

# **Indian Trail Over Grave Creek Hills: 1855**

**Hugo Native American Team  
Hugo Neighborhood Association & Historical Society  
Hugo, Oregon**



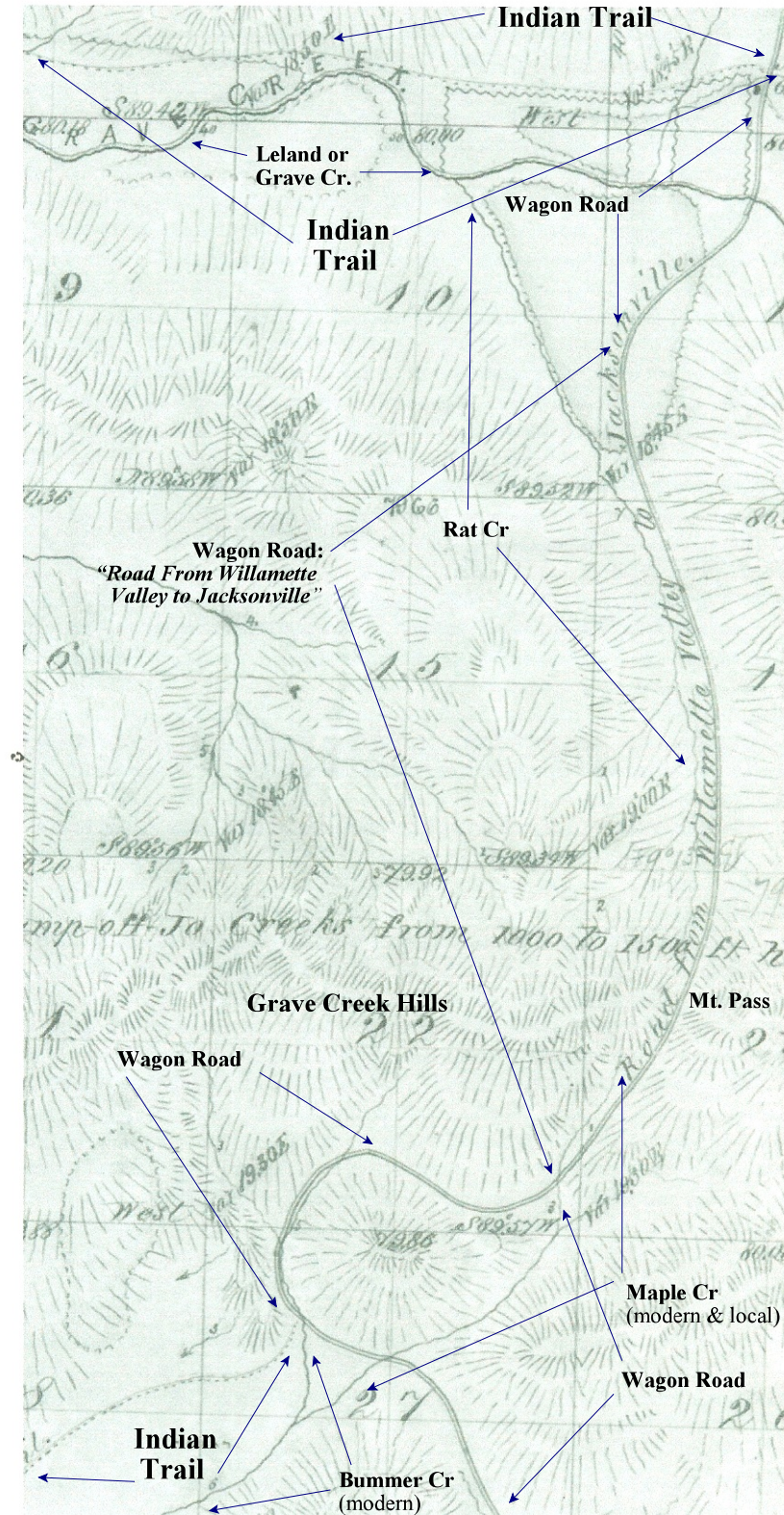
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**August 12, 2012  
Updated April 12, 2014**

# Map 9. Indian Trail Over Grave Creek Hills: 1855<sup>1-3</sup>

August 12, 2012



# Indian Trail Over Grave Creek Hills: 1855

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    - b) January 7, 2014 Email

5. Roberts February 14, 2014 Paper
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## Acronyms & Abbreviations

1855 GLO Survey Notes	1855 GLO Survey Notes for T.34S., R.6W., WM
1855 Survey/1856 Plat	1855 GLO Survey Notes & 1856 GLO Plat for T.34S., R.6W., WM
1856 GLO Plat	1856 GLO Plat for T.34S., R.6W., WM
1893 GLO Survey Notes	1893 GLO Survey Notes for T.34S., R.6W., WM
1893 Survey/1894 Plat	1893 GLO Survey Notes & 1894 GLO Plat for T.34S., R.6W., WM
1894 GLO Plat	1894 GLO Plat for T.34S., R.6W., WM
1895 Map	1895 Official Map of Josephine County
BLM	Bureau of Land Management
DDD	Disclosure, Discussion, And Documentation
DLC	Donation Land Claim
Gwigs washan	Frances Johnson, Lowland Takelma Indian
GLO	General Land Office
GLO SubCommittee	Hugo General Land Office Field Survey Subcommittee, HETC
GPS	Global Positioning System
GCHills	Grave Creek Hills
HETC	Hugo Emigrant Trails Committee, HNA&HS
HNA&HS	Neighborhood Association & Historical Society
HNAT	Hugo Native American Team, HNA&HS
IT	Indian Trail
IV Road	Illinois Valley Road Of Applegate Trail
<i>Hugo Neighborhood</i>	Neighborhood Association & Historical Society
Jacksonville Road	Jacksonville Road Of Applegate Trail
JO CO	Josephine County
JR	Jacksonville Road Of Applegate Trail
Map A“x”	Analysis Map “x” (e.g., Map A1 = Analysis Map 1)
MET	Mapping Emigrant Trails Manual
MMM	Mapping, Marking, & Monitoring
NRCS	Natural Resources Conservation Service
NWOCTA	Northwest Chapter of Oregon-California Trails Association
OCTA	Oregon-California Trails Association
OHTAC	Oregon Historic Trails Advisory Council
OR	Oregon
OTCC	Oregon Trail Coordinating Council
p.	Page
Plat	General Land Office Plat or Map
PLSO	Professional Land Surveyors of Oregon
PLSS	Public Land Survey System
Quad	USGS Topographic Map (quadrangles)
RR	Railroad
RF	Representative Fraction
SCS	Soil Conservation Service (successor to NRCS)
<i>Trail</i>	Applegate Trail
U.S.	United States
U.S.D.S.	U.S. Deputy Surveyor
USGS	United States Geological Survey
WM	Willamette Meridian
W.M.	Willamette Meridian

## Water Courses: North to South (Map 9; Map 10; Map 6A)

Grave Creek  
Rat Creek  
Maple Creek  
Pirzer Creek

Penny Creek  
Bummer Creek  
Quartz Creek  
Jumpoff Joe Creek

## Other Terrain

Draws (Map A6)  
Knobs (Map A6)  
Passes (Map A4, A5, A6)  
Ridges (Map A4, A5, A6)  
Saddles (Map A6)  
Sidling (traveling on a side hill)

## Roads (Map 9, Map 10, Map A4, A5, A6)

## True Compass Direction Of A Trail

N	North (N): $0^\circ = 360^\circ$
NNE	North-northeast
NE	Northeast (NE), $45^\circ$ , halfway between north and east, is the opposite of southwest.
NW	Northwest (NW), $45^\circ$ , halfway between north and west, is the opposite of southeast
ENE	East-northeast
E	East (E): $90^\circ$
ESE	East-southeast
SE	Southeast (SE), $135^\circ$ , halfway between south and east, is the opposite of northwest.
SSE	South-southeast
S	South (S): $180^\circ$
SSW	South-southwest
SW	Southwest (SW), $225^\circ$ , halfway between south and west, is the opposite of northeast.
WSW	West-southwest
W	West (W): $270^\circ$
WNW	West-northwest
NW	Northwest (NW), $315^\circ$ , halfway between north and west, is the opposite of southeast.
NNW	North-northwest

## Trail Axis

N - S	North to South or South to North
NE - SW	Northeast to Southwest or Southwest to Northeast
NW - SE	Northwest to Southeast or Southeast to Northwest
E - W	East to West or West to East
S - N	South to North or North to South
SE - NW	Southeast to Northwest or Northwest to Southeast
W - E	West to East or East to West

## **Indian Trails: North to South (Map 9; Map 10; Map A8)**

Grave Creek Indian Trail: E - W  
Grave Creek Hills Indian Trail: N - S  
Bummer Creek Indian Trail (NE - SW)  
Quartz Creek Indian Trail

## **Surveyed GLO Indian Trails Sites: North to South (Map 10)**

IT-1 South Rat Creek (IT-1/JA-15)  
IT-2 Maple Creek (IT-2/JA-14)  
IT-3 Penny Ridge (IT-3/JA-13)  
IT-4 Bummer Creek Prairie  
IT-5 Bummer Confluences  
IT-6 Camas  
IT-7 Tunnel Creek  
IT-8 Quartz Creek  
IT-9 Acorn  
IT-10 Black Oak

## **Oxbow Of Applegate Trail (Map 1A)**

South Oxbow JA-11A; JA-12A, & JA-12B to IT-4B (Niday DLC to Maple Cr.)  
West Oxbow IT-4B to JA-13 to IT-3B (Penny Ridge)  
North Oxbow IT-3B to JA-14 (Penny Ridge to Maple Creek Wetlands)

## **Appendices**

Appendix A. NW Chapter, OCTA September 11, 2010 Applegate Trail Field Trip, Josephine County, Oregon.  
Appendix B. Hugo Native American Team  
Appendix C. Its History When Written  
Appendix D. Using General Land Office Notes And Plats To Relocate Trail Related Features  
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Appendix G. Reports, Diaries, Journals, & Reminiscences

## **Maps (A = Analysis)**

Map 9. Indian Trail Over Grave Creek Hills: 1855  
Map 10. Hugo's Indian Trail  
Map A1. Oxbow Applegate Trail Sections Per 1856 GLO Plat  
Map A2. Alternative Indian Trail Routes  
Map A3. North Oxbow Above Maple Creek Wetlands  
Map A4. Hugo's Ridges & Passes: 1901 - 1902  
Map A5. Hugo's Ridges, Passes, & Creeks: 1954  
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Map A7. Alternate Jacksonville Road Routes Of Applegate Trail: 1855  
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**Maps (Referenced - Harrington Maps, Section VI.B)**

Map H4.	Harrington Map 560 Medicine Rock
Map H5.	Harrington Map 583 Medicine Rock
Map H6.	Harrington Map 876 Medicine Rock

**Tables**

Table 1.	Map Scale Classification For Indian Trails
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TEMPORARY NOTE: The full footnotes in the text will be eliminated when the text is finalized. Also, The space between some sections will be eliminated when the text is finalized. Any colored text is temporary.

C:\Users\Mike\Documents\Genealogy\Native\_Americans\Maps\M9 Map 9 Indian Trail PAPER FINAL I\_V Over Grave Cr Hills 041214.wpd

# INDIAN TRAIL OVER GRAVE CREEK HILLS: 1855

## EXECUTIVE SUMMARY

[Never developed]

### I. BACKGROUND

#### A. Land Surveys Key In Western Oregon

A foundation principal of the Hugo Native American Team (HNAT) and Hugo Emigrant Trails Committee (HETC) carrying out their missions in the winter-wet, mountainous terrain of Southwestern Oregon is to map Indian trails and emigrant trails through the use of the methods and procedures identified in the Oregon-California Trails Association (OCTA) Mapping Emigrant Trails (MET) Manual.

