

Appendices For *Indian Trail Over Grave Creek Hills: 1855*

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

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

Hugo Native American Team (HNAT), Hugo Neighborhood Association & Historical Society. August 12, 2012. *Indian Trail Over Grave Creek Hills: 1855*. Lead Author Mike Walker, Member HNAT; Edited by Liz & Mike Butowitsch & Janet McKy, Members Hugo Neighborhood Association & Historical Society.

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Appendix A. NW Chapter, OCTA September 11, 2010 Applegate Trail Field Trip, Josephine County, Oregon

The following information was submitted to NWOCTA on May 6, 2010.

Date: May 6, 2010
To: Susan Badger Doyle
Northwest Trails
The OCTA Northwest Chapter's Newsletter
Purpose: May 2010 Article Submission for NW OCTA Newsletter by Leta Neiderheiser, Mike Walker, and Karen Rose, Members NW Chapter OCTA, to the NW OCTA Newsletter (Walker, Mike; Neiderheiser, Leta. May 6, 2010. *Article Submission to OCTA Northwest Chapter's Newsletter*. Hugo, OR).
Authors: Mike Walker, Co-Project Leader
NW Chapter of OCTA's September 11, 2010 Field Trip to Applegate Trail
Leta Neiderheiser, Co-Project Leader
NW Chapter of OCTA's September 11, 2010 Field Trip to Applegate Trail
Speakers: September 11, 2010 Field Trip to Applegate Trail

Leta Neiderheiser and Mike Walker, Members of NW Chapter OCTA, are the leaders for a one-day NW Chapter OCTA field trip to the Applegate Trail in northern Josephine County, Oregon scheduled for September 11, 2010.

Leta is a descendant of Jesse Applegate. She is a member of the NW Chapter OCTA; NW Chapter OCTA Monitoring Coordinator, Medford to Wolf Creek Applegate Trail; Member Oregon Historic Trails Advisory Council; Member of the Josephine County Historical Society; and a Member of the Hugo Emigrant Trails Committee. She is the author of *Annie's Story, Life in Early 20th Century Western Oregon*, and has a release date in the fall of 2010 for a book on the life of *Jesse Applegate, A Dialogue with Destiny*.

Karen Rose is the Web Master for the Hugo Neighborhood Association & Historical Society (*Hugo Neighborhood*). She is a member of the NW Chapter OCTA; Member of the Josephine County Historical Society; Co-Project Leader, Hugo Emigrant Trails Committee, *Hugo Neighborhood*, and Member of the Diaries, Journals & Reminiscences Sub-Committee, Hugo Emigrant Trails Committee. Karen has conducted comprehensive research of the diaries, journals and reminiscences applicable to the *Trail* in northern Josephine County. <http://www.jeffnet.org/~hugo/diaries.htm>

Jean Boling is the Historic Sites Chair, Josephine County Historical Society (<http://www.josephinehistorical.org/>). She is a member of the Josephine County Historical Society, *Hugo Neighborhood*, and Hugo Emigrant Trails Committee. Jean has conducted comprehensive research of the cemeteries of Josephine County. <http://www.interment.net/us/or/josephine.htm>. She is the co-author of the 2007 *Assessment Of Proposed Pioneer Meadows Subdivision Containing Applegate Trail Resources*. Copyright © by *Hugo Neighborhood*; Josephine County Historical Society; Goal One Coalition; Rogue Advocates; and Oregon-California Trails Association (<http://jeffnet.org/~threepines/AP.htm>).

Mike Walker is the Education Chair for the *Hugo Neighborhood*. He is a member of the NW Chapter OCTA; NW Chapter OCTA Monitoring Coordinator, Hugo Region of Applegate Trail; Member of the Josephine County Historical Society; Co-Project Leader, Hugo Emigrant Trails Committee, *Hugo Neighborhood*; and Member Hugo General Land Office (GLO) Field Review Sub-Committee, Hugo Emigrant Trails Committee. He is the lead author of the 2007 *Assessment Of Proposed Pioneer Meadows Subdivision Containing Applegate Trail Resources*. (<http://www.jeffnet.org/~hugo/applegat.htm>), and the lead author and/or contributing author of numerous articles on the *Trail* in northern Josephine County (<http://www.jeffnet.org/~hugo/applegat.htm>).

Kelly Rarey is a member of the GLO Field Review Sub-Committee, Hugo Emigrant Trails Committee. His special expertise is approximately 20 plus years earning a living as a surveyor. This surveying experience provides a new focus for using the 1850s GLO survey notes and maps with GPS calculations (OCTA's MET Manual) in combination with using modern local surveys. This integrated method is the key to locating emigrant trails within a

couple of feet versus the 30 - 50 feet accuracy of the stand alone GLO/GPS method. He is the co-author of numerous site specific analyses of Applegate Trail locations in the Hugo region. *Applegate Trail Inventory*. <http://www.jeffnet.org/~hugo/applegat.htm>. *Hugo/NW Oregon-California Trail Association (OCTA), Applegate Trail Mapping*. <http://www.jeffnet.org/~hugo/hugo-applegatetrailmapping.htm>. What makes this method even more effective is the dialogue and quality control between the seven member GLO Field Review Sub-Committee which, including Kelly, includes three folks with surveying experience totally over 65 years.

August 2010 Speaker Update

Jean Boling and Kelly Rarey have conflicts and will not be able to attend the outing. However, we have a new speaker, Chelsea Rose. Chelsea is an Archeologist presently conducting research on the Applegate Trail within our area of interest.

Chelsea E. Rose, MA, RPA
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NW CHAPTER OCTA FIELD TRIP

MET Manual The seven member Hugo GLO Subcommittee is aggressively researching, inventorying, and marking the *Trail* in northern Josephine County. The sites scheduled for the September 11, 2010 field trip were located by the GLO Subcommittee using the inventory methodology described in OCTA's *Mapping Emigrant Trails Manual*, including the composite trail description method of integrating diaries, journals, reminiscences, aerial photographs, and government reports.

Glen Campbell	Kelly Rarey
Jim Ford	Mike Walker
Rene Ford	Chris Wytcherley
Joe Neiderheiser	

The first tier of focus for locating the *Trail* sites is through the use of accurate historical and modern government survey notes (i.e., the 1850s GLO survey notes and maps, 1850s donation land claim survey notes and maps, modern local Josephine County surveys and maps, and the GPS, including bearing and distance measurements). This method is being used because after 150 years the *Trail* in wet western Oregon is usually buried beneath 6 - 12 inches of soil and debris. In the field what is usually seen is the participant's imagination. Ruts are gone and traces are few, but a verified surveyed *Trail* 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* which clear up otherwise normally appearing swales. And, on occasion, the mystery of a cairn appears at the end of a GPS track.

These verified surveyed *Trail* sites greatly facilitate the search for the *Trail* by showing the researcher where to look for *Trail* traces. They solve the mystery of several trail traces or logging skid roads in the vicinity in determining and verifying which of the traces or evolved roads are related to emigrant wagon use.

An effective means of applying diaries, journals, reminiscences, and government reports, including GLO survey notes and maps, to locate and verify particularly vexing segments of emigrant trails is creating a composite trail description. You begin by gathering together as many accounts as possible that describe in any way the trail segment under study. Descriptions, for example, could include references to rivers and creeks, fords, mountains, bluffs, ridges, ravines, roads (i.e., Road from Willamette Valley to Jacksonville and Road to Illinois Valley via Van Noys Ferry), forks in the *Trail*, and any distances or directions recorded. Arranging all of these descriptions — really clues — in some kind of sequential order will reveal the course, direction, and location of the trail. In this way, a detailed composite description of the trail segment under study can be created. Diaries, journals, reminiscences that

describe human thoughts, actions, and fears for a particular trail segment bring the physical alive with human suffering and hope for the future.

