Eye Talk, Ear Talk:
Communicating with Indians

Carnivorous Explorers:
How much meat did they eat?

Chronicling Key Events:
Lewis & Clark’s Compromise
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**On the cover**  
As the illustration for this issue’s cover we chose Michael Haynes’s sketch of George Drouillard, the expedition’s sign-language interpreter and chief hunter, because he figures prominently in two of the three features—Robert Hunt’s “Eye Talk, Ear Talk” and Kenneth Walcheck’s “‘We eat an emensity of meat’,” beginning on pages 12 and 20, respectively. Drouillard is also the subject of a reissued biography by M.O. Skarsten, briefly reviewed on page 36.
The Harpers Ferry short rifle

In “The Short Rifle of Lewis and Clark” (WPO, May 2006), Richard Keller and Ernest Cowan claim that the Lewis and Clark Expedition was equipped with an early version of the Harpers Ferry Model 1803 rifle.

Their claim has two parts: that early forms of the Model 1803 rifle were made in 1803, or even previous to 1803, and that fifteen of the early version were made for Lewis, before he departed Harpers Ferry for the west in early July 1803. Strong evidence must be made to support these assertions, since they contradict accepted firearms history. For example, George P. Moller states (American Military Shoulder Arms, Volume 11, From the 1790s to the End of the Flintlock Period, University Press of Colorado, 1993), “No Model 1803 rifles were completed at Harpers Ferry until the March June quarter of 1804.”

Keller and Cowan make an interesting observation, that many surviving Model 1803 rifles have 1803 stamped on the lock plate. This is important, and suggests that some rifles, or at least some locks, were made in 1803, but in no way requires that any were made in early 1803, or for the expedition. Nor does the existence of an early Model 1803 with serial number 15 in any way require that such a gun was used on the expedition. No matter when production of the Model 1803 rifles began, one of the first guns would have had number 15.

Lewis and the expedition as a whole relied on the latest technology of the time. Lewis went to some trouble to find the best of everything, as indicated by the extensive correspondence between him and Jefferson. For example, Lewis, writing to Jefferson about the work at Harpers Ferry, describes building the iron boat frame in great detail. The Model 1803 rifle would have been a fine gun for the expedition, a valuable acquisition, as suggested by the performance of the replica made by Cowan, if it had been available. Nowhere does Lewis mention a new rifle, or the design or construction of rifles. He mentions preparing the expedition rifles only once, and very briefly, on April 20, 1804: “My Rifles, Tomahawks & knives are preparing at Harpers Ferry, and are already in a state of forwardness that leaves me little doubt of their being in readiness in due time.” (Donald Jackson, Letters, page 40.) “Preparing” does not sound like making wholly new guns, especially when uttered in the same phrase with some tomahawks and knives, especially from the man who wrote at length about iron work for an experimental boat.

Keller and Cowan use the letter of Henry Dearborn, secretary of war, to Joseph Perkin, superintendent of the armory at Harpers Ferry (May 25, 1804) to support the idea that Harpers Ferry made prototypes of the Model 1803 rifle for Lewis beginning in March 1803. In this letter, written more than a month after Lewis says his rifles are in a state of “forwardness,” Dearborn specifies what would become the Model 1803 rifle. To me this letter is wholly unlike a letter about a rifle addressed to the man who supervised making that rifle. To the contrary, the contents of the letter are strong evidence that Perkin knew nothing in May 1804 about the rifle design that would become the Model 1803.

All evidence we have is consistent with the Harpers Ferry arsenal renewing 1792 Contract rifles for the expedition. This is the rifle both captains were familiar with from their previous army service. I see no evidence supporting manufacture of the Model 1803 rifle, or a preliminary version of that rifle, for the expedition.

Stuart Wier
Boulder, Colo.

Editor’s note: The writer is the author of the article “The Guns of Lewis and Clark,” which also appeared in the May issue. In a separate letter he takes issue with one of the captions (written by the editor) that appears in his article: “In the caption for the photograph of the Model 1803 rifle, the assertion [that the] ‘expedition probably carried the very similar Model 1800’ was not written by me and does not reflect my judgment. To me the existence of a ‘Model 1800’ rifle, and the use of any form of the Model 1803 rifle on the Lewis and Clark expedition, is far from proven.” In the same letter he also points out that some of the credit lines for the article’s photos are in error: “All photos credited to me, to Neuman and Kravic, and to Dixie Gun Works were
Thanks for the article “The Guns of Lewis and Clark,” in the May WPO.

When living in Montana I was active in a chapter of the Lewis and Clark Trail Heritage Foundation and became interested in the Model 1803 rifle. I began research on the rifle, contacting various authorities on the subject and visiting museums with examples of the rifle. I eventually built a replica Model 1803 and fired it a number of times with both patch and ball and paper cartridges.

Further research led me to doubt that the Model 1803 was one of the 15 rifles produced for Lewis. After the construction of Lewis’s rifles it took Joseph Perkin, the superintendent at Harpers Ferry, four months to send a few prototype Model 1803s to Henry Dearborn. One wonders why it took so long if 15 similar rifles had just been produced. I believe some other rifle was manufactured for Lewis and that the four months were spent redesigning and retooling for the rifle that became the Model 1803. I also wonder why there is no correspondence between Lewis and Clark, two experienced military officers, and Dearborn outlining their experiences with a new type of military rifle.

Here on the coast of Maine, historical interests revolve around early settlements, maritime history, and Joshua Chamberlain and the 20th Maine Regiment of Civil War fame. Interest in Lewis and Clark is minimal at best. This was evident a couple of years ago when I tried to donate my collection of WPO back issues to three local libraries and none wanted them.

Today my Model 1803 rifle is no more than a wall decoration to remind me of my years of involvement with the Lewis and Clark story.

John I. Stroud
Brunswick, Me.

Lewis’s lost rifle

What a treat to read in Michael Carrick’s letter in the February issue about the Meriwether Lewis rifle and its successful
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recovery by the executor of Lewis’s estate, John Marks. According to Carrick, Marks visited James Neelly’s home looking for Lewis’s possessions kept by Neelly following Lewis’s death. Neelly not being home, his wife agreed to return two items of Lewis’s—his horse and rifle. She explained that his pistols and a dirk were always carried by Neelly and were not in the house.

I had always wondered about what happened to Lewis’s possessions. A short entry in a book of family genealogy and letters (Marks-Barnett Families and Their Kin, by Marion D. Pettigrew, page 190) has an intriguing reference to Lewis’s gun:

“The gun which Uncle Meriwether Lewis carried with him across the Rocky Mountains was given to my father John M.D. Moore, and kept with great care by him.

“When the Federals attacked Corpus Christi [on August 3, 1862] we put some of the most valuable things in a sail boat to go up the Necees Bay. The boat was upset by a sudden squall, and everything was lost. The gun included, it had a silver box of oil inserted in the stock. Meriwether Lewis’ name was engraved on it. We have been told that Dolly Madison, the wife of President Madison, had a tomahawk made for Meriwether Lewis, which has also a peace pipe and Ma thinks Uncle Meriwether Moore’s family has the tomahawk yet.”

Can the gun mentioned in this reference possibly be the rifle recovered by John Marks? The old man telling of the loss of the gun in Nueces Bay was John Marks Davenport Moore, son of Mary Garland Marks Moore and William Harvie Moore. The executor, John Marks, who recovered the rifle, was her only brother, and Meriwether Lewis was their older half-brother.

Presumably the gun is still at the bottom of Nueces Bay. Makes me want to do some diving!

BETH H. CHAIN
Scottsbluff, Neb.

Plamondon’s maps

In his article in the February wpo about Clark’s journey through the Bozeman, Montana, area in July 1806, Landon Jones declares his curiosity as to the route the party took on its way to Bozeman Pass and even beyond, down the Yellowstone to the Missouri. In citing Jim Sims’s research documenting Clark’s route (location of compass bearings and distance estimates between them), he neglects to mention the work of the late Martin Plamondon. Plamondon published his estimations for the entire expedition route, including all those compass-bearing locations. The locations of Clark’s three direction bearings taken on July 14, 1806, as described by Sims appear to differ significantly from those of Plamondon (Lewis & Clark Trail Maps, Vol. 3, pages 141-143). I am curious about the reasons for these differences.