The HNAT's and the HETC's first tier of focus for locating Indian trails and Applegate Trail (*Trail*) sites is through the use of accurate historical and modern government survey notes (i.e., the 1850s General Land Office (GLO) survey notes and plats, 1850s donation land claim (DLC) survey notes and plats, modern local Josephine County surveys and maps, and including the Global Positioning System (GPS) using GLO, DLC, and county bearing and distance measurements. The key to locating Indian trails and emigrant wagon roads in wet western Oregon are professional land surveys. As a general rule, the closer in time the surveys are in relation to the actual use of the trail under investigation, the more reliable that evidence becomes.

The crucial importance of the government surveys is further enhanced because after 150 years the trails in Southwestern Oregon are usually buried beneath 6 - 12 inches of soil and debris, and there is little physical and/or vegetation evidence remaining. It is joked, that in the field, what is usually seen and heard is the participant's imagination and opinion. Ruts are gone and traces are few, but a verified surveyed site can make sense of the local terrain where there are several skid roads, and faint traces aligned along the recorded course of the *Trail* are clarified to their significance beyond a normally appearing natural swale. On occasion the mystery of a cairn could appear at the end of a GLO bearing and distance track. These verified surveyed sites greatly facilitate the search for the trails by showing the researcher where to look for reliable traces. They solve the mystery of several traces or logging skid roads in the same vicinity by determining and verifying which of the traces or evolved roads are related to historic emigrant wagon use ([Appendix A](#)).<sup>1</sup>

Footnote I-1. Neiderheiser, Leta ; Walker, Mike; and Rose, Karen. May 21, 2010. *May 2010 Article Submission for NW OCTA Newsletter byMembers NW Chapter OCTA, to the NW OCTA Newsletter.* Hugo, OR.

The GLO and DLC surveyors' field notes and maps became indispensable to the U.S. government and to state and county officials as well as to commerce and exploration. A geographer, William Bowen, observed "Without doubt, the maps contain the single most comprehensive and accurate cartographic record of the Oregon frontiers . . . and include an astonishingly complete view of the physical and cultural landscape." (page 212)<sup>2</sup>

Footnote I-2. Atwood, Kay. 2008. *Chaining Oregon: Surveying the Public Lands of the Pacific Northwest; 1851 - 1855*. The McDonald & Woodward Publishing Company. Blacksburg, Virginia.

In a nutshell, the reliability of any sketch or map is significantly increased if it is based on a surveyed plat or map (i.e., GLO, DLC, other government, and modern local Josephine County (JO CO) surveys). Sketch maps without survey notes are limited in their credibility to establish geographic features on the earth. Likewise, survey maps with survey notes that can't be tied to a monument are also limited in their utility.

It is a certainty that with the relative scarcity of adequate diaries, journals, and reminiscences for the Hugo region, the Hugo Neighborhood Association & Historical Society (HNA&HS) would not have formed the HETC in 2005 without the knowledge that these early land surveys were there to be discovered, especially the GLO surveys. Significantly, the importance of the 1850s GLO surveys to the HNA&HS's mission is reflected in the name of one of its subcommittees, "Hugo General Land Office Field Survey Subcommittee." GLO SubCommittee.

The same is true of the HNAT because of the relative scarcity of expert Takelma Indian sources (with the noted exception of Francis Johnson (Section VI.B), oral histories, and other primary Indian references, including magazine and newspaper coverage) ([Appendix B](#)).

In summary, the key to locating Indian trails and emigrant wagon roads in wet western Oregon are professional land surveys through the use of the methods and procedures identified in the OCTA MET Manual.

- The first tier of focus for locating Indian trail and *Trail* sites in western Oregon is through the use of the 1850s GLO survey notes and plats, 1850s DLC survey notes and plats, and modern local surveys and maps.
- The crucial importance of the government surveys is further enhanced because after 150 years the trails are usually buried beneath 6 - 12 inches of soil and debris, and there is little physical and vegetation evidence remaining. Ruts are gone and traces are few, but a verified surveyed site can make sense of the local terrain where there are several skid roads, and faint traces aligned along the recorded course of the *Trail* are clarified to their significance beyond a normally appearing natural swale.
- The reliability of any sketch or map is significantly less than if it is based on a surveyed plat or map (i.e., GLO, DLC, other government, and modern local Josephine County (JO CO) surveys).
- Sketch maps without survey notes are limited in their credibility to establish geographic features on the earth.
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## B. Takelma Indians Here First

The Takelma are the Native American people who originally lived in the Rogue Valley of interior southwest Oregon, with most of their villages sited along the Rogue River. The name *Takelma* means "(Those) Along the River". Much less is known about the culture of the Takelma Indians than about their neighbors in other parts of Oregon and northern California. Their homeland was settled by Euro-Americans late in the history of the American Frontier, because the surrounding mountainous country protected it. The discovery of gold spurred the first white settlement of the region in 1852 after which it proceeded rapidly. The Takelma who survived were sent to reservations in 1856. Settlers and natives lived in the region together for less than four years.<sup>3</sup>

Footnote I-3. *Takelma People*. From Wikipedia, the Free Encyclopedia.  
[http://en.wikipedia.org/wiki/Takelma\\_people](http://en.wikipedia.org/wiki/Takelma_people)

Over the years Mike Walker, Education Chair, *Hugo Neighborhood* had asked questions concerning the Takelma Indian Trail over Grave Creek Hills (GCHills). He had informally interviewed historians Larry McLane and Michael Oaks with a couple of simple questions about the Indian trails and the Applegate Trail (*Trail*) over the GCHills as depicted on the 1856 GLO Plat for T.34S., R.6W., WM ([Map 9](#)).<sup>4,5</sup>

Footnote I-4. GLO Survey Notes & Plats.

Footnote I-5. Atwood, Kay. 2008. *Chaining Oregon: Surveying the Public Lands of the Pacific Northwest; 1851 - 1855*. The McDonald & Woodward Publishing Company. Pages 196 - 202. Blacksburg, Virginia.

*“Why is there not an Indian Trail depicted over the Grave Creek Hills?”*

*“Why the Oxbow of the Applegate Trail?”*

The simple and summary answers obvious to the three of them was because the Takelma Indians and the Indian Trail over GCHills were here first, even if not depicted on the 1856 GLO Plat (i.e., later white man arrived first with his pack trains and later yet with wagon trains, all over the same route). With this collective opinion that the Indian Trail was under the emigrant wagon trail, another question followed.

*“Why the Oxbow of the Indian Trail over Grave Creek Hills?”*

Both Larry and Michael had been actively involved in local history for decades and both had been president of the Josephine County Historical Society. Larry McLane, Historian and Author of *First There Was Twogood* (McLane, Larry L. 1995. *First There Was Twogood*. Sexton Enterprises. Sunny Valley, OR) had grownup in the Grave Creek area. Michael Oaks, Historian and Author of *Artistry in Mortar And Brick* had grownup in the Jumpoff Joe Creek area. Mike Walker, Historian and Author of *Handbook To The Rogue River’s Hog Creek Float*, (his only non-local history publication) had grownup in the Hugo area and graduated from Hugo Elementary School in 1958. For almost two decades he had been actively involved with the HNA&HS or *Hugo Neighborhood* in researching it local history ([Appendix B](#)).

All three local historians, Larry McLane, Michael Oakes, and Mike Walker, had reason to believe in the accuracy of the GLO plat and its depictions of Indian Trails and emigrant wagon roads as the professionalism of the three 1854 - 1856 GLO U.S. Deputy Surveyors (U.S.D.S.) Butler Ives, George Hyde, and Wells Lake (Section III.A.1; III.B) for JO CO had been corroborated by over a half dozen local surveyors. The GLO surveyors were the elite scientists of the pioneer days, and generally the leaders. This professionalism was finally documented in 2011 with several educational brochures.<sup>6-8</sup> From interviews by members of the HNAT and HETC, local surveyors confirmed that the GLO U.S.D.S.s of the 1850s for the Hugo region were competent, especially Ives, Hyde, and Lake. Their competence and accuracy of their work was excellent with no major errors reported.

- Glenn Campbell, 40-years Surveyor, JO CO Public Works.
- Max Hull, Private Surveyor, JO CO.
- Terry Nickerson BLM Surveyor (Section III.A.1)
- Tom Newcomb, Surveyor, JO CO Surveyor's Office
- Kelly Rarey, 20-plus years earning a living in the surveying business.
- Roger Roberts, Jackson County Surveyor: 1995 - 2008
- Chris Wytcherley, JO CO Surveyor's Office.

Based on the evidence the analysis and interpretation in this paper the HNAT assumed the 1855 GLO survey notes and the 1856 GLO Plat were accurate for the oxbow of the *Trail* and the oxbow of the Indian trail, . . . but how to make complete sense of them.

In summary, the Takelma lived in the Rogue Valley and were here first. Once the Euro-American settlers discovered gold in 1852, the white settlement of the region increased rapidly. The Takelma who survived were sent to reservations in 1856. This is the simple answer to the question of an Indian trail over the GCHills which local historians had pondered, especially the following "*Why is there not an Indian Trail over the Grave Creek Hills depicted on the 1856 GLO Plat for T.34S., R.6W.?*" The answer was because the Takelma and the Indian trail were here first. Later white man arrived, first with his pack trains and later yet with wagon trains, all over the original route of the Indian trail. The 1855 GLO survey notes and the 1856 GLO Plat were accurate for the oxbow of the *Trail* and the oxbow of the Indian trail along section lines.

Footnote I-6. Hugo Emigrant Trails Committee, Hugo Neighborhood Association & Historical Society and Josephine County Historical Society. October 18, 2011. *Oregon General Land Office Surveyors: 1850s*. Brochure 4E of Applegate Trail GLO Surveys Brochure Series. Hugo, OR).

Footnote I-7. Hugo Neighborhood Association & Historical Society and Josephine County Historical Society. October 2, 2011. *GLO Contract 54 Surveyors: 1855 (Part 1 of II)*. Brochure NA-37A Of Hugo's Native American Brochure Series. Hugo, OR. [http://www.hugoneighborhood.org/BROCHURE\\_NA37A%20GLO%20Surveyors\\_100211.pdf](http://www.hugoneighborhood.org/BROCHURE_NA37A%20GLO%20Surveyors_100211.pdf)

Footnote I-8. Hugo Neighborhood Association & Historical Society and Josephine County Historical Society. October 2, 2011. *GLO Contract 54 Surveyors: 1855 (Part 2 of II)*. Brochure NA-37A Of Hugo's Native American Brochure Series. Hugo, OR. [http://www.hugoneighborhood.org/BROCHURE\\_NA37B%20GLO%20Surveyors\\_100211.pdf](http://www.hugoneighborhood.org/BROCHURE_NA37B%20GLO%20Surveyors_100211.pdf)

## C. Its History When Written

Often quoted is that "History is written by the winners." This means that the way we remember things is based more on the accounts of those who triumphed than those who lost: 1. the losers had no voice, 2. winners were able to establish the "official history," and 3. historical accounts were written by those who won, and therefore carry the biases and rationalizations of the winners. However, in no case do you get one answer which is universally accepted because it is true: in each case you get a number of incompatible answers, one of which is finally adopted as the result of a compromise.