Special Value of the 1854 - 1855 GLO Survey Notes for the Rogue Valley The accuracy of the 1854 - 1855 GLO surveys has been verified by local surveyors in Josephine County, Oregon as well as an independent researcher (Atwood, Kay. 2008. *Chaining Oregon*, Surveying the Public Lands of the Pacific Northwest: 1851 - 1855. McDonald & Woodward Publishing Company. Granville, OH).

In northern Josephine County the 1854 - 1855 GLO surveys for the Rogue Valley, except for the later Rogue River ferries, accurately reflect the emigrant wagon use from 1846 - 1855. The rationale is simple. There were not many settlers in the Rogue Valley that needed improved year around roads until the Indians were defeated and moved out the valley in 1856. In 1855 there were only five settler families in the entire Jump-off Joe Creek drainage: Haines, Harris, Niday, Wagner, and Walker brothers. Except for the Harris cabin, all these families were burned out by the Rogues in October 1855. Until late 1855 - 1856 emigrants were mainly on a one-way fall/winter route north to the Willamette Valley. These emigrants were not building, improving, or relocating the *Trail* for year around use to avoid the wet bottoms of winter. They were not dallying in the valley checking out possible settlement sites. They were moving as fast as they could north through the dry bottom lands and ridges of October and trying to avoid an encounter with hostiles.

Wet Western Oregon In some ways the historic emigrant trails in Western Oregon are the orphans of OCTA's mission. Mostly buried emigrant trails in wet Western Oregon will never provide the comprehensive visual setting for real physical scars, tracks, and ruts still sometimes visible in the relatively pristine deserts of Oregon and California east of the Cascades and the Sierra Nevada. This situation for Oregon has resulted in the huge majority of OCTA's work occurring east of the Cascades mostly on lands administered by the federal government. As a matter of priorities the developed private lowlands of Western Oregon have been by-passed for the relative *Trail* treasures of the desert. However, a good lowland campground with grass and water is still a good campground with archeological prizes.

This problem for Western Oregon has a bright side, and oddly it is the very development that has degraded the historic trails. With this development has come a high density of local modern government surveys for plats, replats, and subdivisions. In many cases these local government surveys, in relationship to the GLO surveys and maps, are the critical keys to locating verified historic trails within inches rather than the 30 - 50 feet error of the GPS and the additional potential 40 foot error of the 7.5 minute USGS topographic quads. When the researcher also uses the DLC surveys and maps to supplement the GLO surveys the focus can be verified *Trail* survey sites every $\frac{1}{4}$ - $\frac{1}{2}$ mile rather than the average GLO surveys of every mile.

Another step for real progress that could be made for *Trail* work in Western Oregon is for OCTA to revise its standards about the significance of verified emigrant trails (i.e., Class 3 Verified Trail and Class 4 Verified Altered Trail). Eventually mother nature and/or development will bury all our historic emigrant trails, even those in the high dry deserts. The archeological approach is accepted and treasured by people, especially urban dwellers, as it opens up the excitement of the scientific method and the imagination of the modern pioneer trail discoverer.

Appendix B. Hugo Native American Team

The Hugo Native American Team (HNAT) is a committee of the Hugo Neighborhood Association & Historical Society (HNA&HS or *Hugo Neighborhood*) <http://www.hugoneighborhood.org/>. It has an on-going Takelma research program (http://www.hugoneighborhood.org/Hugo_Native_American_Program.htm), and field investigations and marking program for Takelma Indian trails (internal). An alphabetical list of HNAT members follows.

Jean Boling, Member HNAT, *Hugo Neighborhood & Past Historic Sites Chair*, Josephine County Historical Society (JCHS)
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Other Reviewers? Thomas Doty. Larry McLane. JCHS Representatives.

The draft August 12, 2012 paper was electronically distributed via email to the HNAT February 2, 2014 for review, editing as applicable, and eventual approval (hard-copy to Wayne and Janet McKy for review). All review comments, recommended changes for addition or deletion, and other suggestions needed to be submitted no later than March 31, 2014. Edits were provided by Liz and Mike Butowitsch and Janet McKy, Members Hugo Neighborhood Association & Historical Society for the April 12, 2014 update to the draft August 12, 2012 paper.

The final paper along with its maps, appendices, and footnotes, as published on our web site, are available to receive any future edits that the reader may have the inclination to provide. Proofreading is continuing by the HNAT toward a final product the summer of 2014.

The members of the HNAT believe the value of the cumbersome group think team process assists in creating understanding, ownership, consensus, and community.

History Collaboration Over the years Mike Walker, Education Chair, *Hugo Neighborhood* had asked questions concerning the Takelma Indian Trail over Grave Creek Hills. He had informally interviewed both Larry McLane and Mike Oakes with a couple of simple questions about the Indian trails and Applegate Trail (*Trail*) over the Grave Creek Hills as depicted on the 1856 General Land Office (GLO) T.34S., R.6W., WM (Map 9).²⁻³

“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 Grave Creek Hills were here first even if not depicted on the 1856 GLO Map (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: a Pictorial History of Northern Josephine County*. 432 pages. Sexton Enterprises. Sunny Valley, OR). Larry was born 1932 on the McLane homestead about 15 miles downstream Grave Creek from Sunny Valley.

Michael Oakes, Historian and Author of *Artistry in Mortar And Brick*, grew up in the Jumpoff Joe Creek area. The Grants Pass Historical Buildings and Sites Commission (HBSC) recognized Michael for documenting the history of Grants Pass, Oregon from 1883 - 1912. The history took nine years to research, including scanning microfilm from local newspapers. He compiled an extensive 990 page publication, *Artistry in Mortar And Brick*, complete with photos.

Mike Walker, Historian and Author of *Handbook To The Rogue River's Hog Creek Float*, his only non-local history publication. Mike had grown up 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*. He is presently the Education Chair for the *Hugo Neighborhood* and a member of the HNAT. He is a member of the NW Chapter OCTA; Member JCHS; Co-Project Leader, Hugo Emigrant Trails Committee (HETC); and Member Hugo General Land Office (GLO) Field Review Sub-Committee, HETC. He is the lead author of the 2007 *Assessment Of Proposed Pioneer Meadows Subdivision Containing Applegate Trail Resources*. (<http://www.jeffnet.org/~hugo/applegat.htm>), and the lead author and/or contributing author of numerous articles on the *Trail* in northern Josephine County (<http://www.jeffnet.org/~hugo/applegat.htm>).

All three local historians, Larry McLane, Michael Oakes, and Mike Walker, had reason to believe in the accuracy of the GLO map and its depictions of Indian Trails and emigrant wagon roads as the professionalism of the three 1854 - 1856 GLO Deputy Surveyors (i.e., Butler Ives, George Hyde, and Wells Lake, Section III) for Josephine County 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 brochures⁴⁻⁶ Therefore, the analysis and interpretation in this paper assumed the 1855 GLO survey notes and the 1856 GLO map are accurate.

Appendix C. Its History When Written

What is History? What are the sources and procedures used by Historians? What are the major types (or varieties) of History? Why do we study History? "History is an *effort to reconstruct* the past to discover what people *thought* and *did* and how their beliefs and actions continue to *influence* human life."

Written histories produced by modern professional (and skilled amateur) historians, however different in choice of subject and approach, share at least four characteristics. They are based on a critical analysis of evidence, secondary as well as primary. The evidence most commonly used by historians are written records, but also valuable are other sources, such as, for example, visual evidence or archeological evidence. In dealing with this evidence, historians exhibit an imaginative appreciation of historical anachronism (i.e. the recognition that the past is different from the present). They attribute causation to secular rather than divine factors. And they present the evidence (the facts) according to a significant pattern and order determined by the judgment of the historian. The collection of facts and their interpretation are thus woven together in the study of history.