OTIS WALTER
Mandeville, La.

Lewis & Clark $10 note

Some time ago I blundered onto this bookmark (above), which represents a genuine U.S. note. I’m neither a collector of nor knowledgeable about such stuff, but to my knowledge there’s never been any notice of this in wpo.

W. RAYMOND WOOD
Columbia, Mo.

EDITOR’S NOTE: Research on the Web indicates the note was issued in 1901 and was still in circulation in 1921, when Frank White (whose signature is legible on the bookmark) was appointed Secretary of the Treasury (he held the position from 1921 to 1928). We were unable to learn when the note was retired from circulation. Collectors appear to refer to it as the “bison” $10 bank note rather than the Lewis and Clark note. Its dimensions are larger than those of current notes, and the seals are in red. Can readers supply additional information?

WPO welcomes letters. We may edit them for length, accuracy, clarity, and civility. Send them to us c/o Editor, wpo, 51 N. Main St., Pennington, NJ 08534 (e-mail: wpo@lewisandclark.org).
Currents of Change
Signature Event
President’s Message

A salute to WPO and its editor, Jim Merritt

Break out your favorite metaphor, but it likely has already been used to describe We Proceeded On. “The foundation’s crown jewel”? A pedestalled thought as early as 1990. “The apple of the foundation’s eye”? Hardly original, but like all the other sentiments in praise of WPO it contains a large measure of truth.

More than 50 percent of our members responded to our recent survey, an amazing statistic, especially in view of its five-page length. It made abundantly clear that members of the Lewis and Clark Trail Heritage Foundation place WPO at the very top of what they value most about their membership. Nearly all of our other services to members pale by comparison.

In my article for the July 2006 issue of The Orderly Report I noted that over $30 of each member’s dues are required to provide for the publication of WPO and the inexpensive TOR. That statistic, though it includes editors’ salaries, printing, and postage, surprised me when staff enlightened me a few months ago. Let’s see: $30 x roughly 3,000 memberships = $ 90,000 for our two major publications. That certainly is a high percentage of our total budget, nearly 20 percent. Yet I have come to consider it a bargain. Let me try to explain.

Jim Merritt has been the editor of WPO since late 1999. It is considered a half-time position, but I am sure that there are months when Jim finds that a fiction. His first issue was February 2000. I have it before me. Remember its cover article, “Charbonneau Reconsidered”?

With that issue a new look was introduced, cleaner and, if you will, more professional. I for one had thoroughly appreciated the old WPO, capably edited in Great Falls by Marty Erickson, but this was exciting. It was still of moderate length, 36 pages, the same as Marty’s last issue. During Jim’s editorship WPO’s length has grown modestly, to a maximum of 60 pages for the May 2004 issue. May 2006 was 44 pages, and the current one is 40.

Now Jim, who edits the magazine out of his home in Pennington, New Jersey, has announced that the November 2006 issue will be his last. He will have completed seven full years and produced 28 issues as the editor. Jim’s first issue was still essentially black and white; only the cover and centerfold were in color. Gradually the use of color increased, so that today the magazine is “all-color” in the sense that color is used on any page that is not all print.

Today we also have a standard format,
House Ad I
pickup p. 9,
5.06 issue
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so the reader can anticipate certain features in each issue, e.g., letters to the editor, book reviews, and yes, ruminations by the president.

WPO’s heart, body, and soul, however, remain the scholarly articles written by serious amateur historians. It is read avidly by other keen but mostly amateur scholars who view the magazine as a vehicle for self-education and a forum for discussion and debate. It is as well a special interest magazine for those who care passionately about Lewis and Clark.

Ten years ago, no doubt, we all vaguely understood the purpose of WPO. But it is Jim Merritt who has quietly defined the journal’s essence over the past seven years. Behind a modest demeanor, Jim has been an exceptionally strong editor with high standards concerning matters that range from historical accuracy to the proper usage of language. WPO is as interesting as it is attractive issue after issue.

In the months ahead we mean to salute Jim and to thank him for all that he has done for the foundation, above all for taking our beloved We Proceeded On to a new level of excellence. We expect to announce the new editor at this year’s annual meeting, to be held September 18-19 in St. Louis.

—Jim Gramentine
President, LCTHF

Discovering Lewis & Clark

The Web site Discovering Lewis & Clark (http://lewis-clark.org) has several updates, including new art by Michael Haynes showing Cameahwait admiring Pomp, his sister Sacagawea’s baby; aerial photographs of the L&C Trail by Jim Wark; and episodes relating to Lewis’s court martial, army regulations, and Woodlands, the Philadelphia estate of horticulturist William Hamilton, where many of the explorers’ seeds and cuttings wound up. The site has begun a comprehensive episode presenting biographical sketches of all members of the Corps of Discovery.
Southern Indiana Visitors Center
Hopeful legacy of the L&C Bicentennial: thinking about the long haul

I thought I was done with the Lewis and Clark story when I finished graduate school more than thirty years ago. And I was for ten years, not counting occasional sightings of the captains on television and passing references to them in books and articles. One of those brushes occurred when I moved to Billings, Montana, and first became acquainted with Pompey’s Pillar, where William Clark carved his name. It was privately owned then and run as a for-profit tourist attraction. I went to see it once but generally avoided my old graduate-school friends.

I have had years to ruminate on my early ambivalence about Lewis and Clark, which emanated from a sense that hero worship obscures other, more important truths. Ten years later, I stumbled into this conflict when, as then director of the Montana Historical Society, I oversaw planning for new permanent exhibits replacing others installed thirty years earlier. How do you tell the story of the Lewis and Clark Expedition as the first documented sally of Euro-Americans into Montana and the West? The question erupted with blistering heat at a quarterly meeting of our board when the exhibition curator presented his treatment of the subject. He proposed to present Lewis and Clark as invaders in an Indian land. It was not heavy-handed, nor did he bellow Lewis and Clark’s achievements, but the truth was out and anger stalked the room as several trustees exploded with indignation at such iconoclasm. In the end, the truth prevailed. Just as the Rocky Mountains change appearance in response to light and the seasons, so do Lewis and Clark take on different meanings that vary according to the storyteller’s vantage. It is a complicated, nuanced, ambiguous story, told to a world that desperately seeks simple, direct truths.

The Lewis and Clark Bicentennial owes its success to the involvement of Indian people. When it began several years ago with the first signature event, at Monticello, I stood on the portico of Jefferson’s home along with many others. On that cold, blustery day it was possible for me from that vantage to think of Lewis and Clark as going out to the West. But the truth is that Lewis and Clark were both going and coming, depending on who was observing.

Through this commemoration I have gained a new appreciation for those incomparable journals kept by members of the expedition. Much of what they describe is gone, changed by decisions made by humans in the intervening period. Yet the shadowy outlines are deep enough to confirm that what the journals relate and what we see are the same places separated by two centuries and indelibly altered. The journals are a yardstick 200 years long. By comparing what they describe to what we see, we can evaluate change. We can ascertain the course we are on. I pray that, where necessary, we can change direction.

This bicentennial has deepened my conviction that the world can be imagined in all kinds of ways. The earth can be a rational and ordered place, full of apples for the taking. Or the earth can be a sacred living place of beauty and wonder, but demanding respect and propitiation from humans. I know that it is this dichotomy, not science, that is at the heart of the environmental debate. It is really about how best to live in a manner that is right with the world.

I have heard Indian stories not just about Lewis and Clark but also about the land and rivers, animals and humans, and how they all fit together. These stories are sources of hope. In them is the assurance that it is possible to think differently about humanity, the earth, and how we get along for the long haul. The question of global sustainability is no longer a political issue. We all know the planet is finite and that human populations are growing. The question of how we live here in a way that balances present and future is the 21st-century question. My sincere hope is that the L&C Bicentennial has provided us with some answers.