What is History? Why do we study History? History has many interrelated meanings, a few follow ([Appendix C](#)).

1. History is the *past* whether or not anyone recalls or writes about it.
2. History is the *active process* of studying and writing about the past.
3. History is *what* humans write (e.g., essay, article, book, educational brochure, etc.).

Facts & Interpretation. Written histories are based on an analysis of evidence, secondary as well as primary. The evidence most commonly used by historians is written records, but also valuable are other sources, such as visual or archeological evidence. The historians present their evidence (the facts) influenced by their assumptions and judgments. The collection of facts, assumptions, and their interpretation are thus woven together in the study of history.

Why write history? There are lots of answers with no one response satisfying everyone. The following is instructive as it pertains to the HNAT and HETC ([Appendix C](#)).

*Writing about history helps you learn about yourself and helps in the creation of a personal and/or cultural identity. Each of us is a social creature, and that means we are at least partially the product of every experience we have had and of all that we have inherited from our families, our communities, our nation, and our spiritual, intellectual, and cultural heritage. Study of history allows you to situate yourself in time and place, and it helps you understand who you are and how you came to be.*

Why history? . . . Mike Walker usually makes a joke about why he spends an inordinate amount of time and energy on local Hugo, Oregon history. "Bad genes." What else would explain his unconditional love for his place. . . Hugo.

Mike's good friend, Wayne McKy, will say something like, "I'm pretty sure that's the way it was. It's the way I remember it, but I'm not sure." Mike will respond "That's O.K., its history when written." They both laugh as they write a new local history paper. Professionally they know that the saving aspect of this approach is that written history can later be tested with the scientific method, and corroborated and/or revised as needed.

In summary, human events through time are not available for later distant humans unless written. All writers have some facts, and make assumptions and interpretations within the bias of their own experiences. History can be even more colored when the losers of conflicts have no voice. Once oral histories and cultures are written down they can be corroborated or revised with future research and information.

## D. Summary

The key to locating Indian trails and emigrant wagon roads in wet western Oregon are professional land surveys through the use of the methods and procedures identified in the OCTA MET Manual.

- The first tier of focus for locating Indian trail and *Trail* sites in western Oregon is through the use of the 1850s GLO survey notes and plats, 1850s DLC survey notes and plats, and modern local surveys and maps.
- The crucial importance of the government surveys is further enhanced because after 150 years the trails are usually buried beneath 6 - 12 inches of soil and debris, and there is little physical and vegetation evidence remaining. Ruts are gone and traces are few, but a verified surveyed site can make sense of the local terrain where there are several skid roads, and faint traces aligned along the recorded course of the *Trail* are clarified to their significance beyond a normally appearing natural swale.
- The reliability of any sketch or map is significantly less than if it is based on a surveyed plat or map (i.e., GLO, DLC, other government, and modern local Josephine County (JO CO) surveys).
- Sketch maps without survey notes are limited in their credibility to establish geographic features on the earth.
- Survey maps with survey notes that can't be tied to a monument are also limited in their utility.

The Takelma lived in the Rogue Valley and were here first. Once the Euro-American settlers discovered gold in 1852 the white settlement of the region increased rapidly. The Takelma who survived were sent to reservations in 1856. This is the simple answer to the question of an Indian trail over the GCHills which local historians had pondered, especially the following “*Why is there not an Indian Trail over the Grave Creek Hills depicted on the 1856 GLO Plat for T.34S., R.6W.?*” The answer was because the Takelma and the Indian Trail were here first. Later white man arrived first with his pack trains and later yet with wagon trains, all over the original route of the Indian trail. The 1855 GLO survey notes and the 1856 GLO Plat were accurate for the oxbow of the *Trail* and the oxbow of the Indian trail along section lines.

Human events through time are not available for later distant humans unless written. All writers have some facts, and make assumptions and interpretations within the bias of their own experiences. History can be even more colored when the losers of conflicts have no voice. Once oral histories and cultures are written down they can be corroborated or revised with future research and information.

## II. OXBOW OF APPLGATE TRAIL CONCEPT

### A. Applegate Trail In Hugo Region: 1846 - 1883

The Oregon Historic Trails Advisory Council (OHTAC) is the successor to the Oregon Trail Coordinating Council (OTCC). The OHTAC serves as an advisory body for activities and policies involving Oregon's historic trails. It is Oregon's official liaison to other states, federal agencies, and historic trail associations

Of particular interest to the HNAT and the HETC is part of the introduction to the 1998 *Oregon Historic Trails Report* by OTCC entitled "Oregon's National Historic Trails" and the dates identified with each of the trails.<sup>1</sup>

"Oregon's National Historic Trails"

"Lewis and Clark National Historic Trail, 1804 - 1806  
Oregon National Historic Trail, 1843 - 1848  
Applegate (California) National Historic Trail, 1846 - 1883  
Nez Perce (Nee-Me-Poo) National Historic Trail, 1877"

*"Oregon's four National Historic Trails represent the century-long transformation of the American West. From Lewis and Clark's Corps of Discovery (1804 - 1806), to the emigrant crossings of the Oregon Trail (1843 - 1883 [1848]) and Applegate (or California) Trail (1843 - 1883), to the flight of the Nez Perce toward what they hoped would be a safe haven in Canada (1877) along today's Nez Perce (Nee-Me-Poo) Trail, expeditions and migrations west across the Mississippi introduced Native American and emigrants to a new and unfamiliar cultures and resources. Oregon's National Historic Trails each describe a different aspect of the efforts to move unto the "frontier": collectively, they describe a changing sense of nationalism – in one sense heroic, and in another tragic."*

The century-long transformation of the American West by Euro-American emigrants in their migrations west across the Mississippi introduced them to Native Americans and the Natives to the emigrants – new and unfamiliar cultures and technology to each other.

Research by HETC led it to a conclusion that the dominate period for the *Trail* is its primary emigrant use from 1846 - 1883 even though small parties and individual families continued their overland migrations by covered wagon into the twentieth century until the motor vehicle came of age. The cutoff year of primary use was when the Oregon & California Railroad was completed to Grants Pass, Oregon from Roseburg, with the first official train December 2, 1883. After that year most emigrants traveled by train versus wagons.

Footnote II-1. Oregon Trail Coordinating Council. May 1998. *Oregon Historic Trails Report*. Compiled by Karen Bassett, Jim Renner, and Joyce White. page 11. Salem, OR.

Examples of *Trail* use from 1846 - 1883 include emigrants, the military, and other travel in both directions to and from the Willamette Valley. On August 9, 1846, a large group of wagons set out west from Fort Hall to follow the new *Trail* for the first time to the Willamette Valley. By mid-October, the emigrants were traveling toward the GCHills Pass (unnamed Mt. Sexton Pass).<sup>7</sup>



- 1846 - 1847 *Applegate Trail Wagon Companies* (ca., 450 - 500 persons).<sup>7</sup>
- 1848 Burnett wagon train of 150 men with 46 wagons left Oregon for the gold fields of California.
- 1853 approximately 700 men, women and children took this route.
- There were three main federal appropriation and construction periods for the U.S. Military Wagon Road, including emigrant use, from Myrtle Creek to Camp Stuart (*Trail*): 1. 1853 - 1854, 2. 1857 - 1858, and 3. 1879 - 1880.
- 1861 Lindsay Applegate with 42 volunteers.
- 1869 The *Trail* in 1869 through Hugo was known as the Southern Oregon Wagon Road.
- 1873 During the Modoc War of 1872 - 1873 portions of the *Trail* saw considerable U.S. Army troop movement.
- 1883 Most emigrants travelled by wagon until the railroad which was completed to Grants Pass, Oregon from Roseburg with the first official train December 2, 1883.

Footnote II-2. Hugo Emigrant Trails Committee, Hugo Neighborhood Association & Historical Society, and Josephine County Historical Society. August 11, 2012. *Applegate Trail/Road Emigrant Year Definition: 1846 - 1883*. Brochure 4H of Applegate Trail GLO Surveys Brochure Series. Hugo, OR.\  
[http://www.hugoneighborhood.org/BROCHURE\\_4H\\_Trail\\_Emigrant\\_Date\\_Definition\\_081112.pdf](http://www.hugoneighborhood.org/BROCHURE_4H_Trail_Emigrant_Date_Definition_081112.pdf)

In summary, the primary and dominate use of the Applegate Trail was from 1846 through 1883, from the year of the first wagon train to the coming of the railroad.

## **B. Oxbow Of Applegate Trail Means Multiple Trails**

The 1855 Oxbow of the *Trail* is depicted on the 1856 GLO Plat, sections 22 and 27, T. 34S., R. 6W., WM in the Maple Creek and Bummer Creek drainages ([Map 9](#); [Map 10](#)). Even though this map depicts one oxbow, the concept of an oxbow trail is not one route or one location of the *Trail*, but multiple successive routes. It is the concept of the location of the trail evolving over time, just like the U-shaped bend in the course of a river being cutoff over time and forming an oxbow lake. An oxbow lake is formed when a river creates a meander, due to the river's eroding the bank through hydraulic action, abrasion and erosion. After a long period of time, the meander becomes very curved, and eventually the neck of the meander will become narrower and the river will cut through the neck at a time of flood, cutting off the meander and forming an oxbow lake. This landform is so named for its distinctive curved shape, resembling the bow pin of an oxbow. In this case the *Trail* evolved beyond its original purpose as an Indian trail for foot traffic without an oxbow with an NE-SW orientation, to a pack trail including part of the original NE-SW walking trail and an additional NW-SE pack trail segment, and then an emigrant wagon trail.

The location of the *Trail* had evolved into at least two main emigrant wagon trails by at least 1874: 1. Oxbow via Penny Ridge, and 2. Cutoff up Maple Creek drainage, today's Hasis Drive area ([Map A7](#)).

In summary, the concept of an oxbow of the Applegate Trail is not one route or one location of the *Trail*, but multiple successive routes.

### C. Early Land Grants Along Applegate Trail

The development of the only pioneer transportation route through JO CO in the 1840s and 1850s was extremely important due to the isolation and the geographic barriers of mountainous country. Locating a homestead with transportation access was a significant consideration. Oregon's earliest grants were 1850 - 1855 donation land claims (DLC) located along the *Trail*. The same is true of its earliest cash land purchases and homesteads patents that followed. The concentration of land grants is significantly higher along roads in mountainous and forested areas even though the agricultural base is minimal. The following are examples of early north to south federal land transfers in mountainous terrain located along or near the Oxbow of the *Trail* (Section V.C).

Map 20A. Hugo Pioneer Land Patents  
<http://www.hugoneighborhood.org/map5.htm>

Map 7. Gravel Pit Station Neighbors: 1895  
<http://www.hugoneighborhood.org/map7.htm>

- **John S. W. Smith Place ("1896" 160-acre homestead; land control 1877)** In 1877 John and Susan Smith took up a 160-acre homestead in a meadow on the north side of Grave Creek Hills Pass (i.e., later Smith Hill Summit and Mt. Sexton Pass). Over 20 years later, on September 16, 1896, John S. W. Smith was issued homestead Patent No. 3749. This property was not part of the Oxbow, but it was close by in mountainous and forested lands along the only road.<sup>3</sup> In 1895 there were no adjacent parcels around this parcel except for a railroad (RR) grant.

Footnote II-3. Hugo Neighborhood Association & Historical Society and Josephine County Historical Society. Jan. 13, 2008, Updated Aug. 3, 2011. Very Draft *John Smith Family: Hugo Pioneers*. Brochure 73 in Hugo's Pioneers Brochure Series. Hugo, OR.