Why write history? While no one response will satisfy everyone, modern historians generally agree on some combination of answers drawn from the following list.

1. Writing history preserves and celebrates the memory of great men and noble deeds, as Herodotus claimed in his *History of the Persian Wars*.
2. Writing history allows the judgment and punishment (vicarious) of the guilty, as, for example, in some histories of the Third Reich.
3. Writing history uncovers general truths (or laws) about human nature and behavior; both Thucydides (*The Peloponnesian War*) and Machiavelli (*The Prince*) believed in this conception of history, as apparently does Paul Kennedy, author of a recent book on the decline of empires.
4. Writing about history reveals lessons for the future; this idea prompted the philosopher George Santayana to exclaim, "Those who cannot remember the past are condemned to repeat it."
5. 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.
6. Writing about history helps you expand your horizons, allowing you to understand the values, attitudes, and motives of other people, whether of different nationalities or racial groups or religious orientations. It opens entire worlds, both past and present.
7. Writing about history is a creative act for the historian. In the act of writing history, the historian encounters the past and, using his or her imagination as well as established techniques of investigation, tries to understand and then recreate it; writing about history (or any topic) helps you master its subject matter, clarifies your understanding of it, and helps you understand your attitude toward it.
8. Writing about history (or any topic) teaches you how to locate, evaluate, synthesize, and present in an organized format large amounts of information.
9. Writing about history allows you to seek the truth (insofar as that is humanly possible) about a historical event or personage and add thereby to the sum total of human knowledge.

Studying history . . . helps [individuals] to develop a sense of 'shared humanity'; to understand themselves and 'otherness,' by learning how they resemble and how they differ from other people, over time and space; to question stereotypes of others, and of themselves; to discern the difference between fact and conjecture; to grasp the complexity of historical cause; to distrust the simple answer and the dismissive explanation; to respect particularity and avoid false analogy; to recognize the abuse of historical 'lessons,' and to weigh the possible consequences of such abuse; to consider that ignorance of the past may make us prisoners of it; to realize that not all problems have solutions; to be prepared for the irrational, the accidental, in human affairs; and to grasp the power of ideas and character in History.

Why history? . . . The best answer is still that one word: judgment. . . . and we need it most in the profession of citizen, which, like it or not, we are all born into. . . . It takes a sense of the tragic and of the comic to make a citizen

of good judgment. It takes a bone-deep understanding of how hard it is to preserve civilization or to better human life, and of how these have nonetheless been done repeatedly in the past. . . . Tragedy, comedy, paradox, and beauty are not the ordinary stuff or even the best courses in civics or government. But History, along with biography and literature, if they are well taught cannot help but convey them.

University of North Carolina at Pembroke
Introduction to the Study of History. Why Study or Write History?
<http://www.uncp.edu/home/rwb/history.htm>
This Page is Maintained by Robert W. Brown;
Last Update: 25.VII.2007.

What is History? Why do we study History? History has many interrelated meanings, a few follow.

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* women and men write (e.g., essay, article, book, brochure, etc.) following a systematic study of the past.

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 are able to establish the "official history," and 3. historical accounts are written by those who won, and therefore carry the biases and rationalizations of the winners. 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.

A classic example of history being written by the victors—or more precisely, by the survivors—would be the scarcity of unbiased information that has come down to us about the losers. Dead losers can not give their side of the story, neither can dead winners. In some societies, however, to speak of or write critically of rulers can amount to conviction of treason and death. As such, in many ways, what is left as the "official record" of events is oft influenced by one's desire to avoid exile or execution.

"History is written by the winners" means that the way we remember things is based more on the accounts of those who triumphed than those who lost. The reasons for this are obvious:

1. In some cases, the losers had no voice (either literally or figuratively).
2. In other cases, the winners are able to establish the "official history," and later historians have difficulty battling what people already believe to be true.
3. In any case, the idea is that it is often difficult to learn from historical accounts because they are written by those who won, and therefore carry the biases and rationalizations of the winners (i.e., the winners never admit to ever having done anything wrong and that the losers had ever done anything right).

In no case do you get one answer which is universally accepted because it is true: in each case you get a number of totally incompatible answers, one of which is totally adopted as the result of a physical struggle.

The Hugo Native American Team and the Hugo Neighborhood do not think of itself as the winners in the sense of triumphing over others. They do think of themselves as winners in being part of their community. The challenge of discovering the facts and the exhilaration of interpretation toward knowing one's place is satisfying in its simplicity.

Why history? . . . Mike Walker usually make a joke about why he spends an inordinate amount of time and energy on local Hugo 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 some more local history. Professionally they know that the nice and saving aspect of this approach is that written history can later be tested with the scientific method, and corroborated and/or revised as needed.

Appendix D. Using General Land Office Notes And Maps To Relocate Trail Related Features

The earliest reliable topographic information for widespread regions of the Midwest and West was compiled by the General Land Office of the United States. This is the agency that sent out teams of surveyors to lay out township and section lines on public land prior to homesteading. Its surveyors imposed a grid system of townships (36 square mile blocks) subdivided into one mile square sections. To accomplish this, the surveyors had to transect the landscape at one mile intervals.

The surveyors kept notebooks in which they recorded features of the landscape that might be of interest to settlers. These included the width, direction of flow, quality of water and nature of the banks and bottoms of streams; the location, species composition and understory of groves of trees; the quality of the soils; items of potential economic interest such as salt springs and stone quarries; and locations of such cultural features as roads, trails, Indian villages and farm fields.

The surveyors also established the boundaries of each section and township with appropriate markers. Where wood was available, these markers were wooden stakes; elsewhere, they tended to be stone posts. When a marker location happened to fall in a forested area, or when trees stood directly on a section line, the surveyors created "witness trees" or "bearing trees" by blazing appropriate marks on their trunks. A section corner might have up to four witness trees, the notes for which included the direction and distance from the corner, the species of tree and the diameter of its trunk.

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 survey is an indication that the original surveys were accurate.

The original surveyors' notes are the primary documents and are generally very accurate *for the portions of the landscape surveyed*. That is, the notes provide accurate descriptions along transects spaced one mile apart. The principal errors are sins of omission; many surveyors, for example, failed to record all the cultural features they encountered.

While the survey notes are usually reliable, the maps generated from them require careful interpretation. Maps of each township were drawn, not in the field, but in a regional office and by someone other than the original surveyor. This person used the survey notes to draw the map, but this involved marking the known points along each section line and then connecting the dots in a reasonable manner. What this means is that the maps are precise only along section lines and that they are less reliable elsewhere. At times, the survey notes make reference to features away from the section lines, and they may locate them with greater or lesser precision. The only way to determine this is to refer to the notes rather than to the maps.

The problems of map interpretation are especially severe in the case of streams. At the crossing of a section line, the location of a stream would be recorded accurately, and its direction of flow would be indicated in a general terms such as "north" or "south-southwest." Away from the section lines, the map maker, who had probably never seen the area in question, would fill in the intervals between section lines with a wavy line. Larger scale maps, drawn in the same office, simply repeated any errors on the township maps.

To determine whether a stream has meandered since the original survey compare only the points where it crosses section lines. My own work in northeastern Kansas** indicates that only the largest rivers, such as the Missouri and Kansas, have meandered significantly since the General Land Office surveys.

For researchers trying to relocate trails and trail-related features, the survey notes are far superior to maps. Unfortunately, the depositories for the notes and maps vary from state to state. In Kansas, both are curated in the library of the State Historical Society. In Nebraska, all of the maps can be found in the State Engineer's office, but the notes are located in county clerks' offices across the state. The notes for the township and sections lines are

usually located in a volume separate from the section line notes, and notes for the survey of the widely spaced lines of initial survey called principal or guide meridians and base lines or standard parallels are also in separate volumes.