Final signature events

Please make plans to join the National Council of the Lewis and Clark Bicentennial in North Dakota, August 17-20, at the Mandan, Hidatsa, Arikara Nation, in New Town for a national signature event observing the Corps of Discovery’s return; the reunion of Sakakawea at Awitixa, her Hidatsa home; and the journey of White Coyote to Washington D.C. *The Reunion at the Home of Sakakawea* is a four-day event that will feature scholarly symposia, re-enactments, dramatic presentations, an art exhibition and trade fair, indigenous games, land and water parades, a traditional dance competition, and a fireworks display.

The bicentennial will come to a magnificent end in the greater St. Louis metropolitan area, September 20-24. *Currents of Change* will commence with a two-day symposium entitled “The Stories We Tell.” As co-hosts of the event, the Osage Nation will offer demonstrations and panel discussions focused upon Indian language revitalization and other important topics. Many of the tribes that Lewis and Clark encountered will host educational activities, demonstrations, and discussions.

A ceremony featuring a flag procession of encounter tribes and addresses from American Indian and federal dignitaries will be held to commemorate the close of the bicentennial. The event will culminate in a “Riverfront Extravaganza” featuring musical performances by Indian recording artists and a spectacular fireworks display.

—Robert R. Archibald
President, Bicentennial Council
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pickup inside
back cover,
5.06 issue
When Meriwether Lewis was planning his expedition to the Pacific Ocean and back he was authorized to hire an interpreter for communicating with the many tribes he expected to meet. One of his early recruits was George Drouillard, a part-Shawnee who knew Plains Indian sign language. Later, at Fort Mandan on the upper Missouri, Lewis engaged Toussaint Charbonneau, who with his wife Sacagawea would provide a critical link in the oral translation chains used for communicating with several tribes west of the Continental Divide. Other members of the party, as well as French-Canadian traders and Indians who guided the explorers on various stretches, also served as translators at different points in the journey.

The story of communication (and miscommunication) between Lewis and Clark and Native Americans could fill a book—one that has yet to be written. This article deals with three aspects of that story: Plains Indian sign language, employed during critical encounters with the Shoshones, Salish, and Piegan Blackfeet; oral translation chains; and Chinook jargon, the trade language of tribes in the Pacific Northwest.

The Language of “Gesticulation”

Lewis met Drouillard at Fort Massac, on the lower Ohio River, in November of 1803 and quickly hired him as “an Indian Interpreter” for $25 a month. As every student of the Lewis and Clark story knows, Drouillard (whose name the captains spelled phonetically as “Drewyer”) became one of the most valuable members of the expedition as both an interpreter and a hunter. On August 14, 1805, he was part of Lewis’s small advance party when it encountered the Shoshones near Lemhi Pass, on the Continental Divide. “The means I had of communicating with these people,” wrote Lewis,

was by way of Drewyer who understood perfectly the common language of jesticulation or signs which seems to be universally understood by all the Nations we have yet seen[.] it is true that this language is imperfect and liable to error but is much less so than would be expected[.] the strong parts of the ideas are seldom mistaken.

The meeting with the Shoshones occurred 15 months after the Corps of Discovery’s departure from St. Louis—yet this is the first mention in the journals of the use of sign language by Drouillard or any other member of the expedition. (Throughout the journals, unequivocal references to sign language total barely more than a dozen.) When Lewis hired Drouillard as an interpreter he didn’t elaborate, and we are left to infer from later events that it was his knowledge of sign language that attracted Lewis to him. There presumably would have been opportuni-
ties for Lewis and Clark to call on his skills earlier in the expedition—during the explorers’ encounter with the troublesome Teton Sioux in September of 1805, for example—but if they did so, they failed to note it.

Nicholas Biddle addressed this curious silence when, four years after the expedition’s return and several months after Lewis’s untimely death, he took on the task of editing the captains’ journals. On July 7, 1810, from his home in Philadelphia, he wrote to William Clark asking, among other things, for “any information as to any system of signs by which you were able to communicate with the Indians, or which enables different tribes to converse together.” Clark got around to answering his query on December 7 by passing the buck, suggesting that Biddle “enquire of Mr. Shannon for the language of signs used by Indians.” Expedition member George Shannon had gone to Philadelphia to assist Biddle, but whatever he may have told him regarding sign language did not appear in the Biddle edition of the journals when it was published in 1814.

THE “NATURALNESS” OF SIGNING

The naturalist Ernest Thompson Seton, in his masterful book *Sign Talk*, published in 1918, reminds us that this means of communication is “more ancient than the hills”—citing references found in Homer and on Greek vases, Japanese bronzes, and Hindu statuary. Sir Edward B. Tylor, another oft-cited researcher, viewed “Gesture Language,” as he called it, as a mode of communication more deeply instinctive than higher “products of the human mind” such as painting and writing. The naturalness of signing was evident to General James Wilkinson, the governor of Louisiana Territory at the time of the expedition. When the captains sent the Arikara chief Eagle Feather to St. Louis on the first leg of a visit to Washington, D.C., to meet Thomas Jefferson, Wilkinson wrote the president in advance, calling the chief a “Master of the Language of Arms, Hands & Fingers … the language of nature.” Sign language, Eagle Feather informed the governor, was “the only practicable mode of Communication … at the Annual Grand Councils” of the plains tribes.

During Eagle Feather’s sojourn in Washington he impressed the painter William Dunlap with “his ability to make himself understood by signs.” Dunlap observed: “His sign for speaking truth & the contrary is very expressive, he draws a line with his finger from his heart to his mouth & thence straight to the auditor or spectator; for falsehood the line comes crooked from any part of the Abdomen & on issuing from the lips, splits, diverges & crosses in every direction.”

Such directness of expression, according to one student of signing, makes gesticulation the “most easily learned
language.” A summary account of a 1930 conference on the subject calls signing “an imitation of acts, qualities and attributes, ... a description of a thing by color, shape or what it does.” Another source cites its “intuitive” nature and “universal appeal,” noting that common ideas such as “me, you, up, down, come” are promptly understood, just as “placing a finger vertically against the lips ... means throughout the world that silence is desired.”

Underscoring this point are the signs for two tribes that aided the Corps of Discovery: hands pressed against the head for the Salish (historically known as the Flatheads) and an index finger drawn under the nose for the Nez Perces (French for pierced-nose Indians).

Seton offered this classic definition:

A true Sign Language is an established code of logical gestures to convey ideas; and is designed as an appeal to the eye, without the assistance of sounds, grimaces, apparatus, personal contact, written or spoken language, or reference to words or letters; preferably made by using only the hands and adjoining parts of the body.

He added that “there is only one true Gesture Language ... the sign talk of the American Indians—essentially the same from Saskatchewan to Rio Grande.” [For examples of signing, see illustrations opposite and on pages 17-19.]

Seton’s words echo Lewis’s journal entries for August 14, 1805 (cited above), and for September 10, 1805, when the explorers, led by the Shoshone guide Old Toby, encountered the Salish in the Bitterroot Valley of Montana:

our guide could not speake the language of these people but soon engaged them in conversation by signs or jesticulation, the common language of all the Aborigines of North America, it is one understood by all of them and appears to be sufficiently copious to convey with a degree of certainty the outlines of what they wish to communicate.

Lewis exaggerated the universality of sign language, which as noted was mainly employed by tribes of the Great Plains, but his statement reiterates his confidence in signing as an effective means of communication. Given that confidence and the importance he placed in Drouillard’s skills as an interpreter, one wonders why he and Clark weren’t more knowledgeable about signing so they could use it effectively, if necessary, in Drouillard’s absence.