- **McCormick Place ("1893" 80-acre homestead; land control ca., 1880s)** On September 15, 1893 George T. McCormick was issued homestead patent Patent No. 3164 sometime after homesteading this property, perhaps for a decade or more. This mountainous and forested 80-acre homestead was located along the *Trail* in a E-W orientation corresponding to the North Oxbow. The patent did not have a general north-south orientation upstream and downstream Maple Creek that would be expected if the trail was located in Maple Creek. The east 40-acres had pasture but the west 40-acres was forested.<sup>4</sup> In 1895 there were no adjacent parcels around this parcel except David Sexton's 80 acres.

Footnote II-4. Hugo Neighborhood Association & Historical Society and Josephine County Historical Society. January 9, 2008, Updated July 4, 2011. Draft *George McCormick Family: Hugo Pioneers*. Brochure 41A in Hugo's Pioneers Brochure Series. Hugo, OR. [http://www.hugoneighborhood.org/BROCHURE\\_41A%20McCormick%20George%20060908.pdf](http://www.hugoneighborhood.org/BROCHURE_41A%20McCormick%20George%20060908.pdf)

- **Caroline Sexton Property ("1870" 40 acre cash entry)** On October 10, 1870 Caroline Sexton purchased 40 mountainous and forested acres outright under Cash Entry Patent No. 2633 that would later become the Echo Cove Orchard. This is one of the earliest cash entry sales in Hugo. The HNAT believes there were reasons for Caroline selecting this 40-acres: 1. It had access to the only through road in the area, the West Oxbow of the *Trail*, and 2. The southern half was sub-irrigated and relatively clear of trees and brush, a ready to use irrigated pasture for eight months of the year.<sup>5</sup> In 1895 there were no adjacent parcels to the north or east of this parcel. There was a RR patent to the south and her son had purchased the 160 acres to the west in 1893.

Footnote II-5. Hugo Neighborhood Association & Historical Society and Josephine County Historical Society. June 4, 2009. *Caroline Sexton & Echo Cove Orchard*. Brochure 69B in Hugo's Pioneers Brochure Series. Hugo, OR.  
[http://www.hugoneighborhood.org/BROCHURE\\_69B%20Sexton%20Caroline%20Echo%20Cove%20Orchard%20060309.pdf](http://www.hugoneighborhood.org/BROCHURE_69B%20Sexton%20Caroline%20Echo%20Cove%20Orchard%20060309.pdf)

• **O & C Railroad Property (“1896” 160-acre grant; land control ca., 1860s)** In 1866 Congress enacted legislation authorizing a grant of about 4 million acres of forestland in western Oregon to help finance construction of a railroad. On March 17, 1896 the O & C Railroad Company was issued a railroad grant Patent No. 38 for 109,827.83 acres even though identification and control of the 4 million acres was decades earlier, probably in the late 1860s. The 160-acres of mountainous and forested land was part of that railroad patent between the 40-acre Caroline Sexton and 40-acre David Sexton properties along the *Trail*. It was part of the West and South part of the Oxbow.<sup>6</sup> In 1895 the RR land was adjacent to the other “Trail” properties to the north and east, and other lowland properties to the west and south.

Footnote II-6. Hugo Neighborhood Association & Historical Society and Josephine County Historical Society. May 12, 2008. *O & C Railroad*. Brochure 51 in Hugo's Pioneers Brochure Series. Hugo, OR.  
[http://www.hugoneighborhood.org/BROCHURE\\_51%20O%20%20C%20Railroad%20Part%20I%20051208.pdf](http://www.hugoneighborhood.org/BROCHURE_51%20O%20%20C%20Railroad%20Part%20I%20051208.pdf)

• **David Sexton Property (“1865” 80-acre cash entry)** In August 15 1865 David Sexton purchased 80-acres under Cash Entry Patent No. 368. This is the earliest cash entry sale by David in JO CO for the parcel that would later be owned by Hugo Garbers (Hugo, Oregon namesake), and become the Maplebrook Orchard. Traffic along the South Oxbow of the *Trail* passed through this mountainous and forested 80-acre homestead.<sup>7</sup> This property can be considered an extension of the Niday DLC adjacent to the south of it because David had married widow Caroline Niday.

Footnote II-7. Hugo Neighborhood Association & Historical Society and Josephine County Historical Society. June 3, 2009. *David Sexton & Maplebrook Orchard*. Brochure 71B in Hugo's Pioneers Brochure Series. Hugo, OR.  
[http://www.hugoneighborhood.org/BROCHURE\\_71B%20Sexton%20David%20Maplebrook%20Orchard%20060309.pdf](http://www.hugoneighborhood.org/BROCHURE_71B%20Sexton%20David%20Maplebrook%20Orchard%20060309.pdf)

• **Hiram & Caroline Niday DLC (“1876” 322-acre DLC)** In 1852 Hiram Francis and Caroline Stumbo Niday Sr. crossed the plains via the Oregon Trail to the Willamette Valley. Frank applied for a DLC ca., 1853 – claim notification #692. On July 19, 1876 Caroline Niday and the heirs of Niday were issued a DLC Patent No.1479 for 321.88. This property was not part of the Oxbow, but it was close by in mountainous and forested lands along the only road in northern JO CO.<sup>8</sup> In 1895 there were no adjacent parcels to its northern acreage except David Sexton's 80 acres.

Footnote II-8. Hugo Neighborhood Association & Historical Society and Josephine County Historical Society. July 12, 2008. *Hiram Niday (Senior) Family: Hugo Pioneers*. Brochure 50 in Hugo's Pioneers Brochure Series. Hugo, OR.  
[http://www.hugoneighborhood.org/BROCHURE\\_71B%20Sexton%20David%20Maplebrook%20Orchard%20060309.pdf](http://www.hugoneighborhood.org/BROCHURE_71B%20Sexton%20David%20Maplebrook%20Orchard%20060309.pdf)

## D. Working Trail Evolution Hypotheses

The working hypothesis is that the 1855 GLO township surveys for T.34S., R.6W., W.M., and the 1856 GLO Plat (along section lines) are correct for Indian trails and Applegate Trail survey points, especially including Indian trail sites IT-4, IT-3/JA-13, and IT-2/JA-14.

1. An Indian Trail Over Grave Creek Hills Existed.
2. An Oxbow of the Indian Trail over Grave Creek Hills Existed.
3. Oxbow Developed By Hudson Bay Trappers' Pack Trains.
4. Oxbow Pack Trail Used And Widened By Emigrants In Wagons.

The working hypothesis was greatly influenced by the basic belief in the accuracy of the GLO surveys and plats and their depictions of Indian trails and emigrant wagon roads (Section I.B.), and the previous analysis of the HETC (Section I.B; III.A.1).

The analysis for the working hypothesis of this paper addresses three Lowland Takelma Indian trails (i.e., Grave Creek Indian Trail, Grave Creek Hills Indian Trail, and Bummer Creek Indian Trail) and one of the two Applegate Trails in the township (i.e., Road from Willamette Valley to Jacksonville - Jacksonville Road; [Map 9](#) and [Map 10](#)).

In summary, the working hypothesis is that the 1855 GLO township surveys for T.34S., R.6W., W.M., and the 1856 GLO Plat information along section lines are correct for Indian trails and the Applegate Trail. This position to be tested was the direct result of an evaluation of the credibility of the GLO surveyors (Section III.A.1).

#### **D. Summary**

The primary and dominate use of the Applegate Trail was from 1846 through 1883, from the year of the first wagon train to the coming of the railroad.

The concept of an oxbow of the Applegate Trail is not one route or one location of the *Trail*, but multiple successive routes.

The working hypothesis is that the 1855 GLO township surveys for T.34S., R.6W., W.M., and the 1856 GLO Plat information along section lines are correct for Indian trails and the Applegate Trail.

### III. 1856 GENERAL LAND OFFICE T.34S., R.6W., W.M. PLAT

Members of the HNAT and the HETC have spent countless hours researching GLO, DLC, local surveys, plats, and maps for possible Indian trails and the Applegate Trail applicable to their area of interest.

Points of Interest for Applegate Trail Brochure Series, Including Surveyed General Land Office Points of Interest  
<http://www.hugoneighborhood.org/inventorybrochures.htm>

General Land Office Survey Notes  
[http://www.hugoneighborhood.org/general\\_land\\_office\\_survey\\_notes.htm](http://www.hugoneighborhood.org/general_land_office_survey_notes.htm)

General Land Office Maps  
[http://www.hugoneighborhood.org/general\\_land\\_office\\_maps.htm](http://www.hugoneighborhood.org/general_land_office_maps.htm)

Other Surveys & Maps, Including Donation Land Claims  
[http://www.hugoneighborhood.org/other\\_surveys\\_and\\_maps.htm](http://www.hugoneighborhood.org/other_surveys_and_maps.htm)

How and why was the 1856 GLO T.34S., R.6W., W.M. township plat developed? The U.S. Oregon Donation Land Act that became law on September 27, 1850 required this surveyed township plat. The act was intended to promote homestead settlements in the Oregon Territory. It was a forerunner of the Homestead Act and brought thousands of white settlers into the new territory, swelling the ranks of settlers traveling along the historic emigrant trails. It was one of the first laws that allowed married women in the U.S. to hold property under their own name. Many thousands of DLCs were issued under the law which expired December 1, 1855. Seven years later Congress passed the 1862 Homestead Act.

The 1856 GLO plat was developed because the DLC law had three key provisions: 1. the selection of an Oregon Surveyor General, 2. the initiation of the public land survey system (PLSS) west of the Cascade Mountains, and 3. the award of DLCs to settlers who met specific requirements. The Land Ordinance of 1785 was the beginning of the PLSS which was used to survey and identify land parcels through the use of the township system and its 36 one square mile sections. The survey had to occur before designation of eventual ownership, particularly for rural, wild or undeveloped land. The PLSS's survey methods changed over time, as described in a series of manuals issued by the GLO beginning in 1851. The latest edition is the 2009 *Manual of Surveying Instructions*.

In early 1850 the first Oregon Surveyor General, John B. Preston, was given several leather-bound copies of his new *Manual of Surveying Instructions* by Clerk John Moore, GLO headquarters, Washington D.C., (p. 15<sup>14</sup>). The following information is found on the 1856 T.34S., R.6W., W.M. GLO Plat (Hugo) ([Map 9](#); [Map 10](#)).<sup>13</sup>

<u>Surveys</u>	<u>Survey #</u>	<u>Awarded</u>	<u>Surveyors</u>	<u>When Surveyed</u>	<u>Plat In Conformance</u>
Township Lines	No. 54	02/19/1855	Lake & Hyde	03/31/1856	March 31, 1856-4
Subdivisions	No. 54	02/19/1855	Lake & Hyde	03/31/1856	August 1855

Ten 1855 GLO contracts were awarded in the Oregon Territory, all between January and July, including GLO contract No. 54 to GLO surveyors Wells Lake and George Hyde on February 19, 1855 (*Chaining Oregon*, p. 196).<sup>14</sup>

## A. Reliability Of GLO Notes & Plats

**1. GLO Surveyors** Three years had passed since the first few settlers had arrived in the Rogue Valley late in 1851, and after the heavy emigrations in 1852 and 1853, farmers had most of the region's arable lands under DLCs. With the public GLO and DLC surveys long overdue and unable to gain title to their lands, the valley's settlers wrote to the Oregon GLO (p. 157).<sup>14</sup>

The GLO surveyors were the elite scientists of the pioneer days, and many times the leaders. Because land claims acquired in Oregon after 1850 had to conform to the rectangular survey system, their boundaries determined the future location of roads, houses, barns, and, in some cases, towns. Beyond the section lines that outlined the farmer's fragments of earth, emerged the surveyors' landscape and their recording of that vision in field notes and detailed sketch maps. The GLO surveyors expected government employees and map makers to use their notes and sketches; they knew too, that later surveyors would check their calculations in the search for old corners (page 211).<sup>14</sup> Terry Nickerson, a long-time, experienced BLM surveyor for the Medford District Office, did just that as a government surveyor. He observed "Keep in mind that doctors bury their mistakes, but surveyors monument them."