Finally, anyone using township maps to locate roads and trails should pay special attention to each township border. The outlines of the townships (called township and range lines) were surveyed first, with the section lines filled in later. More care was taken with these initial surveys, because the accuracy of the section lines depended on them. The surveyors of the township and range lines often were more careful also to note the locations of trails and roads than were the section line surveyors. Therefore, township maps often show roads (as short double lines) or trails (a solid line paralleled by a dotted line) at the borders of the township that were not recorded along the section lines. Occasionally, the reverse is true, and a road marked on the interior of a township will terminate either because the surveyor of the exterior line did not record it or because it was not in existence when the exterior line was surveyed but came into existence before the section lines were laid out.

The legend on the township maps gives the dates and names of the surveyors for each set of surveys along with the date the map was drawn. Very often, the township and range line data refer to one year, the section line data to a later one, while the map date will be later still. . . .

To sum up, the General Land Office survey notes and maps are important sources of historical and environmental information. The survey notes are the primary documents to which the maps are secondary. Like other secondary sources, the maps are interpretations of the survey notes, and they contain errors not present in the notes. This is especially the case in the way streams are drawn, with meanders or bends that were never observed in the field.

* Morris M. Thompson, *Maps for America: Cartographic Products of the U.S. Geological Survey and Others* (Reston Va: U.S. Department of the Interior, 1979), p. 11, 80-88.

** Donald J. Blakeslee and Arthur H. Rohn, *Man and Environment in Northeastern Kansas: The Hillsdall Lake Project* (Kansas City, U.S. Army Corps of Engineers, 1987), p. 53-60.

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{Reprinted from the "Letters" section of the Overland Journal [Vol. 8, No. 3, 1990] pp. 30 - 31}

Larry Jones of the Idaho State Historical Society comments on the accuracy of the GLO survey records:

Donald Blakeslee is correct in stating that survey records are a good source of trail information, but some caution is warranted. In some states there were cases of surveyor's fraud. The government sometimes let surveyor contracts without substantiating the credentials of the bidders. This would occasionally result in the surveyors drawing their boundary lines without actually performing any field work, and in such cases it becomes necessary to look at later surveys. A couple of such incidents occurred in Idaho. The cadastral branch of the Bureau of Land Management has been attempting to resurvey a number of such areas during the past few years.

In the western states having large areas under the management of the BLM, the GLO survey notes and maps are located in the State Bureau of Land Management Office.

Appendix E. GLO Surveyors Lake & Hyde

The documentation of the professionalism of the GLO United States Deputy Surveyors (U.S.D.S.) Hyde and Lake for the Hugo region has been documented (Section I.B.). Even so it is worth providing an example of a written January 1996 speech by a long-time, experienced, BLM surveyor for the Rogue River Valley, Terry Nickerson, to the Rogue River Chapter (Josephine and Jackson counties) of the Professional Land Surveyors of Oregon. Nickerson was the lead BLM Medford District Office (MDO) surveyor. He was specific on sharing his personal experience of the on the ground performance for earlier surveyor's who did surveys for the government. He rated the work of Ives, Hyde, and Lake as excellent to very excellent. He was not as happy with the work of some others. The range of work performance of the surveyors he had personally checked ranged from very excellent, excellent, very accurate, fairly good, fair to a little sloppy, very poor, very disappointing, terrible, to barely adequate. In summary, he thought the earlier U.S.D.S.s generally did 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 surveyors of the 13 he had knowledge. The following information from Nickerson is in the order provided.

INTRODUCTION 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. It 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] D.O. [Medford District Office]. . . . I have tried to be as fair as I can and as non- judgmental as possible, keeping in mind that doctors bury their mistakes, but surveyors monument them. I would like to briefly mention that the first Manual of Surveying Instructions was written for Surveys conducted in Oregon and California, it was officially issued March 3, 1851. Previous to this manual, survey instructions were issued to the various surveyors by the Survey Generals for the specific project. The first Surveyor General of Oregon, John B. Preston was issued a supply of the 1851 Manual prior to his departure from Washington D.C. to Oregon. Preston arrived in Oregon City in May of 1851, establishing the initial point for the Willamette Meridian late in May, after he had made reconnaissance of the Columbia and Willamette Rivers. So with that I would like to start discussing my opinion os some of these earlier surveyors.

Butler Ives and George Hyde - U.S. Deputy Surveyors (U.S.D.S) 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. Ives and Hyde then proceeded to do township subdivisional work, mostly in areas where settlement was occurring, and in area's deemed suitable for cultivation. The quality of their survey work varies from excellent to extremely excellent. Their bearings are usually with 10' - 15' of what their record indicates. Distances tend to be a little longer than record. I tend to think this was on purpose, to assure themselves that all the aliquote parts would be the full 40 acres. 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 retracing work by them you are in luck because they did excellent survey work and excellent documentation of the work performed. As a side note, Sewall Truax performed work as a compassman for them.

Wells Lake and George Hyde - U.S.D.S. Apparently Hyde was in business with both Butler Ives and Well 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.

Nathaniel Ford - U.S.D.S.? Earliest surveys worked on 1856. Most of his work is North and East of Medford. Most of the time his work is very poor. Unless you are retracing from remonumented corner to remonumented corner you are in for a real challenge finding his work.

Sewall Truax - U.S.D.S. Earliest surveys worked on 1856. His work seem very be very accurate. Truax did extensive work on DLCs, again work is excellent. His corner descriptions are excellent as are the rest of his field not record.

David P. Thompson - U.S.D.S. Most of Thompson's work was performed in 1857-58. The quality of Thompson's work varies from a little sloppy to fairly good. It appears to me he did run the lines on the ground and tried to do good work.

Daniel G. Major - Astronomer and Surveyor (Maybe Astrologer would have been a better title. His contract was 1867 and approved 1870. Majors did a very poor job of surveying the Southern Oregon State boundary.

William Turner and J. S. Howard - U.S.D.S. Earliest survey worked on 1872. They did township subdivision work and also completion survey work on townships that had previously been partially surveyed. The quality of their work is fair; they could be erratic.

Rufus Moore - U.S.D.S. Trying to find something nice to say about Rufus S. Moore - aka Roughhouse Moore is difficult. Rufus did about the same quality work as Nathaniel Ford, in other words, his work is very poor.

Peter Applegate - U.S.D.S. Apparently was living off the reputation of his family name. Very disappointing work. He was erratic. One nickname around our office for him is Peter Applesnake, referring to wild bearings and distances.

William Byars - U.S.D.S. 1880's. In a word - terrible. The quality of his work in southern Oregon at least is very poor. In addition his field notes are terrible to try and read. Normally old surveyors field notes are fairly legible and readable.

Edward Sharp - U.S.D.S. 1890s. Did fairly good work. His corner descriptions are accurate and his field note record is very detailed. Almost every line he surveyed has at least one line tree, and usually a great deal more than that. His monuments are well marked and as stated his field notes are excellent.

Footnote 21B. 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.

Draft Appendix F. Maps For Use In Identifying & Mapping Indian Trails

- I. Background Concepts
- II. Scale Utility
- III. Map Reliability
 - A. Surveyed
 - B. Source
 - C. Scale
- IV. Available Maps
 1. Maps by Year
 2. Maps by Scale
 3. Secondary Maps
- V. Interpretation Of Usability For Trail Work

Appendix F is a draft because not as much time was spent in its review and editing. It is also a draft because a future goal is for the HNAT and the HETC to review this appendix for applicability and comprehensiveness for trail work in northern Josephine County, Oregon. The idea, per the MET Manual, is to have a reviewed and agreed upon initial base resource list of potentially applicable maps for future trail work.

