious duties had kept him unceasingly occupied. By the fall of that year there were five mission buildings, all of logs except Dougherty's house. During the year the staff had been augmented by a mission teacher, Henry Bradley, and his wife; David McGulpin, a farm laborer; and George Johnston, government carpenter. In September a schooner brought Deacon Joseph Dame, who was to succeed John Johnston as government farmer,[29] and Lewis Miller, the first white settler to arrive independently of government or church auspices.[30]

Reporting to the mission board early in 1842, Dougherty detailed both progress and difficulties. Mr. Bradley had taken charge of the

26. The first mention of Dougherty's marital status is in his diary entry for August 19, 1840, as they were leaving New York for the West; *Journal of the Presbyterian Historical Society*, XXX (December, 1952), 236-37.
27. J. B. Garritt, *Historical Sketch of the Missions Among the North American Indians* (Philadelphia: Women's Foreign Missionary Society of the Presbyterian Church, 1881), p. 30. Those who served were Henrietta, 1860-62, Susan, 1862-66, Nettie, 1873-75, and S.A., 1873. Two of his daughters died in childhood; Sprague, *History of Grand Traverse*, p. 235.
28. Blackbird, *History of the Ottawa*, pp. 55-56.
29. There had been bad feelings between John Johnston and Dougherty. The latter wrote that "Today Johnston the farmer made an attack upon me clinching me and threatening to strike me. He is a violent man whose influence is bad." Entry of May 10, Dougherty Diaries, Volume II, manuscripts in the Michigan Historical Collections, University of Michigan, Ann Arbor.
30. Craker, *First Protestant Mission*, p. 32.

Dougherty often accompanied the Indians to Mackinac Island where the annual treaty payments were made.

mission school,[31] but attendance was small, owing to the departure of most of the Indians for the winter hunt. He wrote of an old man who was sick, but who refused to permit the Indians to hold a medicine dance for his recovery, insisting that if he did not improve in three days his family should bring him to the mission to die. A chief obstacle in the way of the gospel, Dougherty wrote, was intemperance.

> We do not feel discouraged but on the contrary there is encouragement to persevere. Our hands have been strengthened not only by the arrival of Mr. and Mrs. Bradley, but the government farmer [Dame] unites his efforts with ours, and the state of things is much better than last winter.[32]

In 1842 Dougherty began to build the manse, or parsonage, and the mission church. He persuaded as many Indian families as he could to settle in the vicinity of the mission. By 1847 he was able to report:

> Six years ago the site occupied by the village was a dense thicket. The village now extends nearly a mile in length, containing some twenty log houses and some good log stables belonging to the Indians. During that period they have cleared and cultivated some two hundred acres of new gardens, besides what additions were made to the old ones. They raise for sale several hundred bushels of corn and potatoes.[33]

Dougherty's work was by no means confined to preaching. He was frequently called upon to write letters for illiterate Indians, half-breeds, and whites. There being no physician closer than Mackinac, he administered medicines and bled patients. He fed poultry, cultivated his own garden, and assisted Indians with carpentry. While his wife and child were in the East in 1842, he kept house, cooked, and baked. He also found time to correspond with numerous people, including Schoolcraft, to whom he sent Indian vocabularies and samples of Indian hair to aid the manifold researches of the famous ethnologist.[34]

Sometime during his other labors he managed to make significant contributions to the study of the local Indian language. In the first years, the Upper Canadian Bible Society donated to his mission Ojibwa translations of the book of Genesis and the Gospel of John,[35] but Dougherty soon produced books on his own. In 1844 he published *A Chippewa*

31. Blackbird declared that Bradley "afterward proved himself unworthy of the position, which produced a bad effect on the Indians"; *History of the Ottawa*, p. 55.
32. Letter dated January 31, 1842, *Foreign Missionary Chronicle*, X (May, 1842), 149-50.
33. Quoted in Garritt, *Historical Sketch*, p. 6.
34. Henry R. Schoolcraft, *Information Respecting the History, Condition and Prospects of the Indian Tribes* (Philadelphia: Lippincott, Grambo & Co., 1853), II, 458; III, 376, 384, 391.
35. Garritt, *Historical Sketch*, p. 5.