The professionalism of the GLO surveyors Hyde and Lake has been documented (Section I.B.). Even so it is worth providing part of a written speech by Surveyor Nickerson, to the Rogue River Chapter (Josephine and Jackson counties) of the Professional Land Surveyors of Oregon (PLSO) ([Appendix E](#)).<sup>1</sup>

Nickerson was specific on sharing his personal experience of the on-the-ground performance for earlier government surveyors' work. He rated the work of GLO surveyors Ives, Hyde, and Lake as excellent to very excellent. He was not as satisfied with the work of some others. His opinion of work performance for the 13 GLO United States Deputy Surveyors (U.S.D.S.s) he had knowledge was a range from: *very excellent, excellent, very accurate, fairly good, and fair to a little sloppy, poor, very poor, very disappointing, terrible, and barely adequate*. In summary, he thought the earlier U.S.D.S.s generally had done a better job, and that of these earliest surveyors that Ives and Hyde were number 1, Hyde and Lake were number 2, and Truax was number 3 in being the best early government surveyors of the 13 he had knowledge ([Appendix E](#)). Part of his speech's introduction to the Rogue River Chapter PLSO was pertinent background to his work performance conclusions for the early surveyors.

*"I would like to talk a little about my personal experience of the on the ground performance of earlier surveyor's who did surveys for the government. I think it is important to know a little about this because surveyors in retracing old lines are obligated to follow in the footsteps of the original surveyor; therefore it is essential that they know about what to expect from a certain surveyor. The property surveyor cannot ignore the past. His problems go back as far as land ownership itself. These are my opinions, based on working on numerous cadastral surveys through the BLM."*

Footnote III-1. Nickerson, Terry. January 1996. *Presentation Given by Terry Nickerson, BLM Medford District Officer Surveyor, To The Local Professional Land Surveyors of Oregon, Rogue River Chapter*. Medford, OR.

**a) Butler Ives and George Hyde - U.S. Deputy Surveyors** *Under Contract No. 39, dated January 1, 1854 they brought the Willamette Baseline down from the Umpqua River into the Rogue Valley. They had to offset several times from the true baseline. Most of the corners they established when offsetting E or W were originally set as section corners on a township line, but due to how the townships were surveyed into these offset corners, these corners now only function as angle points along the boundaries. The quality of their survey work varies from excellent to extremely excellent. The monuments they set were usually wood posts, with well marked bearing trees. Their corner descriptions are very accurate and their corner positions are most often recovered, unless obliterated by fire or man. If you are retracting work by them you are in luck because they did excellent survey work and excellent documentation of the work performed (Appendix E).*

**b) George Hyde and Wells Lake - U.S. Deputy Surveyors** *Apparently Hyde was in business with both Butler Ives and Wells Lake. The quality of their work compares favorably with Ives and Hyde. In fact, I get mixed up once in a while between the two different names. Their work was in generally tougher terrain. Apparently Ives had done some recon of his own and sort of creamed the good stuff. Again the monuments were usually wood posts with well marked trees. The corner descriptions are usually very good and the field notes are quite accurate (Appendix E).*

A conclusion of an independent 2008 study was to conduct and document an analysis of the 1855 GLO survey by GLO surveyors Lake and Hyde for GLO surveyed point JA-13/Penny Ridge. The current survey procedure for subdividing a township into section divisions was compared with the field notes of surveying the common line between sections 22 and 27, T. 34 S., R. 6 W., W.M.<sup>2</sup>

Footnote III-2. Thompson, Larry; Walker, Mike. 2008. Analysis of 1855 General Surveyor Office Of Oregon's Field Notes, by Surveyor Hyde, For Surveyed Point JA-13/Penny Ridge. Hugo, OR.

This analysis does not reflect the accuracy of GLO surveyors Lake and Hyde's measurements, only the methodology of the procedure for making the measurements. Their measurement methodology and survey measurements west on a true line between sections 22 and 27 are correct in their method of measurements, or order of running lines and setting corners for subdivisions of a township (i.e. the survey procedure was the same in 1855 as in 2008).

In summary, the 2010 - 2011 statements by local surveyors (Section I.B), including Nickerson, do not suggest any expected errors in survey work or documentation of work performed by Hyde and Lake for GLO contract No. 54., including T. 34 S., R. 6 W., W.M. Their experience with the GLO surveyors' work and their statements suggest superior work: *"If you are retracting work by them you are in luck because they did excellent survey work and excellent documentation of the work performed."*

**2. GLO Rough & Copies Field Notes & Draftsman Transcribed Field Notes** It is noted that sometimes the HNAT and HETC members have noticed how accurate the information is as depicted on the GLO plats beyond the surveyed section lines, so accurate it is uncanny to unbelievable from the assumption that the draftsmen did not have that information. In those instances, members of the HNAT and HETC wonder whether the surveyor(s) somehow provided the draftsmen additional information inside the sections lines that is not reflected in the available survey notes. For example, Kate Atwood, in *Chaining Oregon*<sup>14</sup>, significantly helped clarify the GLO surveying and map making processes. It started with the on-the-ground survey and rough surveyor field notes. The surveyor then copied his own rough notes, after which those copies were checked and recopied by the GLO draftsmen located first in Oregon City, Oregon and later Salem. An important light was shed on the value of the surveyor's sketch maps in interpreting the survey notes and producing the final GLO plats.

*Chaining Oregon* is an enjoyable history of western Oregon's development through the eyes of the professional surveyor as well as an understandable book about the application of the PLSS.

"In camp that evening, he [Freeman, GLO U.S.D.S.] recopied his field notes for seventy-eight meridian miles, intending to ship them to the surveyor general." p. 60<sup>14</sup>

"Depending on the width and depth of streams, the surveyors [William Ives, GLO U.S.D.S., and his men] crossed any way they could that would not jeopardize the equipment, field notes, and maps. pps. 67-68<sup>14</sup>

"Chief Clerk John Moore's manual determined Ives' [GLO U.S.D.S.] route for surveying townships according to their positions in relation to the meridian and base line. For [GLO] Contract 3, the deputy followed the procedure outlined for townships lying north of the base line and east of the principal meridian. He began the intricate pattern in the southeast corner of Township 1 North Range 1 East, chaining north to measure the "random" (temporary) lines west and the "true" lines east, thereby accommodating variations in the earth's curvature, casting "the excess over or deficiency under four hundred and eight chains on the west end of the line as required by law." p. 79<sup>14</sup>

"As he [Butler Ives, GLO U.S.D.S.] extended the framework established by his brother [William Ives, US Deputy GLO surveyor] and James Freeman [US Deputy GLO surveyor] on the Willamette Meridian, Butler Ives described the country in his field notes and sketch maps." p. 79<sup>14</sup>

"Butler Ives' [GLO U.S.D.S.] hard-won notes and sketches for Township 1 North, Range 1 East, depict a rural landscape now vanished." p. 80<sup>14</sup>

"Over the next month, Ives [Butler Ives, GLO U.S.D.S.] surveyed new lines and remeasured others to correct old mistakes." p. 81<sup>14</sup>

"In late November, Freeman [GLO U.S.D.S.] asked Webster [GLO axeman Kimball Webster] to retrieve the transit broken on the meridian line survey the year before, pointing out on the sketch map the farm where the instrument was stored. Webster found the house without difficulty, paid the farmer for his assistance, and started back." p. 84<sup>14</sup>

"In the weeks it took him [George Hyde, GLO U.S.D.S.] to subdivide Townships 6 and 7 South, Range 1 West, Hyde walked over 250 miles, recording land features, timber, and soil types, and noting bearings for Benjamin Leonard's house, Mary Willard's barn, and other land claim buildings he could see from the line." p. 86<sup>14</sup>



“ Ives [Butler Ives, GLO U.S.D.S.] went into Jacksonville on June 10 to mail the Willamette Meridian field notes to Surveyor Gardner [On June 30, 1853, President Pierce fired the first Oregon General Surveyor John Preston]. “Mr. Hyde [George Hyde, US Deputy GLO surveyor] is now going to subdividing with his party, while I intend to complete the exterior lines.” p. 175<sup>14</sup>

“In Oregon City, work piled up on the clerk’s desks as Elder and his assistants transformed the deputy surveyors’ field notes and sketch maps into an official record. After the clerks scrutinized the notes for accuracy, the draftsmen used the sketch maps to ink an original and two copies of the township plat.” p. 88<sup>14</sup> (“*The Public Land Survey in Oregon*”; White notes that after the plat and field notes were in order and approved by the Surveyor General, copies were sent to Commissioners of GLO in Washington, DC while the originals remained with the [Oregon] Surveyor General).

“Ives [Butler Ives, GLO U.S.D.S.] reached Oregon City the next day, recopied his field notes and sketch maps and turned them in to the surveyor general’s office. p. 120<sup>14</sup>

“On other days, he [George Hyde, GLO U.S.D.S.] copied his field notes for clusters of claims completed, refined his sketch maps, and turned them in before going out again.” p. 123<sup>14</sup>

“Backed up to a roaring fire that evening, Ives [Butler Ives, GLO U.S.D.S.] copied his rough field notes for the day, describing land along Cow Creek as “a narrow rich valley from 12 to 14 miles long and mostly settled” and Wolf, Coyote, and Grave creeks as “small valleys which will admit of settlement.” p. 162<sup>14</sup>

The GLO U.S.D.S.s’ specific notes and sketch maps on the locations of existing Indian trails and wagon roads before or just after the time of settlement are vital to relocating the Indian trails. The HNAT believes additional information might be available in the GLO surveyor’s mysterious and elusive copied field survey notes recorded prior to these notes translated by a draftsman into the final survey notes available today, and on the GLO surveyor’s sketch maps. These rough field survey notes, and/or the surveyors’ recopies of the rough notes, if they exist, are not officially available from the government, nor are the sketch maps.

**3. GLO Section Line Surveys** The following is a summary of OCTA’s description of how the GLO survey chain notes for Indian trails and the Applegate Trail were developed, their relative isolation in relation to any other survey information in close proximity, and the accuracy of the GLO survey notes and corresponding GLO plat. Even the most competent GLO surveyors only recorded features along section lines within a township (i.e., a section is one mile square, with 36 sections in a township; MET Manual<sup>3-4</sup>). Surveyors were required only to walk along section lines and record in their survey books what features they encountered along that section line. Thus, in most cases field surveyors did not record features within the sections when surveying along section lines. When completed, a surveyor’s field notes were sent to a draftsman who then transposed the recorded features from the survey notes to the plat, but could only estimate where the features encountered along the section lines were located between the section lines.