I. Background Concepts

HNAT's articles are intended as intelligent summaries and reflections of current published information, an overview and analysis of the relevant literature. Verifiability is related to another core content concept, neutral point of view, which holds that the HNAT include all significant views on a subject. Citing reliable sources for any material challenged or likely to be challenged gives readers the chance to check for themselves that the most appropriate sources have been used, and used well.

That HNAT has rules for the inclusion of material does not mean HNAT has no respect for truth and accuracy, just as a court's reliance on rules of evidence does not mean the court does not respect truth. HNAT values accuracy, but it *requires* verifiability. Unlike some encyclopedias, HNAT does not try to impose "the truth" on its readers, and does not ask that they trust something just because they read it in some HNAT publication. The HNAT's goal is to empower readers of its information. HNAT does not ask for the readers blind trust.

The background concepts information is from a variety of web sources. The goal of the HNAT was for the reader to have the opportunity to easily access and review different sources for information on maps. There is overlap between the different sources on material covered.

Spadout Inc.

<http://www.spadout.com/a/maps-the-scale-of-adventure/>

Small Scale: Small scale maps cover large areas in less detail (think world map on two pieces of 8.5- by 11-inch paper). They are frequently used for a general overview of a region. The typical scale range falls between 1:250,000 to 1:1,000,000 and beyond.

Medium Scale: Medium scale maps, of course, bridge the gap between small and large. They often lack distinguishable landmarks that might be critical for navigation, but can be very useful when planning logistics. The scale range often falls between 1:50,000 to 1:250,000.

Large Scale: Large scale maps focus on smaller areas in greater detail. A well-known application of this scale is the famed USGS Quadrangle map. Although they are very practical for direction finding, maps at this scale may not cover the extent of an entire route, thus requiring multiple maps. The common scale range falls between 1:50,000 to 1:10,000.

USGS Earth Science Information Center (ESIC)
<http://pubs.usgs.gov/unnumbered/70039582/report.pdf>

To be most useful, a map must show locations and distances accurately on a sheet of paper of convenient size. This means that everything included in the map ground area, distance, rivers, lakes, roads, and so on must be shown proportionately smaller than it really is. The proportion chosen for a particular map is its scale.

Large Is Small Simply defined, scale is the relationship between distance on the map and distance on the ground. A map scale might be given in a drawing (a graphic scale), but it usually is given as a fraction or a ratio-1/10,000 or 1:10,000.

These "representative fraction" scales mean that one unit of measurement on the map 1 inch or 1 centimeter represents 10,000 of the same units on the ground. If the scale were 1:63,360, for instance, then 1 inch on the map would represent 63,360 inches or 1 mile on the ground (63,360 inches divided by 12 inches = 5,280 feet or 1 mile).

The first number (map distance) is always 1. The second number (ground distance) is different for each scale; the larger this second number is, the smaller the scale of the map.

"The larger the number, the smaller the scale" sounds confusing, but it is easy to understand. A map of an area 100 miles long by 100 miles wide drawn at a scale of 1:63,360 would be more than 8 feet square! To make this map a more convenient size, either the scale used or the amount of area included must be reduced. If the scale is reduced to 1:316,800, then 1 inch on the map represents 5 miles on the ground, and an area 100 miles square can be mapped on a sheet less than 2 feet square (100 miles at 5 miles/inch equals 20 inches, or 1.66 feet). On the other hand, if the original 1:63,360 scale is used but the mapped area is reduced to 20 miles square, the resulting map will also be less than 2 feet square.

Such maps would be much handier. **But would they be more useful? In the small-scale map (1:316,800)**, there is less room; therefore, everything must be drawn smaller, and some landmarks must be left out altogether. On the other hand, the **larger scale map (1:63,360)** permits more detail, but it also covers much less ground. Many areas have been mapped at different scales. **When choosing a map that is, when choosing a scale the most important consideration is its intended use. A town engineer, for instance, may need a very detailed map in order to precisely locate house lots, power and water lines, and streets and alleys** in a community. A commonly used scale for this purpose is 1:600 (1 inch on the map represents 50 feet on the ground). This scale is so large that many features such as **buildings, roads, railroad tracks** that are usually represented on smaller scale maps by symbols can be drawn to scale.

U.S. Geological Survey Scales The U.S. Geological Survey publishes maps at various scales. The scale used for most U.S. topographic mapping is **1:24,000**. Maps published at this scale cover 7.5 minutes of latitude and 7.5 minutes of longitude; they are commonly called "**7.5-minute quadrangle**" maps. Map coverage for the United States has been completed at this scale, except for Puerto Rico, which is mapped at 1:20,000 and 1:30,000, and a few States that have been mapped at 1:25,000. Most of Alaska has been mapped at 1:63,360, with some populated areas also mapped at 1:24,000 and 1:25,000.

The **1:24,000 scale is fairly large**. A map at this scale provides detailed information about the natural and manmade features of an area, including the locations of important buildings and most campgrounds, caves, ski lifts, watermills, and even drive-in theaters. **Footbridges, drawbridges, fence lines, private roads**, and changes in the number of lanes in a road are also shown at this scale. They would be omitted, usually, from maps in the 1:50,000 to 1:100,000 scale range; these maps cover more area while retaining a reasonable level of detail. Maps at these scales most often use the 15-minute or 30-by-60 minute quadrangle formats.

Small-scale maps (1:250,000 and smaller) show large areas on a single map sheet, but details are limited to major features boundaries, State parks, airports, major roads, and railroads.

Features Shown on Topographic Maps (Rowland, John B. 1955. Features Shown on Topographic Maps. Geological Survey Circular 368. Washington, D. C.). <http://pubs.usgs.gov/circ/1955/0368/report.pdf>.

a. **Legibility.** --The requirement that map information be legible and easily read means that small map features must be represented by symbols larger than the true scale size of the features. **Roads, for example, are shown 90 feet wide on 1:62, 500-scale maps** despite the fact that most roads are not actually this wide. Buildings and other structures also are shown by minimum-size symbols that may be larger than the actual scale size of the buildings. BOn aerial photographs at the same scale as the map, which show all features at true scale size, small features sometimes are not visible without magnification.

Navigating a Topographic Map By Blake Miller. Outdoor Quest
<http://www.outdoorquest.biz/Navigating%20a%20Topo..htm>

Scale. Consider scale as your view of the map; it is like your “overhead zoom” setting. **To cut to the chase, a 7.5 minute map or quadrangle has a scale that is referred to as 1:24,000; where one inch is equal to 2000 feet. It is your best source of information of the back country.** At this scale, the map has much more validity and provides more usable information for your back country planning. You can view important landmarks, streams and geographic features. To complete the navigation picture I always refer to a second map, such as a map of the national forest (e.g., the Deschutes National Forest.) Commonly, such a map will be “zoomed” way out and have a scale of 1:100,000 or 1:250,000. Imagine that such a map would be made up of many 7.5 minute quadrangles.

Navigation Basics: Map and Compass REI
<http://www.rei.com/learn/expert-advice/navigation-basics.html>

People who undertake 1-way, multiday trips along a linear route often choose small-scale maps (**1:50,000 or 1:62,500**, for example). These maps cover a lot of land area but offer less detail. When terrain becomes very steep, **contour lines runs so closely together that they appear almost as blobs rather than lines.**

So if you're a long-distance traveler, a **small-scale map** will give you a good overview of the territory you're exploring (much as a road map does). The good news: You don't have to carry a dozen or so maps to cover your trip. **But if you decide to go off-trail in a certain area, all a small-scale map may offer you is a clot of tiny, tightly packed lines—likely not enough detail to make wise navigational decisions.**

Topographical Map Scales Sporting Life, Hiking & Backpacking
<http://www.sportinglife360.com/index.php/topographical-map-scales-4-51546/>

When planning the details of your backcountry travel it is important to know exactly what you will be facing. For this purpose a **large-scale** map should be used. Once you've decided the area you wish to visit you should obtain maps of the area in large scale. The USGS **1:24,000** scale maps are ideal for this purpose.