Primer, [36] which Schoolcraft called "of much value to the philologist, as well as being adapted to promote the advance of the pupil."[37] The same year he published a translation in Ojibwa, with parallel English text, of James Gall's *Initiatory Catechism,* containing the Ten Commandments and the Lord's Prayer.[38] New additions of these two works appeared in 1847.[39] In that year he also published *Short Reading Lessons in the Ojibwa Language,* containing parallel passages in English and Ojibwa, and with the assistance of Daniel Rodd, a teacher at the mission,[40] issued *Easy Lessons in Scripture History in the Ojibwa Language.*

Dougherty frequently accompanied his Indians on their annual trips to Mackinac to collect their annuity payments, with the object of strengthening their resistance to the liquor peddlers. It was there, on September 3, 1843, that he met the Reverend John H. Pitezel, a Methodist missionary from Lake Superior. Pietzel described Dougherty as "a pious and worthy man from Grand Traverse, who accompanied his Indians and had his tent among them. He was here to protect his sheep from the destroyer."[41]

The battle against liquor was never finished, and was particularly acute at annuity time. In a letter to the board in 1843, Dougherty reported:

> We have just had a meeting on the subject of temperance. Through the influence exerted over them while they were receiving their annuities at Mackinac a number had broken their pledge. One of the chiefs stated, that when there a white man urged him to drink a little, telling him there was no harm to take a glass or two, for Christian people did so. After he had tasted it he wanted more, and drank to intoxication. He felt very bad afterward, and now publicly confessed his fault, and pledged himself to entire abstinence.[42]

36. New York: Printed for the Board of Foreign Missions of the Presbyterian Church by John Westall, 1844. All of the works by Dougherty named herein were published under the same auspices.
37. Schoolcraft, *Information,* IV, 533.
38. *The First Initiatory Catechism, with the Ten Commandments and Lord's Prayer by Rev. Peter Dougherty.*
39. *A Chippewa Primer, compiled by the Rev. Peter Dougherty, and the First Initiatory Catechism, with the Ten Commandments and Lord's Prayer, by James Gall. Translated into the Odjibwa Language by Rev. Peter Dougherty and D. Rodd.* Of the second edition of the primer, Schoolcraft wrote: "This appears to be a judicious compilation in all respects, and evinces much familiarity with the modes of thought and expression used by the aborigines"; *Information,* IV, 533.
40. Rodd was a half-breed from the St. Clair River who served as Dougherty's interpreter; Blackbird, *History of the Ottawa,* p. 55.
41. John H. Pitezel, *Lights and Shades of Missionary Life* (Cincinnati: Walden & Stowe, 1883), p. 29.
42. *The Sixth Annual Report of the Board of Foreign Missions of the Presbyterian Church in the United States of America* (New York: published by the Board, 1843), p. 8.

In other respects also, events did not always run smoothly. Dougherty revealed himself at times to be impatient, suspicious, and cantankerous. He regretted his "severity of manner" towards his wife, and his "levity when Mrs. T was with us." At another time he recorded that his daughter May was "very unwilling to come home with me." He locked her in the house while he went to a prayer meeting. When an old chief objected that Dougherty was too young to teach the Indians, and remarked that "if they had an old man the Indians would listen," Dougherty confided to his diary: "He is an old Snake." He had a "slight misunderstanding with Kohgamaye about a small account which troubled me much." He admitted being "vexed and discouraged with regard to some of the children who will not try to learn." He quarreled with both of the Johnstons, and was convinced that George Johnston was conducting a gossip campaign against him, and refused to accept assurances to the contrary from Johnston's wife and from the Indians, insisting that "he has not shown his cloven hoof."[43]

Dougherty's progress in winning sheep to the church was slower than the gains made through the school. In 1844 he reported that the membership of the mission church "consists of twenty-three members, fifteen of whom were native Indians."[44] By 1857 Dougherty claimed fifty-seven members, including both Indians and whites.[45] The mission staff reached its greatest strength in 1858 when it included, besides Dougherty, thirteen white assistants and two native helpers.[46] In view of this considerable investment in human effort, the results appear slim, and pose the question whether gains were impeded by Indian resentment at the treaty terms and other impositions of whites. Dougherty hinted as much on a few occasions.