There were a number of occasions when such knowledge would have been helpful. When Lewis first encountered the Shoshones, in the person of a lone mounted warrior at Lemhi Pass, he attempted to show his friendly intentions by waving a blanket, displaying some trade beads,
and rolling up a sleeve to expose his white skin. For added measure he called out *tab-ba-bone*, an expression he mistakenly believed meant white man. The warrior’s response to these overtures was to gallop off as fast as his horse could carry him. The outcome might have been more favorable had Lewis been able to strike up an immediate conversation using signs. Drouillard, while part of Lewis’s advance guard, was some distance behind so couldn’t bring his signing skills into play. Two days later, Lewis came upon three Shoshone women digging roots. This time Drouillard was present, and his signing assured the Indians of their benign purpose.19

During the return journey Lewis again found himself in a tight situation where signing was the only means of communication. On July 26, 1806, on a knoll overlooking Two Medicine River, he and the brothers Joseph and Reuben Field came upon eight young Indians leading a herd of horses. Drouillard, the fourth member of the party, was scouting the river bottom and unavailable for translating. As recounted by historian James Ronda, “While one Indian joined Reuben Field to find Drouillard, Lewis attempted some sign language,” trying to affirm the identity of the party.20 Lewis assumed the Indians were Gros Ventres of the Prairies (Atsinas), and when he asked if this were so they answered in the affirmative. In fact, they were almost certainly Piegan Blackfeet. Ronda suggests the misunderstanding could have been due either to deceit by the Blackfeet or Lewis’s lack of skill in signing.21

Clark also had his problems in Drouillard’s absence. In his journal entry for September 22, 1805, describing his meeting with the Nez Perces at Weippe Prairie, he observed, “We attempted to have Some talk with these people but Could not for the want of an Interpreter,” compelling him “to converse all together by Signs.” Sergeant Patrick Gass noted that the communication was “imperfect.”22 The next day, Clark “assembled the principal men ... and by Signs informed them where we came from [and] where bound.” Whatever the Indians told them, according to Gass, could not be understood, “as we could only converse by Signs.”23

A month later, at the confluence of the Snake and the Columbia rivers, Clark recorded parleys with the Yakimas, Wanapams, and Walla Wallas conducted in sign language; the translators were the explorers’ Nez Perce guides, Tetoharsky and Twisted Hair. (Whether Drouillard’s signing was brought into play isn’t noted, but presumably he provided oral translations of what was said.) The homelands of these Indians were west of the Continental Divide, but like the Shoshones they were familiar with Plains sign lan-
language because of their hunting forays into buffalo country. The meeting with the Walla Wallas on October 19, 1805, is the last recorded instance of successful signing on the outbound journey.24 As the expedition moved farther west and deeper into the salmon culture of the Columbia Basin, any communication by “signs” would have been strictly improvisational.25

Although reluctant to second-guess one of the best-managed expeditions in history, I suggest that Lewis and Clark should have made sure that they and the corps’ three noncommissioned officers were conversant in Plains Indian sign language. (Sergeants Gass, John Ordway, and Nathaniel Pryor all led detached units through Indian country during the homeward journey.) They should have spent more time during the long winter months at Fort Mandan and later at Fort Clatsop, on the Pacific, learning their ABCs from Drouillard. At the very least, every member of the expedition should have been able to convey by signs the simple message of “our friendly intentions” and “our wish to make a peace” (i.e., make peace).26 Such training would not have been difficult—sign language is learned easily, and six hundred signs make a fairly good sign talker.

(A number of secondary sources state erroneously that Private George Gibson knew sign language and that on one occasion it caused friction between him and Drouillard. The root of this canard appears to be M.O. Skarsten’s biography of Drouillard, which mentions “Gealousy” between the two men recorded by Sergeant John Ordway in his journal entry for November 28, 1804, when the expedition was camped among the Mandans. Ordway refers cryptically to “Gealousy between Mr Gisom one of our Intr. and George Drewyer last evening &C.” Skarsten took “Gisom” to mean Gibson, but the reference is actually to René Jusseaume, a civilian interpreter employed by the captains at Fort Mandan.)27

Signing has other advantages besides universality. It can be employed face-to-face or at a distance, beyond ear shot. (Lewis could have conversed with the mounted Shoshone warrior and the Piegan who “came within a hundred paces” at the Two Medicine site.) It can also be used for silent communication when stalking game or sneaking up on an enemy.28

**Translation Chains**

Conversely, sign language has limitations. It can’t be used in the dark.29 And as Lewis observed, it is “imperfect and liable to error.”30 There were tribal variations—in effect, dialects—in signing vocabularies, which could lead to confusion, and even the best sign talker would have been challenged to convey some of the abstract concepts about nationhood and political hegemony in the captains’ standard speech to tribal leaders. This may be why Lewis and Clark never relied on signing when they had the option of oral interpretation, even if it meant using long, cumbersome, and time-consuming translation chains.31

The “links” in those chains included four members of the permanent party—François Labiche, Jean-Baptiste Lepage, Drouillard, and Pierre Cruzatte—who spoke both English and French; Toussaint Charbonneau, who spoke French and Hidatsa; and Sacagawea, who spoke Hidatsa and Shoshone. In addition, while traveling up the Missouri on the first leg of the journey, the explorers encountered three tribes with resident traders who did the interpreting—a certain “Fairfong” with the Otos, Pierre Dorion with the Yankton Sioux, and Joseph Gravelines and Pierre-Antoine Tabeu with the Arikaras. Cruzatte, who spoke Omaha, his mother’s language, was helpful when dealing with an Omaha held prisoner by the Teton Sioux. During the winter at Fort Mandan the principal interpreters were René Jusseaume (Mandan) and Charbonneau (Hidatsa); Charbonneau did not speak English, so communication with him went through Labiche or one of the other French speakers in the permanent party.

Sacagawea and Charbonneau were the Shoshone-Hidatsa-French link in translation chains west of the Continental Divide. Communications in the three longest chains went through five languages: Salish, Shoshone, Hidatsa, French, and English (September 5, 1805); Walla Walla, Shoshone, Hidatsa, French, and English (April 27–30, 1806);32 and Nez Perce, Shoshone, Hidatsa, French, and English (May 4–June 30, 1806).33

**Chinook Jargon**

Moving down the Columbia in the fall of 1805, the expedition passed numerous Indians living in permanent villages along the river. On October 27, at the Falls of the Columbia, the captains “took a Vocabulary” of the two languages they found there—those of the “E-nee-shur” and the “E-chee-lute.”34 Clark noted that the languages were “very different,” even though the tribes speaking them were “Situated within Six miles of each other.” At the same time, he observed that “many words of these people are the same”—an indication, perhaps, that at least some of what he heard was Chinook jargon, a trade pidgin spoken extensively on the Pacific Coast from northern California to Alaska.35

Lewis and Clark appear to have been unaware of the existence of Chinook jargon, which took its vocabulary
from the languages of many tribes (including the Chinooks) and also incorporated some English and French picked up from traders. When Indians of the lower Columbia attempted to converse with expedition members they probably did so in this lingua franca of the Northwest tribes. Trade jargon's use on at least one occasion can be documented. When Clark visited a Clatsop village on December 10, 1805, he demonstrated his shooting prowess by knocking the head off a duck at 30 paces. In his journal description of the incident, Clark rendered phonetically the words of the astonished witnesses:

Clouch Musket, wake, com ma-tax Musket.

Clark translated this utterance as “good Musket do not under Stand this kind of Musket &c.” A liberal interpretation might phrase it, “That’s a good musket, but we don’t understand how it shoots so well.” Exactly how Clark got the meaning—who would have translated for him—isn’t stated. Whatever the intended meaning, Clark’s phonetic transcription is remarkably close to the jargon words for “good … not understand.” The Indians used the word “musket,” which had entered jargon vocabulary. Clark had first noted the use of English among the lower Columbia tribes when the expedition was still pinned down by storms near Point Distress. Later, at Fort Clatsop, in a journal entry about English and American trading vessels visiting the mouth of the Columbia, Lewis wrote, “The Indians inform us that they [the traders] speake the same language with ourselves, and give us proofs of their varacity by repeating many words of English, as musquit, powder, shot, rifle, file, damned rascal, sun of a bitch &c.”