On such a map even the smallest detail is included. Footbridges, ruins and many landmarks and points of interest will be included. On a small-scale map you will be shown only major features; parks, boundaries, roads and cities for example. But, on a large-scale map you will be able to see fences and gates that may block the path you wish to take. And, to find exactly where that hot spring in which you might wish to spend an afternoon relaxing after a long day on the trail, the large-scale map is just the ticket.

Circular from the General Land Office Showing the Manner of Proceeding to Obtain Title to Public Lands under the Homestead, Desert Land, and Other Laws

United States. General Land Office. 1899.

http://books.google.com/books?id=UGHOAAAAMAAJ&pg=PA121&lpq=PA121&dq=General+Land+Office+map+scales&source=bl&ots=sBsy9Es4fl&sig=Jla3aSjg21WJf2Y8yRvXs5B2d_Y&hl=en&sa=X&ei=VTTXUrPyF4m6yAHCqoH4Bw&ved=0CEwQ6AEwBQ#v=onepage&q=General%20Land%20Office%20map%20scales&f=false

“22. *The scale of maps showing the line of route should be 2,000' to the inch.*” [1: 24,000]

USGS Maps Individual USGS topographic maps are commonly referred to as quadrangles (or quads), with the name of the quadrangle giving an idea of the amount of area covered by the map. The largest area covered by most topographic maps used for scientific mapping purposes (e.g., geologic mapping, habitat studies, etc.) are two degrees of longitude by one degree of latitude. A map of this size is referred to as a “two degree sheet.” One, two degree sheet can be divided into four smaller quadrangles, each covering one degree of longitude and 1/2 degree of latitude (one degree sheet). Each one degree sheet is subdivided into eight 15 minute quadrangles, measuring fifteen minutes of latitude and longitude.

Finally, the smallest topographic quadrangle commonly published by the USGS are 7.5 minute quadrangles, which measure 7.5 minutes of latitude and longitude. There are four 7.5 minute quads per fifteen minute quad, 32 per one degree sheet, and 128 per two degree sheet.

As alluded to above, topographic (and other maps as well) come in a variety of scales. The scale of the map is determined by the amount of real-world area covered by the map. For example, 7.5 minute quads put out by the USGS have a scale of 1:24,000. This type of scale is known as a ratio scale and what it means is that one inch on the map is equal to 24,000 inches (or 2,000') in the real world. Actually, it means that one of anything [e.g., cm, foot, etc.] on the map is equal to 24,000 of the same thing on the map. Another way of writing this would be a fractional scale of 1/24,000, meaning that objects on the map have been reduced to 1/24,000th of their original size. Common USGS topographic map scales follow.

7.5 Minute Quad	1:24,000.
15 Minute Quad	1:62,500
1 Degree (°) Sheet	1:100,000
2 Degree (°) Sheet	1: 250,000

The smaller the ratio is between distances on the map and distances in the real world, the smaller the scale of the map is said to be. In other words, a map with a scale of 1:250,000 is a smaller scale map than a 1:24,000 scale map, but it covers a larger real-world area.

II. 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).

Large Scale, Medium Scale, or Small Scale. A map is classified as small scale or large scale or sometimes medium scale. Small scale refers to world maps or maps of large regions such as continents or large nations. In other words, they show large areas of land on a small space. They are called small scale because the representative fraction (RF) is relatively small. A map which depicts a small territory is referred to as a large scale map. This is because the area of land being represented by the map has been scaled down less, or in other words, the scale is larger. A large scale map only shows a small area, but it shows it in great detail. A map depicting a large area, such as an entire country, is considered a small scale map. In order to show the entire country, the map must be scaled down until it is much smaller. A small scale map shows more territory, but it is less detailed.

The following describes typical ranges for "scales" as determined by the HNAT.

Table F1. Map Scale Classification For Indian Trails		
Classification	Range of Scales	Examples
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.
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.		

Large scale maps, such as 1:24000 scale maps show a smaller area in great detail. They are useful for showing the locations of buildings and other features important to engineers, planners and trail enthusiasts. *Medium scale maps*, (1:62,500) are good for agricultural planning where less detail is required. *Small scale maps* have the least detail but show large areas. These are useful for extensive projects at regional levels of analysis.

Scale classification are sometimes used in the absolute sense of Table F1, but other times in a relative sense as maps are made to serve a user's purpose. For example, a map reader whose work refers solely to large-scale maps might refer to a map at an intermediate scale (e.g., 1:62,500 to 1:250,000) as small-scale.

III. 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. The greater the degree of scrutiny given to these issues, the more reliable the source.

A. Surveyed 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 GLO survey notes and plats, 1850s DLC survey notes and plats, 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.

- 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.

B. Sources

- The reliability of a map depends on its source; the best sources have a professional structure in place for checking or analyzing facts (e.g., GLO Deputy Surveyors, USGS topographic surveys and maps, etc.).

C. Scale (see Table F1)

- Very Large Scale. The very best scale for Indian Trails (IT), but not never available for the historical periods of trail use.
- Large Scale. 7.5 Minute Topo 1:24,000. Best scale for IT purpose.
- Medium Scale. 15 Minute Topo 1:62,500; 1 Degree (°) Sheet 1:100,000. Good scale for orientation.
- Small Scale. 2 Degree (°) Sheet 1: 250,000. Good for good for supporting the existence of an IT.
- Very Small Scale. 1:100,000,000 - Maps of World on 8 ½" by 11" page

IV. Available Maps

Maps available in the Hugo region are listed by year and scale, and including secondary maps. A future goal is for the HNAT and the HETC to review the available maps by year for applicability and comprehensiveness for trail work in northern Josephine County, Oregon. The idea, per the MET Manual, is to have a reviewed and agreed upon base list of potentially applicable maps for future trail work.