Therefore, unless the surveyor either followed a trail between section lines or could see it clearly (and provided that information in his survey notes), the trail route drawn between section lines may be inaccurate. This will not be a problem in areas where the trail is located through a section of flat terrain in a relatively straight line. However, the possibility of inaccuracies should be considered when judging the reliability of a trail route appearing between section lines in mountainous and forested terrain. As a general rule, accuracy of GLO plats will exist only for features surveyed along a section line (MET Manual; Appendix D).<sup>3-4</sup>

Footnote III-3. Public Outreach & Educational Brochure Committee for Hugo's Emigrant Trails, Hugo Neighborhood Association & Historical Society. July 27, 2005. *Guidelines For Locating Wagon Trails: Mountainous & Forested Terrain*. Brochure 12 in Emigrant Trails Series. Hugo, OR. [http://www.hugoneighborhood.org/BROCHURE\\_12\\_Locating\\_Wagon\\_Trails\\_072705.pdf](http://www.hugoneighborhood.org/BROCHURE_12_Locating_Wagon_Trails_072705.pdf)

Footnote III-4. Office of National Trails Preservation & Oregon-California Trails Association. July 2002, 4th edition. *Mapping Emigrants Trails MET Field Manual*. Independence, MO.

**4. Errors** The MET Manual also notes that larger scale maps, drawn in the same office, simply repeated any errors on the township maps ([Appendix D](#)).<sup>3-4</sup>

Even with the documented professionalism of the GLO surveyors, mistakes had been discovered, at least on the plats. For example, the 1856 GLO Plat for Harris Creek is not correct as depicted. The plat shows Harris Creek flowing into Louse Creek instead of Jumpoff Joe Creek. Some would say however, that this was not a GLO surveyor mistake as the GLO surveys (e.g., ridges, draws, ravines, creeks, streams, rivers, wagon roads, Indian trails, etc.) were made in the field along section lines. The surveying was the first step with the second step being the production of the GLO plats from the survey notes. The plats were later produced by a professional draftsman at GLO headquarters by connecting the GLO surveyed sites across the interior of each one square mile of section lines.

Another error on the 1856 GLO Plat is the unnamed Maple Creek being identified as a ridge in the 1855 GLO survey notes. Another error, probably not critical as it was not surveyed, is that the majority of Penny Ridge on 1856 GLO Plat is so close to Penny Creek that it was originally assumed from the plat that the wagon road was in the bottom very near the creek ([Map A2](#); [Map A6](#)). However, from field trips, this location does not fit the actual ground nor the depicted features of the 1998 USGS topographic map.

In summary, the demand by settlers for the GLO and DLC surveys resulted in some excellent surveys such as the one by surveyors Hyde and Lake's GLO contract No. 54. This GLO contract included the HNAT's Indian trails area of interest - T. 34 S., R. 6 W., W.M.

- The 1850 U.S. Oregon Donation Land Act had three key provisions: 1. the selection of an Oregon Surveyor General, 2. the initiation of the PLSS west of the Cascade Mountains, and 3. the award of DLCs to settlers who met specific requirements. The DLC law had to be satisfied before the settlers could gain title to their lands.
- The PLSS was used to survey and identify land parcels through the use of the township system. The PLSS survey had to occur before designation of eventual ownership, particularly for rural, wild or undeveloped land. It resulted in the 1855 GLO survey notes and the 1856 GLO T.34S., R.6W., W.M. township plat.
- In the early 1850s there was a focused demand by settlers for the GLO and DLC surveys in order for the settlers to gain title.
- The 1850s GLO surveyors using the PLSS expected government employees and map makers to use their notes and sketches; they knew that later surveyors would check their calculations in the search for old corners.
- According to a half dozen local surveyors in 2010 - 2011, the range of work performance of the approximate dozen 1800s GLO deputy surveyors conducting GLO and DLC

surveys ranged from very excellent, excellent, very accurate, fairly good, and fair to a little sloppy, poor, very poor, very disappointing, terrible, and barely adequate.

- The earlier 1800s U.S. deputy surveyors had generally done a better job.
- Of those earliest surveyors Ives and Hyde were number 1, Hyde and Lake were number 2, and Truax was number 3 in being the best early government surveyors.
- The professionalism of the GLO surveyors Hyde and Lake's survey work varied from excellent to extremely excellent.
- 2010 - 2011 statements by local surveyors do not suggest any errors in survey work or documentation of work performed by Hyde and Lake for GLO contract No. 54., including T. 34 S., R. 6 W., W.M. They suggest superior work: *"If you are retracting work by them you are in luck because they did excellent survey work and excellent documentation of the work performed."*
- GLO surveyors developed rough survey notes and sketches in the field which they copied prior to being sent to the Oregon General Surveyor where they were checked and recopied or translated by a draftsman into the final survey notes and GLO plats available today.
- Some of the GLO surveyor's rough field survey notes and sketches must have been available to the draftsmen to develop the final GLO plats.
- The accuracy of GLO plats will exist only for features surveyed along a section line; the possibility of inaccuracies are considerable when judging the reliability of a trail route appearing between section lines in mountainous and forested terrain.
- Even with the documented professionalism of the GLO surveyors, mistakes have been discovered, at least on the plats.

## B. GLO Surveyors Hyde & Lake Survey Notes For Indian Trails

There are 10 Indian trails (IT) sites surveyed by GLO U.S.D.S. Surveyors Hyde and Lake for Hugo's area of interest. The IT sites follow from north to south ([Map 10](#)).

IT-1	South Rat Creek (IT-1/JA-15)
IT-2	Maple Creek (IT-2/JA-14)
IT-3	Penny Ridge (IT-3/JA-13)
IT-4	Bummer Creek Prairie
IT-5	Bummer Confluences
IT-6	Camas
IT-7	Tunnel Creek
IT-8	Quartz Creek
IT-9	Acorn
IT-10	Black Oak

The GLO surveys for the 10 Indian trail sites are assumed to be correct. This is because of the previous references to the researched professionalism of the GLO surveyors, and the simple logic of Donald J. Blakeslee, Associate Professor of Anthropology, Wichita State University, quoted in the MET Manual that an indication of the accuracy of the original GLO survey is when there are no known subsequent government (i.e., BLM and/or USGS?) surveys ([Appendix D](#)).<sup>4</sup>

*“Because the General Land Office surveys were the basis for subsequent land ownership records, it was important that they be accurate. The rare errors had to be corrected by subsequent government surveys. Lack of such later surveys is an indication that the original surveys were accurate.”*

The specific GLO survey notes for three of the 10 Indian trail sites follow. The notes for IT-3, IT-4, and IT-5 can be found on the same BLM web page at [http://www.blm.gov/or/landrecords/survey/yNoteView1\\_2.php?R0044OR0584006500](http://www.blm.gov/or/landrecords/survey/yNoteView1_2.php?R0044OR0584006500).

IT-3	GLO Survey Notes for Indian Trail (IT) site IT-3/JA-13 Penny Ridge (page 610,
IT-4	GLO Survey Notes for Indian Trail (IT) site IT-4 Bummer Creek Prairie (page 609,
IT-5	GLO Survey Notes for Indian Trail (IT) site IT-5 Bummer Confluences (page 620,

The date of the three surveys (IT-3, IT-4, and IT-5) was Wednesday, May 30, 1855 (page 648 of survey).

**Indian Trail IT-5 Site Bummer Confluences** 1855 GLO Survey West on True Line Between Sections 28 & 23, T.34S., R.6W., W.M., for Indian Trail IT-5 Site and Dry Bed of Branch.

“39.80½ Chains	Set Qr Sec [1/4 <b>Corner</b> ] Pos in Branch 4 Lks. w. c S.W”
“43.70 Chains	Dry bed of branch 2 Lks wide c South”
“48.10 Chains	<b>Indian trail</b> c. South”
“49.20 Chains	Dry bed of Branch ?? c S10E”

**Indian Trail IT-4 Bummer Creek Prairie** 1855 GLO Survey North Between Sections 27 & 28, T.34S., R.6W., W.M. for Indian Trail IT-4 Site .

“47.25 Chains	<b>Indian Trail”</b>
“56.35 Chains	Branch 3 Lks wide c. SW”
“69.80 Chains	A Ridge c. SW”
“78.90 Chains	Dry Branch c. SW”

**Indian Trail IT-3/Wagon Road JA-13 Penny Ridge** 1855 GLO Survey Notes W [West] on true Line between sections 22 & 27, T.34S., R.6W., W.M. for Indian Trail IT-4.

“39.93 Chains	Set Qr Sec Post 40.40 a Ridge c S.W. (+ 5)”
“62.30 Chains	a Branch in Ravine c S20° W. 5 Lks wide”
“63.40 Chains	<b>Jacksonville Road</b> S15° W (+ 20)”
“79.86 Chains	To Sec Corner (+ 15)”

### C. 1894 GLO Plat for T.34S., R.6W., W.M.

It was anticipated that the 1894 GLO Plat for T.34S., R.6W., W.M. under a new contract No. 613 for Rat Creek (subdivisions for sections 13, 14, 23, and 24), which had not been surveyed before, would use the practice of copying the previous work in the township under the new contract (GLO contract April 29, 1893; surveyed September 8 -12, 1893 by William M. Bushey).<sup>7BA</sup>

[http://www.blm.gov/or/landrecords/survey/yPlatView1\\_2.php?path=POR&name=t340s060w\\_003.jpg](http://www.blm.gov/or/landrecords/survey/yPlatView1_2.php?path=POR&name=t340s060w_003.jpg).

Footnote III-7BA. Oregon General Land Office. June 26, 1894. GLO Plat for T. 34S., R. 6W., WM. Oregon. Surveyor William M. Bushey surveyed the subdivisions for sections 13, 14, 23, and 24 from September 8 - 12, 1893.

However, portions of the non-contracted 1894 GLO Plat were different from the 1856 GLO Plat. For example, the *Trail* in and around the West Oxbow was in different locations on the two plats. Per the MET it was anticipated that when the same office drew additional large scale maps they would simply repeat any errors and the depicted information would be the same for the non-contracted areas (i.e., under the new contract No. 613 the surveyor was not being paid to provide any information on the non-contracted areas).

The road in the SW ¼ of Section 22 appear to be the same for the 1856 and 1894 GLO plats, but the road in the NW ¼ of Section 27 has a different alignment. However, the West Oxbow in the SW ¼ of Section 22 and the NW ¼ of Section 27 for the two plats is in a significantly different location for each. **Check**

The 1894 GLO Plat<sup>5</sup> for T.34S., R.6W., W.M. is different than the 1856 GLO Plat and the 1895 Map (GLO contract April 29, 1893, surveyed September 8 -12, 1893 by William M. Bushey; [http://www.blm.gov/or/landrecords/survey/yPlatView1\\_2.php?path=POR&name=t340s060w\\_003.jpg](http://www.blm.gov/or/landrecords/survey/yPlatView1_2.php?path=POR&name=t340s060w_003.jpg)), and it is much closer to the 1895 Map<sup>6</sup> showing distance from the wagon road and the draw.

Footnote III-5. Oregon General Land Office. June 26, 1894. GLO Plat for T. 34S., R. 6W., WM. Oregon. Surveyor William M. Bushey surveyed the subdivisions for sections 13, 14, 23, and 24 from September 8 - 12, 1893.

The *1895 Official Map of Josephine County*<sup>6</sup> depicts the parallel relationship of the *Trail* and the branch more accurately than the 1856 GLO Plat (i.e., a distance between the *Trail* and branch versus the 1856 GLO Plat which depicted them so close to be on top of each other in the creek). The 1894 GLO Plat is much closer to the 1895 Map even though they are not the same.

Footnote III-6. Koch, Joseph, Draughtsman. *1895 Official Josephine County, Oregon*. Map. Scale 1 inch = 1 mile. Meston - Dygert Book M'F'G. Portland, OR.