Following Jefferson’s instructions to learn as much as possible about the native peoples they encountered, the captains dutifully recorded Indian vocabularies and did their best to distinguish one language from another. They recorded the “clucking tone” common to Chinookian languages—“a sound difficult to describe—but more like a hen or duck guttural & disagreeable,” as Clark later told Nicholas Biddle. But often their linguistic analysis fell short. As James Ronda notes, “As was often the case, the explorers had a difficult time separating the names of villages, bands, tribes, and linguistic divisions.” To cite one example, they miscategorized the language of the Tillamooks as Chinookian when in fact it belongs to the Salish family. The widespread use of Chinook jargon may have contributed to their confusion.

Language was a barrier to explorer-Indian relations on the coast. Clark complained that “we cannot understand the language of the natives Sufficiently” to ask informed questions of an ethnographic nature.
language and the smattering of vocabulary picked up over time, however, the explorers were able to trade and to converse, at least after a fashion, with the many Indians who called on them during their dreary winter at Fort Clatsop.

Lewis once described the “curses” of his travels as equal to the plagues of Egypt. His difficulties with native languages recall another Biblical metaphor—the Tower of Babel. The Corps of Discovery encountered many languages during its 28 months on the trail, and a lot of what was said—whether by hand or tongue—was probably lost in translation. Yet as always, Lewis and Clark managed. They looked, listened, and talked their way as best they could (all in all, with remarkable success) across a continent and back.

Notes


2 In this discussion I am much indebted to WPO’s editor, Jim Merritt, for supplementary research and references, particularly concerning translation chains.

3 Gary E. Moulton, ed., The Journals of the Lewis and Clark Expedition, 13 volumes (Lincoln: University of Nebraska Press, 1983-2001), Vol. 5, p. 88. Entry for August 14, 1805. All quotations or references to journal entries in the ensuing text are from Moulton, by date, unless otherwise indicated.

4 The Comprehensive Index (Volume 13) of the Moulton edition of the journals lists 12 references to sign language (not counting notes), all in Volume 5. There are 13 references if you include “signs” made by an excited Sacagawea to Clark on August 17, 1805, when she recognized an approaching band of Indians as Shoshones, her people. The index neglects to list Lewis’s entry of July 26, 1806 (Volume 8, p. 130), which describes his meeting with the Piegan Blackfeet on Two Medicine River.

5 William Philo Clark, the first systematic chronicler of Plains Indian sign language, commented on the general paucity of information about the subject in accounts by early explorers and fur traders: “That we find no positive evidence of the existence and use of gesture speech does not necessarily show that there was none. ... Circumstances forced Lewis and Clarke [sic.] in their exploration of the then unknown West to spend the winter of 1804-5 with the Mandans, Gros Ventres, and the Arickarees in their village on the Missouri ... During the winter the Cheyennes and Sioux visited this village, and there can be no doubt that gesture speech was daily and hourly used by the members of these tribes ... but no mention is made of the fact, and not until these explorers met the Shoshones near the headwaters of the Missouri do we find any note made of signs being used. If these explorers who entered so minutely into the characteristics of the Indians in their writings failed to make a record of this language, I do not think it very surprising that earlier investigators should have, under less favorable auspices, also neglected it.” William Philo Clark, The Indian Sign Language (Lincoln: University of Nebraska Press, 1982; reprint of the original edition, published in Philadelphia by L.R. Hammerly in 1885), p. 11.


7 Ibid., Vol. 2, p. 563.

8 The Biddle edition (whose nominal editor was Paul Allen) is actually a paraphrased narrative of the expedition based on the journals. In his description of meeting the Shoshones, Biddle did not include Lewis’s comments about Drouillard’s signing. The edition of the journals edited by Elliott Coues in 1893—an annotated update of Biddle—has no more to say about sign language than the Biddle edition. Elliott Coues, ed., The History of the Lewis and Clark Expedition by Meriwether Lewis and William Clark, 3 volumes (New York: Dover Publications, Inc., 1965; reprint of 1893 edition).
We Proceeded On

To see -

11 Jackson, *Vol. 1*, pp. 272-274.
12 Ibid., pp. 274-275, note 2.
14 U.S. Department of the Interior, *Plains Indian Sign Language* (Browning, Mont.: A Memorial to the Conference September 4-6, 1930), unpaginated.
16 Moulton, *Vol. 5*, pp. 188n and 224n; Sally Thompson, “Mismomers along the Lewis and Clark Trail,” a paper delivered at a 2003 symposium and published in *A Confluence of Cultures: Native Americans and the Expedition of Lewis and Clark* (Missoula: University of Montana, 2003), p. 153; Fronval and Dubois, p. 17. At the time of their encounter with Lewis and Clark, the Salish no longer practiced head-flattening. The Nez Perces, who call themselves the Nimi-pu, realized this wasn’t a war party. (Moulton, *Vol. 5*, p. 346n.)
17 Seton, p. xxvi.
18 Ibid., Vol. 5, pp. 196-197.
19 Ibid., pp. 69 and 78-79; entries for August 11 and 13, 1805.
21 Whatever the reason, the encounter ended disastrously. Lewis’s party and the Indians camped together that night. A scuffle broke out the following morning, resulting in the death of one and possibly two of the Blackfeet.
22 Moulton, *Vol. 10*, p. 149; entry for July 26, 1805.
23 Ibid., p. 149. In this tight situation Clark sensed a need “to prevent Suspission” while trying “to Collect by Signs as much information as possible.” The friendly testimony of a Nez Perce may have done more to allay “suspission” than Clark’s signing efforts; tribal tradition holds that a woman named Watkuweis saved the explorers’ lives. Ronda, p. 159.
24 Clark, who was again in the lead when they met the Walla Wallas, tells how, to little avail, “I gave my hand to them and made Signs of my friendly disposition.” The Indians were in an agitated state and remained so until they saw Sacagawea and her infant, Pomp, and realized this wasn’t a war party. (Moulton, *Vol. 5*, pp. 305-306.)
25 On two other occasions while on or near the Pacific—November 14 and December 9, 1805—the explorers recorded Indians attempting to communicate by “Signs,” but the references are clearly to impromptu body language.
26 Moulton, *Vol. 5*, p. 296.
29 Unless you have a moonlit night, of course, or “repair to the campfire.” Tylor, p. 77.
30 Moulton, *Vol. 5*, p. 88.
31 Thompson, pp. 151-154.
32 A Shoshone boy was with the Salish when the explorers met them on the upper Bitterroot. The boy isn’t mentioned in the journals but is known through Nicholas Biddle’s notes. For details, see J.I. Merritt, “Unraveling the Salish-to-English translation chain,” *WPO*, May 2005, p. 36. A Shoshone woman was with the Walla Wallas when the explorers met that tribe on the return journey. Moulton, *Vol. 7*, p. 178; entry for April 28, 1806.
33 This was on the homeward trek. Outbound, the explorers and Nez Perces communicated via sign language. In 1806 the Nez Perces had a Shoshone boy with them who wasn’t present in 1805. (Moulton, *Vol. 7*, p. 244; entry for May 11, 1806.)
34 These were probably, respectively, the Wishram and the Wasco tribes, members of the Chinookan language group. Moulton, *Vol. 5*, p. 346n.
35 Frederick Webb Hodge, ed., *Handbook of American Indians North of Mexico* (Pageant Books, Inc., 1959), Part 2, pp. 272-275. Coastal Indians would have used Chinook jargon to address white strangers, but Clark would also have overheard them speaking among themselves in their native tongues.
37 Ronda, p. 186. Ronda says that the Tillamook Indians spoke Chinook jargon to strangers, and it is reasonable to generalize his statement to include all tribes in the region.
38 Moulton, *Vol. 6*, pp. 121-122n.
39 Ibid., p. 49 (entry for November 15, 1805) and p. 187 (January 9, 1806).
40 Moulton, *Vol. 5*, p. 345 (entry for October 27, 1805); Jackson, *Vol. 2*, pp. 501-502. The artist Paul Kane, who visited the region in the 1840s, described Chinook clucking as “horrible, harsh spluttering sounds,” but he was nevertheless able to learn “this patois” well enough to “converse with most of the chiefs with tolerable ease.” J. Russell Harper, ed., *Paul Kane’s Frontier, Including Wanderings of an Artist among the Indians of North America* (Austin: University of Texas Press, 1971), p. 93.
41 Ronda, pp. 184 and 186.
42 Moulton, *Vol. 6*, p. 316. Entry for February 15, 1806. Lewis says something very similar in his entry for January 9, 1806 (Ibid., p. 186).
**“We eat an emensity of meat”**

Thanks to an abundance of big game, Lewis and Clark’s men lived high off the land when traversing the Great Plains. They also burned prodigious numbers of calories and worked up ferocious appetites. How much meat did they consume, and how much did they waste?