Although the Indians by terms of the Treaty of 1836 were due to move west by 1841, they never did so. Even though their temporary reservations were surveyed and gradually opened to white settlement, they continued to cling tenaciously to their beloved homeland. As early as 1838 John Johnston had predicted to Dougherty that it was unlikely

43. "Diaries," *Journal of the Presbyterian Historical Society,* XXX (December, 1952), 244, 245, 248, 250.
44. Clifford Drury, *Presbyterian Panorama—One Hundred and Fifty Years of National Missions History* (Philadelphia: Board of Christian Presbyterian Church in the U. S. A., 1952), pp. 140-41.
45. Craker, *First Protestant Mission,* p. 40.
46. "Diaries," *Journal of the Presbyterian Historical Society,* XXX (June, 1952), 108, entry of July 12, 1838.

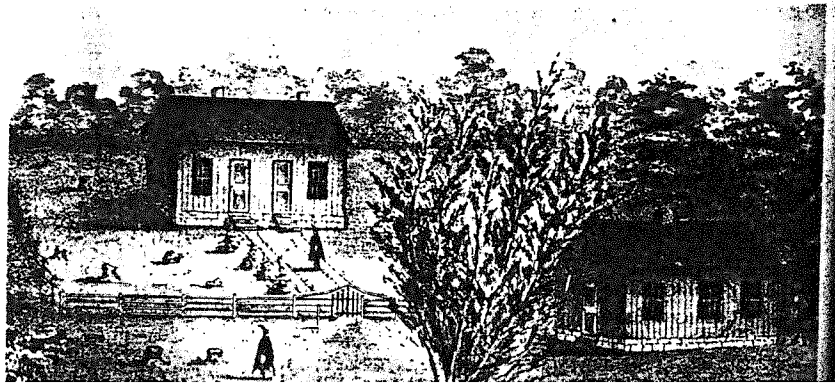
that the Indians of Grand Traverse would ever move away, since they "are near no commodious place for a harbor nor the mouth of any important river." He further told Dougherty that "the chiefs have money laid aside and design to purchase their lands as soon as they come in the market."[47] Nevertheless, the uncertainty about their future status hung like a pall over the Indians. Some of them were convinced by the "heathen" element that those who accepted Christianity would be compelled to emigrate.[48]

Dougherty believed that removal was desirable in theory, but as a practical matter, he held that it would impede missionary efforts. He was convinced that the liquor merchants would trail the Indians wherever they went, and felt that agitation of the removal question was an upsetting influence.[49]

While the Indians were not disposed to move to the Great Plains, many of them took refuge with their Canadian brethren. On July 21, 1842, Dougherty recorded in his diary that "several families started for Caniday this morning," and four days later he wrote: "To-day many of the Indians started for Canada[.] School very small[.]"[50] Andrew Blackbird maintained that half of his people fled to Canada when they learned the real meaning of the Treaty of 1836.[51] The descendants of these migrants live today on Manitoulin Island and on the north shore of Georgian Bay.[52]

The second constitution of Michigan, adopted in 1850, provided that detribalized Indians might become citizens, and they were encouraged to remain and purchase lands.[53] Since the lands at Old Mission were not offered for sale to them, the gradual dispersion of the mission colony commenced. In 1852 the mission was moved to the far side of the west arm of the bay, at Omena, and a new mission was opened forty miles to the north at Little Traverse Bay. The next year a school was opened twenty miles still farther north, at Middle Village. Also in 1853, a

Joseph Turner's school at Middle Village, north of Old Mission.



boarding school was begun at Omena, since the dispersal of the Indians made the day school impracticable. The new school offered primarily manual training, and accommodated fifty boys and girls.[54]

In July of 1855, the leading men of the two tribes of northern Michigan were summoned to Detroit and pressured into accepting a new treaty to supplant that of 1836. This final coup, negotiated by George W. Manypenny and Henry C. Gilbert, with later amendments by the Senate, dissolved the "temporary" reservations of 1836, and set aside certain townships and sections to be divided into individual homesteads for Indians. The allotments were hardly economically viable units; heads of families might have eighty acres, while single adults would receive forty acres. After ten years the allottees, if deemed competent, would receive title to their lands, which would then become subject to sale and taxation. Lands still unallotted after five years could be purchased by Indians only during the following five years, and all land remaining after that would be opened to white buyers. Since it was assumed that Indians were a vanishing race, no provision was made for future generations.