#### **D. Date Discrepancy**

There is a discrepancy between the GLO plats and the specific survey notes and *Chaining Oregon*<sup>3</sup> in terms of when the GLO surveys were completed (i.e., GLO Contract No. 39, GLO Contract No. 47, GLO Contract No. 54) versus when the GLO plats were published in the area of interest from the Rogue River in the south to Grave Creek in the north (see previous information on GLO contracts, when surveyed, and the certification date of the plat's conformance to the survey notes).

All the GLO plats for contracts No. 39, No. 47, and No. 54 clearly indicate the surveys were completed on March 31, 1856. This is the same date that the GLO plats were published as in conformance with the GLO field survey notes. However, from *Chaining Oregon* it is very clear that Contract No. 54 survey was completed at the end of the first week in August 1855.<sup>3</sup> The HNAT and the HETC rely on the May 30, 1855 date on the survey notes for T.34S., R6W. (one township of Contract No. 54.

#### **E. Summary**

In summary, members of the HNAT and the HETC have spent countless hours researching the GLO, DLC, and local surveys for Indian trails and the Applegate Trail. They have made a significant amount of this research available to the public through web publishing. The GLO survey chain notes for IT-3, IT-4, and IT-5 were used to find those sites on the ground. The GLO surveyors only recorded features along section lines. They were required only to walk along section lines and record in their survey books what features they encountered along that section line. When the surveys were completed, a surveyor's field notes were sent to a draftsman who then transposed the recorded features from the survey notes to the plat, but could only estimate where the features encountered were located between the section lines. The possibility for inaccuracies are considerable between section lines in mountainous and forested terrain. In general, the GLO plats accuracy will exist only where the trail intersects a section line. The GLO surveys for the 10 Indian trail sites are assumed to be correct. This is because of the documented professionalism of the GLO surveyors and the simple logic that no known subsequent government surveys have been required to correct for errors.

#### IV. RELEVANT MAPS ([Appendix F](#))

##### A. Scale Utility

The Hugo Native American Team's (HNAT) purpose for this information on map scales was to define its own classification system of the typical range of map scales for the purpose of determining legibility and utility of Indian trails on maps, and accurately plotting trail routes in the field. The classification system is the opinion of the HNAT and should not be considered authoritative because there is no standard.

The large scale 7.5 Minute Topo at 1:24,000 was considered the best scale for the HNAT's purpose. The medium scale 15 Minute Topo at 1:62,500 and 1 Degree (°) Sheet 1:100,000 were good for orientation and demonstrating an Indian trail existed. A small scale map was good for supporting the existence of an Indian trail.

Scale is the relationship that the depicted feature on map has to its actual size in the real world. All maps are modeled representations of the real world and therefore the features are reduced in size when mapped. In other words, scale is the measurement of the amount of reduction a mapped feature has to its actual counterpart on the ground. The scale of a map is the ratio of a distance on the map to the corresponding distance on the ground. Map scales may be expressed in words (verbal scale), as a ratio or as a fraction (representative fraction), or with a graphic bar scale (linear scale).

In summary, the following describes typical ranges for "scales" as determined by the HNAT ([Appendix F](#)).

<b>Table 1. Map Scale Classification For Indian Trails</b>		
<b>Classification</b>	<b>Range of Scales</b>	<b>Examples</b>
Very Large Scale	1:10,000 or less	Town Plan. The very best scale for Indian Trails (IT), but not never available for the historical periods of trail use.
Large Scale	1:10,000 to 1:50,000	7.5 Minute Topo 1:24,000. Best scale for IT purpose.
Medium Scale	1:50,000 to >1:250,000	15 Minute Topo 1:62,500; 1 Degree (°) Sheet 1:100,000. Good scale for orientation of an IT.
Small Scale	1/250,000 to 1/1,000,000	2 Degree (°) Sheet 1: 250,000. Good for good for supporting the existence of an IT.
Very Small Scale	1:1,000,000 or larger	1:100,000,000 - Maps of World on 8 ½" by 11" page
Classification system of typical range of map scales is the opinion of the Hugo Native American Team for the purpose of determining legibility of trails on maps, and accurately plotting trail routes in the field, but should not be considered authoritative because there is no standard.		

## **B. Interpretation Of Map Usability For Trail Work**

**1. Surveyed Maps** The HNAT's and the HETC's first tier of focus for locating Indian trails and Applegate Trail sites is through the use of accurate historical and modern government survey notes (i.e., the 1850s GLO survey notes and plats, 1850s DLC survey notes and plats, and modern local JO CO surveys and maps). As a general rule, the closer in time the surveys are in relation to the actual use of the trail under investigation, the more reliable that evidence becomes (Appendix F).

- At a minimum the reliability of a surveyed plat or map is prima facie evidence that unless rebutted would be sufficient to prove a particular proposition or fact. In many cases, except for fraud or translation issues, it is probably the preponderance of evidence.
- The reliability of any sketch or map is significantly less than if it is based on a surveyed plat or map.
- Sketch maps without survey notes have limited credibility to establish geographic features on the earth.
- Survey maps with survey notes that can't be tied to a monument are also limited in their utility.

**2. How Scale Affects Feature Representation.** The larger the scale of the map, the better the features that can be detailed. The smaller the scale of the map, the less the actual detail of a feature is preserved.

- Very Large Scale. The very best scale for Indian Trails (IT).
- Large Scale. 7.5 Minute Topo 1:24,000. Best scale for IT purpose.
- Medium Scale. 15 Minute Topo 1:62,500. Good scale for orientation.
- Small Scale. 1: 250,000. Good for supporting the existence of an IT.
- Very Small Scale. 1:100,000,000 - Maps of World on 8 ½" by 11" page

**3. Map Reliability.** Maps based on reliable, third-party, published sources with a reputation for fact-checking and accuracy are more reliable. Source material must have been published, the definition of which for our purposes is "made available to the public in some form". Unpublished materials are not considered reliable. The best sources have a professional structure in place for checking or analyzing facts, legal issues, evidence, and arguments (e.g., GLO U.S.D.S. Surveyors, USGS topographic surveys and maps, etc.). The greater the degree of scrutiny given to these issues, the more reliable the source.



### C. Map Order Of Usability

The following maps in the HNAT's Indian trail area of interest are listed in their order of reliability and usability as screened by the three criteria of whether or not they were surveyed, their scale, and their source ([Appendix F](#)).

1:24,000	1998 Merlin Quadrangle (1" = 2,000').
1:24,000	1855 GLO Survey/1856 GLO Map (1" = 2,000'; along section lines).
1:24,000	1874 Josephine County Road Survey Road (1" = 2,000'; along section lines).
1:24,000	1893 GLO Survey/1894 GLO Map (1" = 2,000'; along section lines).
1:62,500	1954 USGS Glendale, Oregon Quadrangle (1" = 2 miles)
1:63,360	1895 Official Josephine County Map (1" = 1 mile for private property in aliquot parts)
1:125,000	1904 USGS Riddle Quadrangle.
1:125,000	1923 USGS Riddle Quadrangle (reprinted).
1:4,800	2014 County Assessor Maps. 400' = 1" normal majority of maps for a section (360 acres)
1:24,000	1911 JO CO Rd Survey (1" = 2,000'; reliability will increase after tied to a monument).
1:126,720	ca. 1917 Roads, 1916 O&C Revestment Act (2" equals 1 mile).
1:126,720	1932 Metsker Map, Josephine County, Oregon (2" equal 1 mile)
1:126,720	1955 Metsker Map, Josephine County, Oregon (2" equal 1 mile)
1:126,720	1970 Metsker Map, Josephine County, Oregon (2" equal 1 mile)
1:135,000	1853 Military Road from Myrtle Creek Umpqua Valley to Camp Stuart (ca., scale is 1:135,000 ??????)
1:506,880	1856 Oregon and Washington West of Cascade Mountains (8 miles to 1 inch).
1:760,320	1855 Pacific Railroad Survey.
1:316,800	1904 Foster and Gunnell's Mining Map of Southern Oregon (1.2" = 6 miles)
1:1,500,000	1859 State of Oregon and Washington Territory. Sec. of War.

### D. Summary

The large scale 7.5 Minute Topo at 1:24,000 was considered the best scale for the HNAT's purpose. As a general rule, the closer in time the surveys are in relation to the actual use of the trail under investigation, the more reliable that evidence becomes. At a minimum the reliability of a surveyed plat or map is prima facie evidence that unless rebutted would be sufficient to prove a particular proposition or fact. The larger the scale of the map, the better the features that can be detailed. Maps based on reliable, third-party, published sources with a reputation for fact-checking and accuracy are more reliable. Maps in the HNAT's Indian trail area of interest were listed in their order of reliability and usability as screened by the three criteria of whether or not they were surveyed, their scale, and their source.

## V. 1856 GLO PLAT INDIAN TRAIL FEATURES OVER GRAVE CREEK HILLS

### A. Trail Axis

The subject of trail axis as a two-way compass description of a trail segment is preceded by an introduction to compass direction, track, and lay of the land. The compass direction, course, or route of a trail is determined by the direction followed by the walker, pack animal, or wagon (see outline for a comprehensive examples list). Compass direction synonyms: route, way, track, direction, tack, path, line, trail, trajectory, bearing, and heading. A few examples follow.

N	North (N): $0^\circ = 360^\circ$ .
NE	Northeast (NE), $45^\circ$ , halfway between N and E, is the opposite of SW.
NW	Northwest (NW), $45^\circ$ , halfway between N and W, is the opposite of SE.
E	East (E): $90^\circ$ .

A track has at least two descriptions: 1. A path, route, or course indicated by such marks: an old wagon track through the mountains; and 2. A path along which something moves; a course. Lay of the land is the arrangement of features on an area of land. The surveyor mapped the lay of the land. Orientation has several meanings for describing a trail: 1. The act of orienting or the state of being oriented, 2. Location or position with relation to the points of the compass or other specific directions; and 3. The relative physical position or direction of something.

Trail axis as a two-way compass description includes the arrangement of a trail's principal axis or length on an area of land. Stated in a different way, a trail's axis is the general orientation along which walkers, pack trains, or wagons move in both directions. It is about the location or position of a trail segment relative to the points of the compass.

A two-way compass description of a trail is a way to describe an "average" trail track not described by the direction followed, but by its axis. Average would be like a regression line in straightening out the curves and corners of a trail.