By Kenneth C. Walcheck

When Lewis and Clark passed through the upper Missouri region it was one of the richest ecosystems on earth, with an abundance of big game that made it the American equivalent of East Africa’s Serengeti. On May 6, 1805, Lewis wrote, “It is now only amusement for Capt. C. and myself to kill as much meat as the party can consum.” Two days later he added, “We can send out at anytime and obtain whatever species of meat the country affords in as large quantity as we wish.”1 On the return journey, during Clark’s exploration of the Yellowstone River, he wrote, “The Buffalow and Elk is astonishingly numerous” and “So jintle that we frequently pass within 20 or 30 paces of them without their being the least alarmed.”2

“Food,” emphasizes essayist Albert Furtwangler, “is a constant preoccupation” in the Lewis and Clark journals: “Finding it, capturing or procuring it, preparing it, preserving it, sharing it, eating it, and, not least, coping with the results of eating it—these processes stand out prominently on page after page.”3

The importance of obtaining sufficient wild game for food and other necessities played an important role in determining the success or failure of the expedition. The journals provide a wealth of information about the abundance of game on the high plains (and the dearth of it in the Rocky Mountains and on the Columbia Plateau) and the explorers’ daily feasts of buffalo hump, elk steaks, and other fare. Lewis wrote, “we eat an emensity of meat”; feeding the 32 adult members of the permanent party, he added, “requires 4 deer, an Elk and a deer, or one buffaloe, to supply us plentifully 24 hours.”4 He is undoubtedly referring to adult animals in prime condition. We can think of the amount needed to sustain the group for a single day as a “ration unit.” The ecologists Paul Martin and Christine Szuter have taken Lewis’s list and added two other animals, bear and pronghorn antelope.5 Adding one other major species (bighorn sheep) gives us the following calculations for one ration unit:

<table>
<thead>
<tr>
<th>RATION UNITS (Table 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bison: 1</td>
</tr>
<tr>
<td>Elk: 1.3</td>
</tr>
<tr>
<td>Bear: 1.3</td>
</tr>
<tr>
<td>Deer: 4</td>
</tr>
<tr>
<td>Sheep: 4</td>
</tr>
<tr>
<td>Antelope: 8</td>
</tr>
</tbody>
</table>

How much of the meat on a carcass was actually utilized for food? The answer would have depended on vari-
Michael Haynes’s painting depicts York returning from a hunt with a whitetail deer. Meriwether Lewis observed that four deer fed the 32 adults of the permanent party for one day. Deer (whitetail and mule) supplied most of the meat consumed between Fort Mandan and Fort Clatsop.
ables such as the animal’s sex, age, and condition; the distance of the kill from the main party (the meat would have been butchered on site and packed out); spoilage due to warm temperatures; loss to predators; tissue damage caused by the bullet; and whether the animal was killed primarily for its meat or its hide (to make clothing, boat coverings, shelters, or tow ropes). One should also bear in mind that when game was plentiful the hunters often took favored parts—in the case of bison, the tongue, marrow bones, and hump ribs—and left the rest to scavengers. (More on this later.) The above considerations place some limits on the use of the ration unit for analytical purposes. Still, when coupled with the journals’ detailed record of game kills, it offers a reasonable way to quantify the availability of animal protein along the expedition’s route. For example, during the explorers’ 78 days of outbound travel from the mouth of the Yellowstone to their departure from the Great Falls (April 27–July 13, 1805), we know that hunters killed 115 deer, 87 bison, 63 elk, 27 antelope, 14 grizzly bears, and 9 bighorn sheep. As noted in Table 2, the total of 315 animals provided a potential 180.6 ration units, or an average of 2.3 units per day:

BIG-GAME KILLS, APRIL 27–JULY 13, 1805 (TABLE 2)

<table>
<thead>
<tr>
<th>Species</th>
<th># killed</th>
<th>Ration units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deer</td>
<td>115</td>
<td>28.75</td>
</tr>
<tr>
<td>Bison</td>
<td>87</td>
<td>87.00</td>
</tr>
<tr>
<td>Elk</td>
<td>63</td>
<td>48.46</td>
</tr>
<tr>
<td>Antelope</td>
<td>27</td>
<td>3.04</td>
</tr>
<tr>
<td>Grizzly</td>
<td>14</td>
<td>10.70</td>
</tr>
<tr>
<td>Bighorn</td>
<td>9</td>
<td>2.25</td>
</tr>
<tr>
<td>Total</td>
<td>315</td>
<td>180.60</td>
</tr>
</tbody>
</table>

Recall that one ration unit was enough to feed the expedition’s 32 adults for one day. Given such plenty, observed Lewis, the chance of going hungry was “consequently small.”

MEAT CONSUMED AND CALORIES EXPENDED

Accounts of the Lewis and Clark Expedition often state (without referencing their sources) that the Corps of Discovery consumed eight to ten pounds of meat per day while traveling through buffalo country. The journals don’t give an exact amount for daily meat consumption—the figure of eight to ten pounds is drawn from the literature of the Canadian fur trade; in most cases the probable source is Mari Sandoz’s 1964 book, The Beaver Men. I am inclined to believe that similar quantities of meat were, in fact, consumed by Lewis and Clark’s men in buffalo country. For much of this portion of the journey they were expending tremendous amounts of energy—straining at tow ropes in frigid water while pulling the expedition’s pirogues up the Missouri, for example, or dragging tons of supplies over the 18-mile portage route at the Great Falls. Wrote Lewis, “their labour is incredibly painful and great, yet those faithfull fellows bear it without a murmur.”

On a daily basis, how much animal protein could realistically be digested and metabolized to replace expended calories? I directed this question to Dr. Susan Raatz, a bionutritionist at the University of Minnesota’s General Clinical Research Center. She confirmed that it was entirely possible to consume nine pounds of meat in a 24-hour period and that the body can readily convert the meat to glucose, a sugar that fuels the cells. (The process, which occurs in the liver, is known as glyconeogenesis. This means literally the formation of “new” glucose—new in the sense that it is made from proteins or fats rather than from carbohydrates.) The energy needs of a 25-year-old male engaged in strenuous and sustained physical labor can easily reach 6,000 or more calories per day. Total calories per pound for bison, elk, deer, and pronghorn antelope are shown in the tables below.

CALORIES AND FAT GRAMS PER POUND (TABLE 3)

<table>
<thead>
<tr>
<th>Meat</th>
<th>calories</th>
<th>fat (gms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bison</td>
<td>656</td>
<td>11.0</td>
</tr>
<tr>
<td>Elk</td>
<td>667</td>
<td>9.0</td>
</tr>
<tr>
<td>Deer</td>
<td>772</td>
<td>15.0</td>
</tr>
<tr>
<td>Antelope</td>
<td>676</td>
<td>4.6</td>
</tr>
</tbody>
</table>

(By way of comparison, there are 1,125 calories and 82 grams of fat in a pound of lean domestic beef.)