A. Maps by Year

- 1853 Sketch of the military road from Myrtle Creek Umpqua Valley to Camp Stuart Rogue River Valley, Oregon Territory, by Jesse A. Applegate (ca., scale is 1:?????, seek advice from Kelly Rarey and Bob Black) (without survey notes) 6.25 miles on ground (Glendale Quad, 1" = 2 miles, 1:62,500); 2.16" on Applegate sketch map).
- 1855 The Pacific Railroad Survey: 1855. Scale is one inch to twelve miles, or 1:760,320 (without survey notes).
- 1855 GLO Survey/1856 GLO Map (1" = 2,000'; 1:24,000) (surveyed road along section lines with survey notes).
- 1856 Oregon and Washington West of Cascade Mountains. Compiled from US surveys and other authentic sources by J. W. Trutch and G. W. Hyde. Scale 8 miles to 1 inch, 1:506,880.
- 1859 State of Oregon and Washington Territory. Compiled in the Bureau of Topog^L Eng^{RS}, chiefly for military purposes by order of Hon. John B. Floyd, Sec. of War. Scale. 1:1,500,000.
- 1874 Josephine County Road Survey Road (surveyed road with survey notes) (survey of existing road or proposed road or existing road with proposed alignments, etc.) 1" = 2,000, 1:24,000.
- 1893 GLO Survey/1894 GLO Map (1" = 2,000'; 1:24,000) (surveyed road along section lines with survey notes)
- 1895 Official Josephine County Map (1" = 1 mile; 1:63,360) (not surveyed)
- 1904 USGS Riddle Quadrangle. 1:125,000. 100' contours (surveyed topographic features)
- 1904 Foster and Gunnell's Mining Map of Southern Oregon (22" x 15", scale 1.2" = 6 miles = 380,160" or 1:316,800)
- 1904 Map of the State of Oregon. The large Map of the State of Oregon, by Huber & Maxwell, Civil Engineers, 1904, published by the Title Guarantee & Trust Company, clearly shows the ox bow.
- 1911 Josephine County Road Survey Road. 1" = 2,000', 1:24,000 (surveyed road with survey notes, cannot yet tie to ground, but should be able to in the future)
- 1917 ca. 1917 Roads Identified: O&C Revestment Act on June 9, 1916. Township maps at 2" equals 1 mile, 1:126,720. Douglas County Abstract Company, Roseburg, Oregon.
- 1923 USGS Riddle Quadrangle. 1:125,000. 100' contours. Edition April 1904, Reprinted 1923 (surveyed topographic features)
- 1932 Metsker Map, Josephine County, Oregon (2" equal 1 mile; 1:126,720) (not surveyed)
- 1954 USGS Glendale, Oregon Quadrangle 1" = 2 miles, 1:62,500 (surveyed topographic features)
- 1955 Metsker Map, Josephine County, Oregon (2" equal 1 mile; 1:126,720) (not surveyed)
- 1970 Metsker Map, Josephine County, Oregon (2" equal 1 mile; 1:126,720) (not surveyed)
- 1998 Merlin Quadrangle 1:24,000 (surveyed topographic features)
- 2014 County Assessor Maps (partially based on county surveys, but not usable in themselves as surveys - must go to original surveys). Scale: 1. 2,000' = 1" township maps; 2. 400' = 1", 1:4,800, majority of normal maps for a section (360 acres); 3. 200' = 1" normal for a 1/4 section (160 acres); and 4. 100' = 1" for 1/16 section (40 acres).

Additional information for Section IV.A, Maps by Year, follow.

1853 Jesse Applegate Survey Notes of Military Road Except for the 1853 sketch map, the HNAT and the HETC do not have any primary documents (e.g., survey notes, U.S. Army reports, etc.) for the Jesse Applegate surveyed U.S. Military wagon road from Myrtle Creek to Camp Stewart, especially the Grave Creek Hills Pass.

1853 Jesse Applegate Sketch of Military Road Military Road from the Mouth of Myrtle Creek on the Umpqua River to Camp Stuart in Rogue River. A detailed map of this survey transmitted to the Bureau of Topographical Engineers of the War Department may be seen in the Division of Cartographic Records, The National Archives. The map is entitled “Sketch of the Military Road from Myrtle Creek, Umpqua Valley to Camp Stuart, Rogue River Valley, Oregon, located in the autumn of the year 1853 by Major B. Alvord, 4th Infantry, U. S. Army,” with an additional notation “surveyed and drawn by Jesse Applegate of Yoncalla, Oregon, with Burt’s Solar Compass.” **A table of distances has been included.** Jackson, W. Turrentine. March 1949. *Federal Road Building Grants For Early Oregon*. Oregon Historical Quarterly. Volume 50, No. 1. p. 7

A detailed map of the Jesse Applegate survey is in the National Archives. The sketch map has a table of distances and **someone in the Bureau has written “no field notes of survey furnished the Bureau.”** *Federal Road Building Grants For Early Oregon*. p. 7.

1853 Alvord Military Road located or surveyed for construction. (ca., scale is 1:?????). Sketch of the military road from Myrtle Creek Umpqua Valley to Camp Stuart Rogue River Valley, Oregon Territory, by Jesse A. Applegate (without survey notes)

September 9, 1853. Jesse Applegate Letter to Honorable John B. Preston, Surveyor General of Oregon. Courtesy of Leta Lovelace Neiderheiser on February 17, 2012. **“As Maj. Alvord merely wants the length of the road and not the elevation and depressions I shall not have with me my theodolite, and cannot therefore ascertain with that degree of exactness you may require for the distance to noted land marks.”**

October 14, 1853. Jesse Applegate Letter to Honorable John B. Preston, Surveyor General of Oregon. Courtesy of Leta Lovelace Neiderheiser on February 17, 2012. “The mail closing at 6 O’clock tomorrow morning, it will be improbable for me to comply with your wishes in regard to the military road but I hope to have for you a **rough tracing of its position on the scale of your former diagram by ??? mail and will also give as near as I am able the noted land marks, and the positions of the principal valleys that will require surveying.**” “You will please to excuse the haste of this note on the ground of fatigue, having finished the last 3 miles of the road, and carried all my instruments through the Cañon in the last 2 days.”

1855 The Pacific Railroad Survey: 1855 Abbot, Henry L. *Report of Lieut. Henry L. Abbot, Corps of Topographical Engineers, upon Explorations for a Railroad Route from the Sacramento River to the Columbia River, made by Lieut. R. S. Williamson, Corps of Topographical Engineers, assisted by Lieut. Henry L. Abbot, Corps of Topographical Engineers, 1855.* United States War Department. *Reports of explorations and surveys, to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean.* Made under the direction of the Secretary of War, in 1853-4. House of Representatives Exec. Doc. No. 91, 33rd Congress, 2d Session. Nicholson, Washington, 1856.

Maps Accompanying the Report “Two maps, constructed upon the polyconic projections, have been made to accompany this report. The first illustrates that portion of the survey which lay in California, and the second that in Oregon. The scale of each is one inch to twelve miles, or 1:760,320.” (Abbot. Page 11)

Figure 4.3. Detail of an 1855 map prepared by Lts. H. L. Abbot and R.S.Williamson, US Army Topographical Engineers (Joseph 1861: Abbot Map 2). (Page 26,

Joseph, Henry and Spencer Fullerton Baird, 2005. Reports of explorations and surveys to ascertain the most practicable and economical route for a railroad from the Mississippi River to the Pacific Ocean: 1855 -60. U.S. War Department. Washington: A.O.P. Nicholson.

B. Maps by Scale

1:4,800	2014 County Assessor Maps. 400' = 1" normal majority of maps for a section (360 acres)
1:24,000	1855 GLO Survey/1856 GLO Map (1" = 2,000').
1:24,000	1874 Josephine County Road Survey Road (1" = 2,000).
1:24,000	1893 GLO Survey/1894 GLO Map (1" = 2,000').
1:24,000	1911 Josephine County Road Survey Road (1" = 2,000').
1:24,000	1998 Merlin Quadrangle (1" = 2,000').
1:62,500	1954 USGS Glendale, Oregon Quadrangle (1" = 2 miles)
1:63,360	1895 Official Josephine County Map (1" = 1 mile)
1:125,000	1904 USGS Riddle Quadrangle.
1:125,000	1923 USGS Riddle Quadrangle (reprinted).
1:126,720	ca. 1917 Roads O&C Revestment Act on June 9, 1916. Township maps at 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. Scale 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.
1904?	Map of the State of Oregon. Large Map of the State of Oregon, by Huber & Maxwell, Civil Engineers, 1904, published by the Title Guarantee & Trust Company.

C. Secondary Maps

This section may be updated in the future.