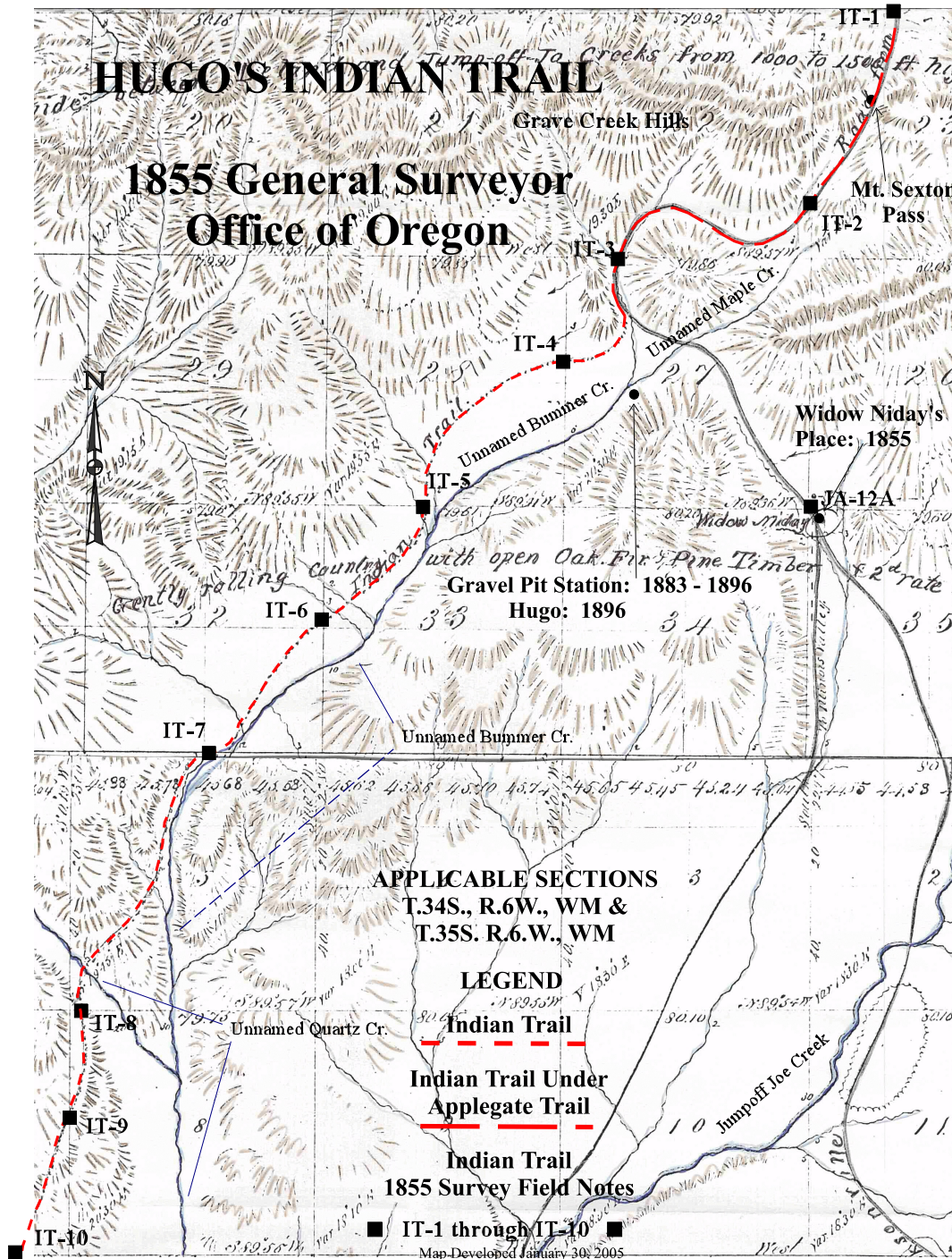
A trail in geometric terms is an oblong parallelogram. Oblong is something with an oblong shape; a rectangle having length greater than width. For example, a long narrow curved road polygon might represent a path for a wagon.

Axis - a central line that bisects a two-dimensional body or figure. The main road is on a north-south axis. A few examples follow.

N - S Trail Axis	N to S or S to N. N - S is a direction parallel with lines of longitude.
NE - SW Trail	NE to SW or SW to NE.
NW - SE Trail Axis	NW - SE or SE to NW.
E - W Trail Axis	E to W or W to E. E - W is a direction parallel with lines of latitude.

## B. 1856 GLO Plat Depictions

The question remains “Why the Oxbow of the Applegate Trail?” Therefore, what logic or interpretation satisfied the existence of the Oxbow of the trail? The following first describes what is known about the Indian Trail over GCHills (Map 9; Map 10) as depicted on the 1856 GLO T.34S., R.6W., W.M. Plat.<sup>2-3</sup>



Map 10. Hugo's Indian Trail

The 1856 GLO plat depicts two Indian trails, one along Leland or Grave Creek and another in the unnamed Bummer Creek and Maple Creek drainages ([Map 9](#); [Map 10](#)). Another Indian trail is under the wagon road over GCHills and identified as the Road from Willamette Valley to Jacksonville. The Oxbow ([Map A1](#)) is identified in the vicinity of the NE terminus of Hugo's Indian Trail (i.e., between IT-4 and IT-5) at the Jacksonville Road.

Grave Creek Indian Trail: Orientation E - W  
Grave Creek Hills Indian Trail: Orientation N - S  
Bummer Creek Indian Trail Orientation (NE - SW)

**1. Grave Creek Indian Trail** The trail along Grave Creek (Indian trail depicted, but name is "Indian Trail"). The western terminus of an Indian trail along Grave Creek is its intersection with an Indian trail along the Rogue River. The E - W Grave Creek Indian Trail is depicted upstream beyond today's Sunny Valley in sections 2, 3, 4, 9, 10, and 11 ([Map 9](#); [Map 10](#)).

**2. Grave Creek Hills Indian Trail** - The Indian trail from Grave Creek Indian Trail in N over GCHills to Maple Creek in S. The 1856 GLO Plat does not depict an Indian trail from the Grave Creek Indian Trail in the north over GCHills to the Oxbow in the south in Section 27 (i.e., between IT-3 and IT-4 - IT-4B; [Map A1](#)) along any of the section lines ([Map 9](#)). What is depicted on the plat is the *Trail* (i.e., Road from Willamette Valley to Jacksonville) over the GCHills ([Map 9](#)).

**3. Bummer Creek Indian Trail** An Indian trail is depicted on the 1856 GLO Plat from Penny Ridge SW to approximately the confluence of Bummer Creek and Quartz Creek but map name is the generic name "Indian Trail".

The axis of the Bummer Creek Indian Trail north of Quartz Creek Indian Trail is NW-SW. The western terminus of this Indian trail is its junction with the Quartz Creek Indian Trail. Its length is upstream from the unnamed Quartz Creek along the unnamed Bummer Creek, and unnamed Maple Creek ([Map 9](#); [Map 10](#)). The NE terminus of the Bummer Creek Indian Trail is its junction with the Jacksonville Road of the *Trail* in Section 27 (IT-4B: [Map A1](#)).

**4. Quartz Creek Indian Trail** Its NW terminus is approximately the confluence of Bummer Creek and Quartz Creek in N to intersection of Quartz Creek Indian trail with Jumpoff Joe Creek Indian Trail in S (Indian trail depicted, but only name on map is "Indian Trail").

In summary, the 1855 GLO survey notes and 1856 GLO Plat reflect and depict two Indian trails on both sides of the GCHills: E - W Grave Creek Indian Trail and NE - SW Bummer Creek Indian Trail. The GLO survey notes do not identify and the plat does not depict a N-S Indian Trail over GCHills. What is depicted on the plat is the Jacksonville Road of the *Trail* over the GCHills.

### C. 1856 Plat Depictions For Oxbow Of Applegate Trail

The oxbow portion of the Jacksonville Road of the *Trail* is depicted in three detailed sections on the 1856 GLO Plat ([Map A1](#)). One GLO survey site at IT-3/JA-13 anchors the West Oxbow. This surveyor field note (i.e., *63.40 Chains Jacksonville Road S15°W (+ 20)*) was sent to a draftsman in an office who then transposed the recorded feature from the survey notes to the plat, but could only estimate where the Jacksonville Road was located between the section lines (i.e., between GLO surveyed sites JA-12B and IT-3/JA-13 and between GLO surveyed sites IT-3/JA-13 and IT-2/JA-14) ([Map A7](#)). Therefore, the depicted oxbow on both sides of the GLO surveyed IT-3/JA-13 anchor site between the section lines was estimated. The possibility for inaccuracies for the location of the oxbow between these section lines in mountainous and forested terrain was considerable.

**1. South Oxbow** JA-11A; JA-12A, & JA-12B to IT-4B (Niday DLC to Maple Creek) ([Map A1](#)). The NW - SE South Oxbow of the *Trail* is approximately 3/4 of a mile long from the NW corner of the Niday DLC over unnamed Garbers Ridge to Maple Creek.

**2. West Oxbow** IT-4B to JA-13 to IT-3B (Penny Ridge). The West Oxbow of the *Trail's* southern point is between surveyed sites IT-4B and IT-3/JA-13 north to site IT-3B/JA-13B ([Map A1](#)). This is the majority of Penny Ridge, especially its middle portion. Unnamed Bummer Creek is shown so close to the Indian trail/wagon road that it is assumed from the plat that the Indian trail/wagon road is in the bottom very near the creek. However, this location does not fit the ground nor the 1998 USGS topographic map. The *1895 Official Map of Josephine County*<sup>1</sup> depicts the parallel relationship of the *Trail* and the branch more accurately than the 1856 GLO Plat (i.e., a distance between the *Trail* and branch versus the 1856 GLO Plat which depicted them so close as to be on top of each other in the creek).

Footnote V-1. Koch, Joseph, Draughtsman. *1895 Official Josephine County, Oregon*. Map. Scale 1 inch = 1 mile. Meston - Dygert Book M'F'G. Portland, OR.

IT-4B and IT-3B are not GLO surveyed sites. They are estimated locations on the 1856 GLO Plat for the purpose of describing the West Oxbow. IT-4B is the location depicted as the junction of the Indian trail and the Jacksonville Road of the *Trail*. IT-3B is the approximate location along the depicted Jacksonville Road along the NNE-SSW Penny Ridge at the junction of the West Oxbow and the North Oxbow.

**3. North Oxbow** IT-3B to JA-14 (Penny Ridge to Maple Creek Wetlands). The North Oxbow of the *Trail* is basically located east from Penny Ridge (IT-3B) to the Maple Creek Wetlands (Section IV.D.1.b); [Map A3](#)). The North Oxbow trail location is based upon a logging road on a ridge (Penny Ridge), road traces, saddles, and White's pasture road as well as a route that in some places would have been sidling for an emigrant wagon. Sidling is an historic emigrant term for traveling on a side hill in a wagon that might result in the wagon tipping over. Both ends of the North Oxbow are found on the ground: 1. West end is Penny Ridge, and 2. East end is White's approximate .18 mile E-W pasture road ([Map A3](#); [Map A6](#)).

## D. Summary

The oxbow portion of the Jacksonville Road of the *Trail* is depicted on the 1856 GLO Plat (Map 1A). One GLO survey site at IT-3/JA-13 anchors the West Oxbow. The location for the rest of the oxbow of the Jacksonville Road was estimated as none of it is surveyed. The possibility for inaccuracies in the location of the oxbow between section lines in mountainous and forested terrain are considerable. There are three detailed sections of the oxbow.

1. South Oxbow.
2. West Oxbow.
3. North Oxbow.

The North Oxbow of the *Trail* is basically located east from Penny Ridge (IT-3B) to the Maple Creek Wetlands. The North Oxbow trail location is based upon a logging road on a ridge (Penny Ridge), road traces, saddles, and the present landowner's (i.e., Jeff White) pasture road, as well as a route that in some places would have been sidling for an emigrant wagon. Both end segments of the North Oxbow are found on the ground: 1. west end is Penny Ridge, and 2. east end is White's pasture road.

It was assumed by the three local historians that the original Indian trail over GCHills was under the more modern Jacksonville wagon road depicted on the 1856 GLO Plat. They all believed there was an Indian trail over the GCHills. The termination of the Bummer Creek Indian Trail in Section 27 at the Jacksonville wagon road had to mean that from that point north the Grave Creek Hills Indian Trail to the Grave Creek Indian Trail was in the same location as the wagon road.

The North Oxbow of the *Trail* is basically located east from Penny Ridge (IT-3B) to the Maple Creek Wetlands. The North Oxbow trail location is based upon a logging road on a ridge (Penny Ridge), road traces, saddles, and White's pasture road as well as a route that in some places would have been sidling for an emigrant wagon.