CALORIES PROVIDED BY 8–11 LBS. OF THE ABOVE (TABLE 4)

<table>
<thead>
<tr>
<th>8 lbs.</th>
<th>9 lbs.</th>
<th>10 lbs.</th>
<th>11 lbs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bison</td>
<td>5,248</td>
<td>5,904</td>
<td>6,560</td>
</tr>
<tr>
<td>Elk</td>
<td>5,336</td>
<td>6,003</td>
<td>6,670</td>
</tr>
<tr>
<td>Deer</td>
<td>6,176</td>
<td>6,498</td>
<td>7,720</td>
</tr>
<tr>
<td>Antelope</td>
<td>5,408</td>
<td>6,084</td>
<td>6,760</td>
</tr>
</tbody>
</table>

Table 4 indicates that consuming eight pounds of venison or nine pounds of bison, elk, or antelope meat would fulfill an expedition member’s 6,000-calorie daily requirement. The men would also have eaten provisions carried on the journey (e.g., flour or corn) or gathered by Sacagawea (berries), but the quantities consumed on a daily basis are unknown; relative to meat, their caloric contribution was probably negligible.

How much confidence can we place in Table 1, the list of ration units by species? To answer this question, we
have to know how much edible meat is available from a harvested animal. Since deer rank first in the expedition’s harvest totals (Table 2), we will use them for our example in meeting a daily ration requirement of 6,000 calories. Practical estimates of the amount of boneless edible venison from a field-dressed deer can be determined from the following formulas:

- **Carcass weight** (body weight minus head, hide, feet, and innards) = field-dressed weight divided by 1.331.
- **Ideal boneless meat yield** (maximum amount of meat obtainable with no meat waste in butchering) = carcass weight multiplied by 0.67.
- **Realistic meat yield** (amount of boneless meat one can reasonably expect to get after subtracting the amount of meat lost from bullet tissue damage) = ideal boneless meat yield multiplied by 0.70.

A healthy mule deer after field-dressing might weigh 165 pounds. From this, using the above equations we can estimate that the carcass will weigh 124 pounds and that its ideal boneless yield will be 83 pounds and its realistic yield 58 pounds. Let’s assume, hypothetically, that four deer of different age classes with dressed weights of 180, 145, 110, and 165 pounds were harvested on a single day by expedition hunters. This would yield about 210 pounds of edible boneless venison, about 46 pounds short of the 256 pounds (eight pounds per individual) required for 32 adults, according to Lewis. Of course, not every day involved large expenditures of energy; we should also remember that members of the expedition had different metabolic rates and that on any given day they may not have been engaged in the same degree of labor. (Lewis and Clark, as well as Sacagawea and her husband, Toussaint Charbonneau, would have had lower caloric requirements.) With these qualifications in mind, the above data appear to confirm Lewis’s statement that four deer comfortably fed the entire party for one day.

**HOW MUCH IS TOO MUCH?**

On April 27, 1805, 20 days after its departure from Fort Mandan, the expedition reached the mouth of the Yellowstone River. “Altho game is very abundant and gentle,” wrote Lewis, “we only kill as much as is necessary for food.” His words suggest that the expedition was careful not to kill more game than needed. It is a statement, the naturalist Paul Russell Cutright has suggested, that “every conservationist and friend of wildlife should applaud.” Unfortunately, an analysis of the record reveals that the expedition’s hunters often killed much more game than required. The historian Harry Fritz underscores this point by branding Lewis the “West’s first slob hunter.”

The truth is more complex, but a perusal of the journals would seem at least to partially confirm this judgment.

On June 17 and 18, 1805, at the Great Falls of the Missouri, the expedition killed 11 bison, 10 deer, and an elk,
for a total of 13.5 ration units—more than 10 times the amount needed to feed everyone for two days.

On July 11, 1806, upstream of the Great Falls during the homeward journey, Lewis’s 10-man party killed 12 bison for meat and also for skins for making bullboats. Some of the meat was sun-dried for later use. A single bison would have furnished the party with enough fresh meat for three days. Even allowing for what they ate at the time and preserved, there must have been tremendous wastage—a boon at least to the area’s many wolves.

On July 29 and 30, 1806, Lewis’s 20-man party killed 18 bighorn sheep, two bison, an elk, and a grizzly bear in the Missouri Breaks. Total ration units: 9.1. Ration units needed for party of 20 for two days: 1.25.12

On July 31, 1806, Lewis’s party “fell in with a large herd of Elk” and killed 15 (for their hides). In the well-timbered river bottom they killed 14 deer “without attempting to hunt but little for them.” The day’s bag also included two bighorn sheep for a total of more than 11 ration units, when less than one was needed.

On August 3, 1806, Lewis’s party killed 29 deer, when three would have comfortably fed the group. The slaughter continued the next day with the taking of a bison, an elk, a grizzly, and two deer (4.1 ration units, six times as much as needed).

Clark, meanwhile, was committing his own excesses during his descent of the Yellowstone River. On July 19, 1806, his party of 12 adults (plus the toddler Pompey) killed seven elk, six deer, an antelope, and two bears. Total harvest: 8.5 ration units, more than 20 times the amount required. At least twice Clark appears to have succumbed to trophy fever. On July 24, 1806, he “Killd the fatest Buck I ever saw” while his slave York killed a buffalo for just its tongue and marrow bones. The following day Clark observed 40 bighorn sheep and managed to kill four of them. He regretted that this “gang” didn’t include a large ram—“had there been one … I Should have killd him.”9,13

It is easy to deplore profligate hunting, but it wasn’t unusual in its day. If anything, it was the norm, and had been since the first Europeans had begun settling North America nearly two hundred years before. For Lewis and Clark and others who followed them onto the plains, the vast numbers of bison and other large herbivores seemed limitless. The importance of conservation (a movement initiated by sport hunters) didn’t permeate the American consciousness until later in the 19th century.14

Despite occasional excesses of the sort noted above, for the most part the Lewis and Clark Expedition killed only what it needed to survive. The Corps of Discovery lived off the land for most if its 28 months in the field—and that mainly meant eating “an emensity of meat.”

2 Ibid., Vol. 8, pp. 219 and 237.
4 Moulton, Vol. 4, p. 379; entry for July 13, 1805.
6 Donald Jackson, ed., Letters of the Lewis and Clark Expedition with Related Documents, 1783-1834, 2 volumes (Urbana: University of Illinois Press, 1978), Vol. 1, p. 224. The quotation in full states, “Game is very abundant, and seems to increase as we progress; our prospect for starving is therefore consequently small.” This sentence is contained in a letter from Lewis to his mother written at Fort Mandan. He was referring to the upper Missouri in what is now North Dakota, but his remark would apply equally to the Missouri in Montana.
7 Mari Sandoz, The Beaver Men: Spearheads of Empire (Lincoln: University of Nebraska Press, 1964; Bison Books edition, 1978). On page 174 Sandoz refers to “French Canadian free traders, a hearty lot who ate eight pounds of fresh meat per man a day.” On page 189 she states that a voyageur’s ration on the Plains was “ten pounds of fresh buffalo”; she adds that the ration at Athabaska was “eight pounds of moose meat, on large rivers three big white fish and west of the Rockies, where game might be scarce, eight rabbits or, if in season, one salmon.” Sandoz doesn’t provide sources for any of these figures, but the reference to “eight pounds of fresh meat” appears from context to come from the explorer David Thompson’s memoirs; “a french Canadian,” wrote Thompson, “has the appetite of a Wolf, and glories in it; each man requires eight pounds of meat pr day, or more.” David Thompson, Narrative of Explorations in Western North America, 1784-1812, J.B. Tyrrell, ed. (Toronto: Champlain Society, 1916), p. 443. Voyageurs en route between posts mainly relied on provisions carried for the journey, including “voyageur’s grease” made of lard, venison tallow, or bear grease.
9 By way of example, physiologist Jared Diamond offers the following metabolic rates for people “leading strenuous lives”: miners, 3,800 calories per day; soldiers in boot camp, 4,100; polar explorers pulling heavy sleds in extremely cold weather, 5,000; water-polo players in training, 6,000; triathletes in training, 8,000. Jared Diamond, “The Athlete’s Dilemma,” Discover, August 1991, p. 80.


12 Calculations are based on the following: 1 RU (Ration Unit) = meat to feed 32 adults engaged in strenuous activity for one day. RU needed to feed 1 adult: .03125. 1 RU = 1 bison, 1.3 elk or bear, 4 deer or bighorn sheep, 8 pronghorn antelope. 1 bison = 1 RU, 1 elk or bear = .769 RU, 1 deer or bighorn = .25 RU, 1 pronghorn = .125 RU.