The treaty exempted church and school lands in Indian areas from the general provisions, and specifically provided that "in consideration of the benefits derived to the Indians on Grand Traverse Bay by the school and mission established in 1838," three parcels of land on which the mission buildings stood, not exceeding 63 acres, 124 perches, were to be vested in the Board of Foreign Missions of the Presbyterian Church upon payment of $1.25 an acre.

The treaty further provided for the liquidation of tribal debts up to $40,000, and another $80,000 for educational purposes, with the proviso that the Indians were to be consulted in its disposition. For the next five years, a $15,000 annuity was to be spent on tools, furniture, building materials, cattle, and other articles necessary in resettling the Indians. Other funds were provided to support four blacksmith shops

47. *Ibid.*, (December, 1952), p. 245, entry of June 3, 1842.
48. Drury, *Presbyterian Panorama*, pp. 140-41.
49. Correspondence with D. Wells, 1841, cited in Robert F. Berkhofer, Jr., *Salvation and the Savage* (Lexington: University of Kentucky Press, 1965), p. 104.
50. "Diaries," *Journal of the Presbyterian Historical Society*, XXX (December, 1952), 252.
51. Blackbird, *History of the Ottawa*, p. 98.
52. Author's personal visit, Ottawa Indian Reserve, Wikwemikong, Ontario, 1966.
53. Garritt, *Historical Sketch*, p. 6; Craker, *First Protestant Mission*, p. 37.
54. Garritt, *Historical Sketch*, p. 6; Sprague, *Sprague's History*, p. 232.

for ten years, and a total of $306,000 was to be paid in per capita annuities during the next ten years.

In return for these grants, the Indians were required to surrender all the benefits due them under the Treaty of 1836, and moreover they were directed to dissolve their tribal organization. They were even forbidden to hold general meetings to discuss any issues arising under the treaty.[55]

Doubtless the treaty contributed to the further dispersal of the Indians, and to the eventual decline of the mission. The Indian allotments were in scattered locations, interspersed with white settlements, and too far from the mission for it to remain influential. The first casualty was the boarding school. Drury claims that the withdrawal of government funds after ten years forced its closing.[56] Garritt held that the school and mission both atrophied due to the conditions prevailing among the Indians, including "the indifference of many of the people to the education of their children; the distance of many families from the station, which made it impracticable to keep up the day-school at Grand Traverse; the influx of whites, many of whom were not reputable; the opposition of Romanists [Catholics]; and the unsettled feeling on the part of many of the tribe as to their remaining in the country." He further reported that the Indians in the vicinity of the mission were decreasing in number,[57] and many were absorbed in the surrounding population. Consequently the boarding school was abandoned in 1867, the mission farm was sold the next year,[58] and in 1871 "the churches were placed under the care of the Presbytery and the mission given up."[59]

As his Indian ministry drew to a close, Dougherty summarized some of the results, clearly indicating that he considered his role in adapting the Indians to white ways of life as equal in importance to his conversion efforts:

> Instead of heathen bands—ignorant, indolent, intemperate, clothed in a filthy blanket and living in smoky wigwams—we now see civilized families in comfortable houses, with farms and teams, industrious and exercising all the rights and duties of citizens, reading the Testament, family prayer, social

55. Treaty of Detroit, with the Ottawa and Chippewa Nations, July 31, 1855, in Kappler, *Indian Affairs*, II, 725-31.
56. Drury, *Presbyterian Panorama*, pp. 140-41. He states that the government provided 75 per cent of the cost of maintenance of the school.
57. Craker states that many of them died of smallpox; *First Protestant Mission*, p. 42.
58. *Ibid.*, p. 45.
59. Garritt, *Historical Sketch*, pp. 6-7.

> meetings for prayer, regular attendance in the house of God, and many giving pleasing evidence of heart piety. During these years there were gathered into the church here some 130.[60]

Thus came to a close the thirty-three-year ministry of the Rev. Peter Dougherty among the Indians. He was then sixty-six years of age, and moved with his wife to Wisconsin, following which little is known of his activities. Two of his daughters continued to minister to the Ojibwas at other stations. Dougherty died at Somers, Kenosha County, Wisconsin, on February 15, 1894, at the age of eighty-eight.[61] Although missionaries such as Marquette, Charlevoix, and Baraga are commemorated by monuments and place names in Michigan, it was Dougherty's fate to remain obscure. The contemporary compiler of the Presbyterian *Encyclopedia* did not mention his name;[62] neither did he attract the notice of such historians of the lakes region as Harlan Hatcher and Milo M. Quaife. To those Indians who came under his influence, however, his memory survived for many years. They called him *Mickoos* ("Little Beaver"), because he did "a heap lot of work for his size."[63]

60. Letter dated August 29, 1870, cited in Drury, *Presbyterian Panorama*, p. 141.
61. Craker, *First Protestant Mission*, p. 46.
62. Alfred Nevin (ed.), *Encyclopedia of the Presbyterian Church in the U.S.A.* (Philadelphia: Presbyterian Publ. Co., 1884).
63. Craker, *First Protestant Mission*, p. 46.