- 1987 *Knights of the Whip* on the inside of the title page clearly identifies the ox bow of the Applegate Trail between the Grants Pass stage station and the Grave Creek stage station (Meier, Gary and Gloria. 1987. *Knights of the Whip, Stagecoach Days in Oregon*. Timeline Publishing Company. Bellevue, WA).
- 1995 1995 Atlas Scott Applegate Trail, 1846 - 1847, Atlas and Gazetteer, by Charles George Davis, 1995. This 1995 atlas and gazetteer clearly shows the ox bow (page 60) and the later cut-off going up Maple Creek. It does not provide any text explanation.
- 1995 First There Was Twogood Larry L. McLane, 1995, First There Was Twogood, A pictorial History of Northern Josephine County, A Sexton Enterprises Publication, Sunny Valley, OR.
- 2001 The South Road. Davis, Charles. 2001. *The South Road : And the Route Across Southern Oregon*. USA. Davis' book clearly shows the ox bow (page 262, Map 31 Grave Creek - Umpqua Mountain).
- 2010 For descriptions of maps see *Location Of Applegate Trail in Upper Rat Creek: A Work In Progress* (Rarey, Kelly; Rose, Karen; Walker Mike, Members HETC. September 30, 2010. *Location Of Applegate Trail in Upper Rat Creek: A Work In Progress*. For Hugo Neighborhood Association & Historical Society. Hugo, OR).

IV. Interpretation Of Usability For Trail Work (Draft)

Surveyed Maps 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 GLO survey notes and plats, 1850s DLC survey notes and plats, 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.

- 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.

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; 1 Degree (°) Sheet 1:100,000. Good scale for orientation.
- Small Scale. 2 Degree (°) Sheet 1: 250,000. Good for good for supporting the existence of an IT.
- Very Small Scale. 1:100,000,000 - Maps of World on 8 ½" by 11" page

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 Deputy Surveyors, USGS topographic surveys and maps, etc.). The greater the degree of scrutiny given to these issues, the more reliable the source.

The following maps are listed in their order of reliability as screened by the three criteria of whether or not they were surveyed, their scale, and their source.

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.

New & Draft Appendix G. Reports, Diaries, Journals, & Reminiscences

January 20, 2014

- I. Hugo Native American Program
- II. Diaries & Journals
- III. Diaries, Journals & Reminiscences Sub-Committee
- IV. Diaries / Journals / Letters

Appendix G is a draft because it is new and just developed (i.e., not as much time was spent in its review and editing). It is also a draft because a future goal is for the HNAT and the HETC to review Appendix G for applicability and comprehensiveness for trail work in northern Josephine County, Oregon. The idea, per the MET Manual, is to have a reviewed and agreed upon initial base resource list of potentially applicable reports, diaries, journals, & reminiscences for future trail work.

I. Hugo Native American Program

Hugo Neighborhood Association & Historical Society
http://www.hugoneighborhood.org/Hugo_Native_American_Program.htm

Hugo Native American Program

- I. Public Takelma Indians Regional Setting Brochures. Brochures NA-1 through NA-49 are based upon works of anthropologists, archeologists, and other professionals.
- II. Hugo's Pubic Local Anecdotal Stories Brochures
- III. Hugo Native American Team, Hugo Neighborhood Association & Historical Society
- IV. Web Links & References
- V. Maps & Aerial Photographs
- VI. Papers
 - A. Takelma Indians: An Essay on Native Americans in the Rogue River Area
 - B. John Peabody Harrington's Takelma Indian Field Notes: Outline
 - BA. Lowland Takelma Indian Trail & Rock Old Woman At Sexton Pass

II. Diaries & Journals

Hugo Neighborhood Association & Historical Society
http://www.hugoneighborhood.org/BROCHURE_11A_Diaries_081411.pdf

III. Diaries, Journals & Reminiscences Sub-Committee

Hugo Neighborhood Association & Historical Society
http://www.hugoneighborhood.org/BROCHURE_11B_Diaries_SubCommittee_081411.pdf

The *Diaries, Journals & Reminiscences Sub-Committee* was formed to bring together all those who want to learn more about the primary resources available which document travel through Hugo on the Applegate Trail during the 1800's from the casual admirer to the dedicated researcher.¹

An effective means of applying diaries, journals, and/or government reports, especially general land office (GLO) maps, to locate and verify particularly vexing segments of emigrant trails (no more than a few miles in length) is creating a composite trail description.² You begin by gathering together as many accounts as possible that describe in any way the trail segment under study. Descriptions, for example,

could include references to springs, a particular rock formation, creeks, a rocky part of the trail, sand hills, ridges, ravines, forks in the trail, and any distances or directions recorded.

Look for similarities and discrepancies among the various accounts. Then arrange all of these descriptions--really clues— in some kind of sequential order that will reveal the course, direction, and location of the trail. In this way, you will have created a detailed composite description of the trail segment under study.

The *Diaries, Journals & Reminiscences Sub-Committee* was formed by the Hugo Emigrant Trails Committee January 28, 2006. The following neighbors are members of this *Sub-Committee*:

Jean Boling
Glen Campbell
Janet McKy
Joe Neiderheiser
Leta Neiderheiser
Berneata Rarey
Kelly Rarey
Karen Rose
Mike Walker

A library has been organized at Karen Rose's home so that members may check-out different reference materials, both primary and secondary, in order to learn more about what it might have been like traveling on the Applegate Trail through Hugo. We have been collecting resources and researching this subject quite extensively over the last five and one-half years and have a rather large library to share with interested neighbors. ³

The goal is to take the four pertinent 1998 & 1996 USGS quadrangle topographical maps ⁴on which our General Land Office Field Survey Sub-Committee plotted 30 points of the 20 mile segment under study and enhance these maps by adding references to various diary or journal excerpts to further document the trail location more clearly.

This method is outlined in the Oregon-California Trails Association, MET Field Manual (Mapping Emigrant Trails)and is called the Composite Trail Description Method.¹

Members of this committee will purchase the four USGS topographical maps, trace the Applegate Trail on their maps using the maps already plotted on by members of the Field Survey Sub-Committee, study the MET manual & resource materials and become involved in plotting the diary excerpts on their maps.

1. Hugo Neighborhood. 2005. Public Outreach & Educational Brochure Program: Hugo's Emigrant Trails. Hugo, OR.

2. Office of National Trails Preservation & Oregon-California Trails Association (P.O. box 1019, Independence, MO, 64051-0519, 816-252-2276, octa@indepmo.org). July 2002, 4th edition. *Mapping Emigrants Trails MET Field Manual*.

3. Hugo Neighborhood. 2005. Applegate Trail Bibliography Brochure: Hugo's Emigrant Trails. Hugo, OR.

4. Hugo Neighborhood. 2006. Hugo Emigrant Trail Map Quads Brochure #5: Hugo's Emigrant Trails. Hugo, OR.

5. Hugo Neighborhood. 2005. Hugo Emigrant Trail Committee Brochure #2: Hugo's Emigrant Trails. Hugo, OR.

IV. DIARIES / JOURNALS / LETTERS

Diaries, Journals & Reminiscences Sub-Committee
Hugo Emigrant Trails Committee
Hugo Neighborhood Association & Historical Society
<http://www.hugoneighborhood.org/diaries.htm>

The Diaries, Journals & Reminiscences Sub-Committee, Hugo Emigrant Trails Committee, HNA&HS's, web page on diaries, journals, letters is an outstanding resource for Hugo's region of interest. Reviewers are encouraged to submit additional applicable articles.

- OCTA Methology Composite from Yellow Book
- Jesse Applegate Letter - 8/9/1846
- Jesse Applegate Letter - 8/10/1846
- Virgil Pringle's Diary
- Lester Hulin's Diary
- Tabitha Brown Letter - 1854
- Waybill of Applegate Trail of 1848
- The 1845 Pioneers' Guide for the Westward Traveler - The Emigrants' Guide to Oregon and California by Lansford Hastings
- Lindsay Applegate: Notes and Reminiscences of Laying Out and Establishing the Old Emigrant Road into Souther Oregon in the Year 1846
- Levi Scott: 1846 South Road Expeditioner & His Reminiscences of 1846 Crossing
- Experiences of Emigrants
- Lieutenant Henry L. Abbot