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Rec'd 6.13.86

Mr. Ed Reisman
FAA, Wine and Beer Branch
Bureau of Alcohol, Tobacco, and Firearms
Washington, D.C. 20226

6 June, 1986

Dear Mr. Reisman:

Enclosed please find the information you requested in your correspondence of 27 May, 1986.

I have also provided both existing and proposed wine grape vineyard acreage, with approximate dates of future plantings. Total acreage has also been provided for your information.

The southern appellation boundary has been redesignated per your request on the enclosed U.S.G.S. map. This map also displays both current and future vineyard sites. Please refer to map legend for explanation. According to Treasury Decision ATF-99, regarding the extablishment of Leelanau Peninsula as a wine growing region, use of political boundaries is acceptable if the geophysical features warrant it a natural land boundary as well. Therefore, I see no problem with the use of the Peninsula Township line in this particular case, considering the surrounding features.

I have also returned the draft document you sent along, to further clarify my additions to the current text. A separate sheet of information is provided instead of extensive notes on the document for easier reading.

I hope this strengthens and further clarifies our case for an appellation designation for the Old Mission Peninsula. Please contact me if questions arise concerning the newly submitted information.

Sincerely,

Ann E. Sinclair
Vineyard Manager

This information to be incorporated into text of pg. 10 of draft. Please refer to said page.

from page 10...perfection due to such tempering seasonal effects. Just as Lake Michigan tempers the Grand Traverse region in general, the surrounding deep waters of the Grand Traverse Bay, coupled with southwesterly winds carrying warmth from the mainland, create a microclimate on the Old Mission Peninsula imparticularly. The Peninsula, then, is doubly tempered; once from Lake Michigan effects, and again by the Grand Traverse Bay.

This additional insulating effect of the bays is reflected in differences in total growing degree days between Old Mission Peninsula(O.M.P.), Traverse City(T.C.), and Lelanau Peninsula (L.P.). Total growing degree days for O.M.P. at base 50 (the base temperature used for grapes as wellas as cherries) averages 2075 (15-year period), whereas T.C. and L.P. average 2134 over a 2-year period and 2109 over a 15-year period, respectively. However, even though total growing degree days afforded fruit crops on the O.M.P. are less in number, they are virtually frost-free, as has been traditionally known by Peninsula fruit growers. In contrast, area frosts have been known to wipe out identical crops in the surrounding Grand Traverse area, with little or no damage reported on the isolated Peninsula. Therefore, temperature variance in both the spring and fall seasons are markedly more moderate on the Peninsula than in the immediate surrounding areas.

This moderation of temperatures occurs year-round, though best realized during the winter months. It is common knowledge in the area that there have been temperature differences as much as 17°F between T.C. and the central Peninsula during winter chills, a geological distance of no more than 12 miles. Vitis vinifera species will experience severe winter injury and death due to temperatures falling below -9°F, and T.C.weather records show temperature drops below that mark many times a season. Yet the species still thrives, as is shown in the 35 acres of 11-year-old vines present on the Peninsula.

FOREWORD

This summary has been prepared from observations of agricultural weather stations in west-Michigan. For most stations the summary is for a 15-year period, 1962 through 1976. The number of years and period of record are indicated with the station name.

Growing degree days are computed by taking the base temperature and subtracting it from the daily mean temperatures. Example: With a daily mean temperature of 65, then degree days at base 40 = 25; base 45 = 20; base 50 = 15; base 55 = 10. When the daily mean temperature is lower than the base temperature, the value 0 is given for that day. Figures presented are average monthly totals and average accumulated seasonal totals for the period of record indicated.

The summary covers only the 7-month growing season - April through October. All the observations are from cooperators who take daily observations of temperature and precipitation. They receive no monetary compensation for this. Many of the observers are fruit or vegetable growers, farmers or members of their family. Their interest and dedication makes it possible to document the climate of a region, state or nation. Their services are greatly appreciated.

Ceel Van Den Brink
Advisory Agricultural Meteorologist
National Weather Service
Office For Agriculture
1405 S. Harrison Road
East Lansing, Michigan 48823

TEMPERATURE - GROWING DEGREE DAYS - PRECIPITATION

FIFTEEN-YEAR SUMMARY

	Temperature			Base 40		Base 45		Base 50		Base 55		Precipitation	
Month	Avg Max.	Avg. Min.	Avg. Mean	Month Total	Season Total	Month Total	Season Total	Month Total	Season Total	Month Total	Season Total	Month Total	Season Total
Lake City													
April	52.5	31.3	41.9	149	149	80	80	40	40	18	18	2.82	2.82
May	64.8	40.9	52.9	413	562	278	358	167	207	88	106	2.82	5.64
June	75.3	50.1	62.7	690	1252	541	899	393	600	258	364	3.14	8.78
July	79.6	53.6	66.6	830	2082	676	1575	521	1121	368	732	3.34	12.12
August	76.9	52.5	64.6	775	2857	619	2194	466	1587	314	1046	3.00	15.12
September	67.8	45.8	56.8	512	3369	366	2560	234	1821	131	1177	3.31	18.43
October	56.8	38.6	47.8	274	3643	165	2725	87	1908	38	1215	2.57	21.00
Lake Leelanau													
April	50.9	33.4	42.3	150	150	84	84	42	42	19	19	2.43	2.43
May	63.4	42.5	52.9	412	562	279	363	171	213	92	111	3.52	5.95
June	73.9	52.0	62.9	697	1259	547	910	399	612	264	375	2.66	8.61
July	78.4	57.2	67.8	869	2128	714	1624	558	1170	403	778	3.14	11.75
August	76.2	56.6	66.4	827	2955	672	2296	518	1688	364	1142	3.17	14.92
September	68.0	50.6	59.4	589	3544	440	2736	297	1985	176	1318	4.06	18.98
October	57.6	43.2	50.4	340	3884	217	2953	124	2109	63	1381	2.54	21.52

TEMPERATURE - GROWING DEGREE DAYS - PRECIPITATION

FIFTEEN-YEAR SUMMARY

Ludington

	Temperature			Base 40		Base 45		Base 50		Base 55		Precipitation	
Month	Avg Max.	Avg. Min.	Avg. Mean	Month Total	Season Total	Month Total	Season Total	Month Total	Season Total	Month Total	Season Total	Month Total	Season Total
April	52.7	34.5	43.6	174	174	97	97	49	49	21	21	2.95	2.95
May	64.6	43.6	54.1	447	621	307	404	190	239	102	123	2.81	5.76
June	74.5	52.7	63.7	721	1342	571	975	422	661	281	404	3.22	8.98
July	78.4	57.5	67.9	875	2217	719	1694	564	1225	410	814	2.64	11.62
August	76.7	56.4	66.6	832	3049	677	2371	524	1749	369	1183	3.24	14.86
September	68.8	49.9	59.4	590	3639	443	2814	300	2049	179	1362	3.41	18.27
October	58.5	42.5	50.5	345	3984	217	3031	122	2171	60	1422	3.23	21.50

Mapleton

April	50.8	32.7	41.8	141	141	77	77	38	38	16	-16	2.12	2.12
May	62.9	41.7	52.4	399	540	267	344	159	197	83	99	2.46	4.58
June	74.3	52.3	63.3	706	1246	555	899	408	605	272	371	2.82	7.40
July	78.1	57.6	67.9	872	2118	717	1616	562	1167	408	779	2.83	10.23
August	75.5	56.8	66.2	820	2938	667	2283	512	1679	358	1137	3.30	13.53
September	67.3	50.3	58.8	570	3508	421	2704	281	1960	162	1299	3.77	17.30
October	57.3	45.9	50.1	329	3837	207	2911	115	2075	55	1354	2.26	19.56

TEMPERATURE - GROWING DEGREE DAYS - PRECIPITATION

TOLEDO

	Temperature			Base 40		Base 45		Base 50		Base 55		Precipitation	
Month	Avg. Max.	Avg. Min.	Avg. Mean	Month Total	Season Total	Month Total	Season Total	Month Total	Season Total	Month Total	Season Total	Month Total	Season Total
April	61.2	38.5	49.9	309	309	189	189	98	98	48	48	3.54	3.54
May	66.1	44.6	55.4	483	792	328	517	200	298	114	162	2.38	5.92
June	78.8	57.9	68.4	858	1650	708	1225	558	856	409	571	8.48	14.40
July	81.9	61.4	71.7	988	2638	833	2058	678	1534	523	1094	3.72	18.12
August	80.5	59.0	69.8	930	3568	775	2833	620	2154	465	1559	2.28	20.40
September	70.1	52.4	61.3	645	4213	495	3328	349	2503	226	1785	6.05	26.45
October	57.8	37.5	47.7	263	4476	136	3464	47	2550	13	1798	3.79	30.24
April	55.7	34.0	44.9	191	191	102	102	39	39	13	13	5.38	5.38
May	66.1	38.6	52.4	394	585	264	366	165	204	97	110	1.63	7.01
June	76.2	53.9	65.1	759	1344	609	975	459	663	309	419	3.98	10.99
July	82.6	57.2	69.9	936	2280	781	1756	626	1289	471	890	.27	11.26
August	79.2	58.4	68.8	898	3178	743	2499	588	1877	433	1323	3.25	14.51
September	66.8	48.0	57.4	531	3709	382	2881	248	2125	138	1461	1.76	16.27
October	54.2	36.0	45.1	185	3894	82	2963	31	2156	7	1468	4.09	20.36

TRAVERSE CITY

Growing degree days are computed by taking the base temperature and subtracting it from the daily mean temperature
Example: Daily mean temperature is 65. Degree days with base 40 = 25; base 45 = 20; base 50 = 15; base 55 = 10.
Figures given are total for the month and accumulated figures since April 1.

TEMPERATURE - GROWING DEGREE DAYS - PRECIPITATION

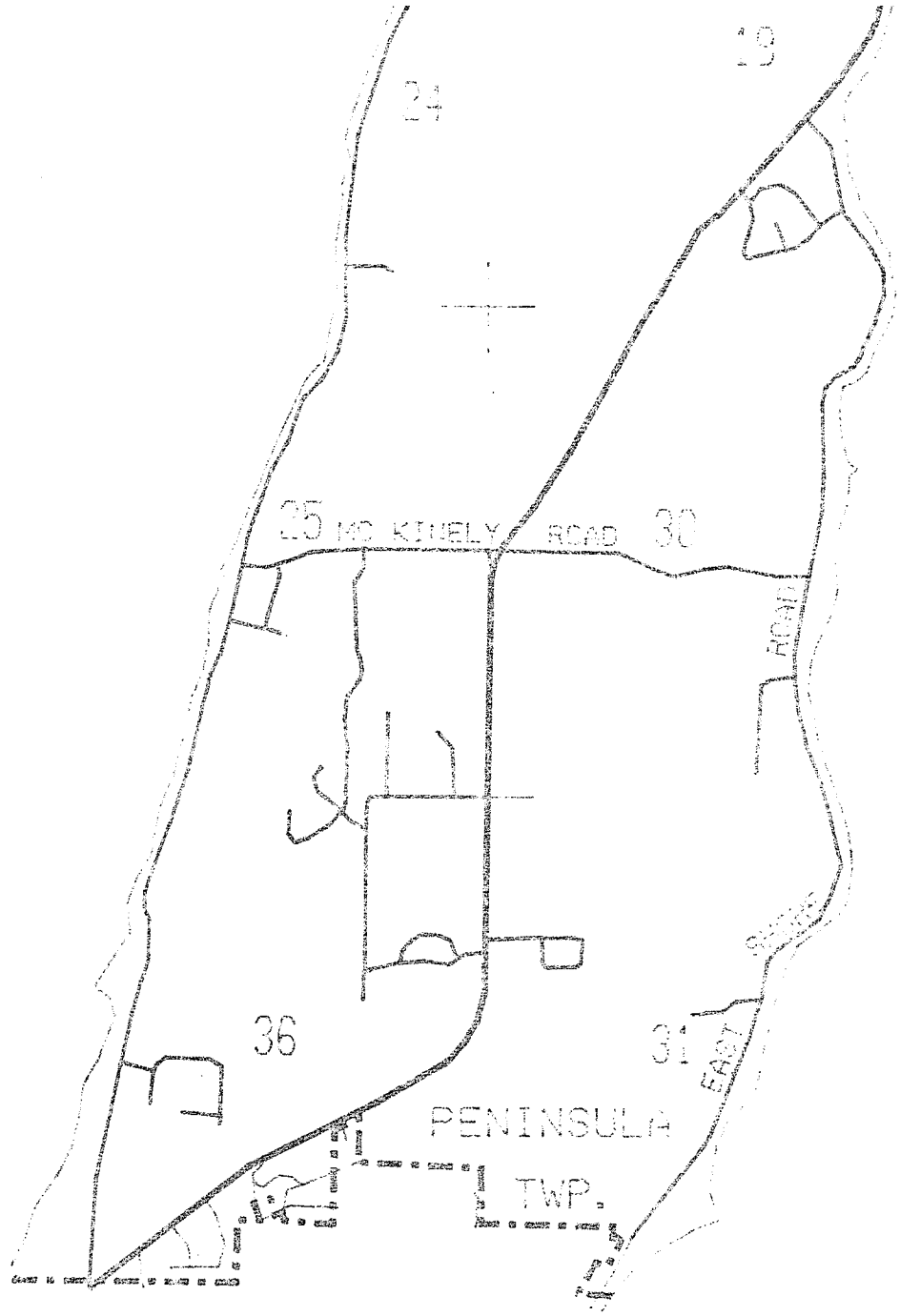
TRAVERSE CITY

	Temperature			Base 40		Base 45		Base 50		Base 55		Precipitation	
Month	Avg. Max.	Avg. Min.	Avg. Mean	Month Total	Season Total	Month Total	Season Total	Month Total	Season Total	Month Total	Season Total	Month Total	Season Total
April	50.8	33.1	42.0	130	130	62	62	29	29	14	14	3.17	3.17
May	68.9	41.3	55.1	478	608	335	397	209	238	110	124	1.94	5.11
June	71.7	48.2	60.0	607	1215	457	854	313	551	197	321	4.07	9.18
July	80.5	57.2	68.9	901	2116	746	1600	591	1142	436	757	1.86	11.04
August	80.7	60.0	70.4	948	3064	793	2393	638	1780	483	1240	1.20	12.24
September	69.8	48.8	59.3	586	3650	439	2832	302	2082	190	1430	4.41	16.65
October	51.1	37.4	44.3	158	3808	73	2905	31	2113	11	1441	1.70	18.35

UNIONVILLE

April	52.4	34.6	43.5	149	149	66	66	19	19	6	6	2.60	2.60
May	68.9	44.8	56.9	529	678	378	444	243	262	135	141	.93	3.53
June	72.8	50.4	61.6	656	1334	506	950	358	620	228	369	4.22	7.75
July	80.6	58.6	69.6	927	2261	772	1722	617	1237	462	831	3.12	10.87
August	81.5	59.5	70.5	954	3215	799	2521	644	1881	489	1320	1.07	11.94
September	71.5	50.1	60.8	632	3847	482	3003	335	2216	211	1531	5.05	16.99
October	52.6	36.4	44.5	172	4019	79	3082	38	2254	16	1547	2.33	19.32

Growing degree days are computed by taking the base temperature and subtracting it from the daily mean temperature
Example: Daily mean temperature is 65. Degree days with base 40 = 25; base 45 = 20; base 50 = 15; base 55 = 10.
Figures given are total for the month and accumulated figures since April 1.


24
19
25
MC KINLEY ROAD
30
ROAD
36
31
EAST
PENINSULA
TWP.

Wine Grape Acreage
Old Mission Peninsula

EXISTING

Chateau Grand Travers, Ltd. 35 acres, planted in 1975.

Mark Johnson. 2.5 acres planted in 1984.

Jack Segin. 2.0 acres planted in 1986.

Bob Begin. 10.0 acres planted in 1986.

TOTAL ACREAGE: 49.5

PROPOSED

Chateau Grand Travers, Ltd.. 10 acres in 1987.

Mark Johnson. 4 acres 1987-1988.

Jack Segin. 2 acres in 1987.

Bob Begin. 15 acres by 1989.

Dave Edmundsen. 4 acres in 1988.

Arnold Elzer . 2 acres in 1987.

TOTAL ACREAGE: 31.0