13 In general, Clark’s party was less excessive than Lewis’s. By my count, Clark’s total of ration-unit kills on the Yellowstone is 62, compared to Lewis’s total of 77 during a comparable period, when he was exploring the Marias River and descending the Missouri to its junction with the Yellowstone.
The captains’ compromise reconciled Lewis’s ego with his co-commander’s own need for recognition

By David Nicandri

The first inkling that the Expedition for North-western Discovery was close to the decision to leave Fort Clatsop appeared in journal entries for early March of 1806. On March 5, Meriwether Lewis indicated his intention to depart the area on the first of April, as planned, “unless the want of subsistence compels us.” The next day, Sergeant Patrick Gass noted that “Our stock of provisions being nearly exhausted, six men were sent out in different directions to hunt.” Three others were dispatched to procure fish from local Indians, while “Some men were also employed in repairing the canoes.” Elaborating on Lewis’s timetable for departure, Gass said the strategy behind this work was to “be able to set out on our return immediately, should our hunters be unsuccessful.”

On the 9th, the captains recorded that Private John Shields had been set to work, as Clark phrased it, “to make Some Sacks of Elk Skin to contain my papers, and various articles which we wish kept Dry.” Less ambiguous is Clark’s entry of March 12, noting a supply of 358 pair of moccasins, in addition to an inventory of dressed hides for shirts, overalls, and capotes, all readied “for the homeward journey.” Surely, the “delay” on the coast, as Clark had once called it, was nearing its end. On the 12th, Sergeant John Ordway reported that the canoes were being “corked & pitched” in readiness. And on the same day Private Joseph Whitehouse added: “Two of our party were employed in making of Oars.”

As the departure became imminent the logistical implications of resuming the voyage loomed more in Clark’s mind than Lewis’s. This can be discerned not merely from the inventory of supplies, but also Clark’s supplement to Lewis’s entry of March 13. Therein he reported Indian intelligence that the first run of salmon up the Columbia would begin in early April. If that did not prove true, then he thought “it will be unfortunate for us,” since salmon “must form our principal dependance for food ... above the Falls and it’s S.E. branch [i.e., the Snake River] to the Mountains.”

By the middle of March, negotiations with the Clatsop Indians over the purchase of canoes necessary for resuming the voyage home had begun, but they were not going well from Lewis’s perspective. As he phrased it, they “would not dispose of their canoes at a price which it was in our power to give consistently with the state of our Stock of Merchandize.” (In the end, infamously, the explorers would simply steal one.) All that remained of the once ample supply of small trade items could be held, Lewis said, in two handkerchiefs. The balance of their
stock consisted of six blue robes and a scarlet one, an army coat and hat, five robes made from the remnants of an American flag, and a few pieces of cloth trimmed with ribbons. On this, Lewis continued, “we have wholy to depend for the purchase of horses and such portion of our subsistence from the Indians as it will be in our pow-
ers to obtain.” This, he concluded, was “a scant depen-
dence indeed, for a tour of the distance of that before us.”

On Monday, March 17, two weeks ahead of the prede-
termined schedule, the expedition’s canoes were readied for departure. The deciding factor, as always for Lewis and Clark on the Columbia estuary, was the weather. As Lewis explained, waiting until April 1 ran the risk of being delayed even more in getting back over the mountains on a timely basis. Not wanting to countenance that thought, he and Clark determined to leave when the river was next “calm.” Otherwise, Lewis wrote, “we cannot accomplish that part of our rout” up to the villages of the Cathlamet Indians, where the swells of the wide Columbia dissipate in the relatively narrow passage of the river. The lessons of the previous November 8-15, when the expedition had been pinned down by storms at Dismal Nitch, on the north bank of the estuary, had been well learned.

On March 18, Lewis wrote out a brief paragraph in triplicate about the expedition’s success in reaching the Pacific. He posted one copy inside the fort and gave the two others to Clatsops for passing on to any ship captain who might soon appear in the neighborhood. Lewis’s brief history of the expedition, all that might have been known of their fate without a successful return journey, said, in its operative part:

the party consisting of the persons whose names are hereunto annexed, and who were sent out by the government of the U’ States in May 1804 to explore the interior of the Continent of North America, did penetrate the same by way of the Missouri and Co-
lumbia Rivers, to the discharge of the latter into the Pacific Ocean, where they arrived on the 14th No-
vember 1805, and from whence they departed the ____ day of March 1806 on their return to the United States by the same rout they had come out

On the reverse side of this transcript either Lewis or Clark sketched out their understanding of the “connec-
tion of the upper branches of the Missouri with those of the Columbia ... on which we also delienated the track we had come and that we meant to pursue on our return where the same happened to vary.”

In this message-in-a-bottle-like narrative we see the compulsion of Lewis to be at the center of the story. This
he does by attributing the accomplishment of reaching the Pacific Ocean to the entire party on November 14. This was the date Lewis and four men rounded Point Dismal Nitch, where they would remain yet more one day. Clark let the assertion pass, for the moment, in his verbatim journal copy of Lewis's paragraph, but this episode probably served as the foundation for an ensuing dialogue between him and Lewis over how to determine the date the expedition achieved its mission of reaching the Pacific.7

Evidence for such a discourse can be found by discerning how the first two letters dispatched by Lewis and Clark upon the expedition's return to St. Louis in September 1806 were framed. One letter was written by Lewis to Thomas Jefferson, and the other was written by Clark to one of his brothers in Louisville (probably Jonathan). The historian Donald Jackson determined that Lewis originated both his own letter to Jefferson and more particularly the text of Clark's letter to his brother. The contents of this familial correspondence were expected to be shared with an eager frontier press. A concurring theory of Paul Russell Cutright holds that Lewis prepared the draft of the letter to Clark's family "in recognition of the fact that he was the better journalist and certainly a better speller."8 In any event, it was the missive to Clark's family, not Lewis's to Jefferson, that first informed the public's understanding of what happened during the expedition and when.

Dispatched on September 23, 1806, Clark's final version of what Lewis had initially prepared for him was first published in the Frankfort, Kentucky, Palladium on October 9, and widely republished by other newspapers. This is what the explorers expected to happen. Lewis's letter to Jefferson does not mention a date in association with reaching the Pacific. His draft of Clark's letter stipulated "On the 14th of November we reached the ocean," replicating the account contained in the note left at Fort Clatsop. However, Jackson reports that Lewis's script was struck over in Clark's handwriting and the 17th of November offered as a substitution. In the final version of Clark's letter the November 17th date endured, contradicting Lewis's message left at Fort Clatsop. This is a curious turn. When William Clark disagrees with Meriwether Lewis there is a story to tell.9

The historian James Holmberg notes that a number of the dates in Lewis's draft of Clark's letter and Clark's final version are wrong. He attributes this to a combination of faulty memories and the captains' not seeking the obvious recourse of their journals.10 A close inspection of the record reveals an alternative, intentional explanation. The note Lewis left at Fort Clatsop creates the unmistakable impression that Lewis considered November 14, 1805, as the key date, no doubt because he figures prominently in the story for that day. On the other hand, Clark's journal and maps show that he attached greater significance to November 15, when he and the larger party succeeded in rounding Point Dismal Nitch and setting up Station Camp, which over the next two weeks became the expedition's base for the systematic exploration of the north shore of the Columbia estuary and Cape Disappointment.

Nine months later, as the expedition was approaching St. Louis and its exploits were about to become a matter of public knowledge, Lewis and Clark's divergent perspectives had to be reconciled. There are two possible reasons for this. First, his survey establishing the location of Station Camp—a landmark event in the cartographic history of the enterprise—was conducted that day. The 17th was also the occasion of Lewis's return to Station Camp from his vanguard tour around Cape Disappointment and the north coast. This would have been the first day both Lewis and Clark were at Station Camp together.11

Both the draft and final versions of Clark's letter to his brother give March 27, 1806, as the date of the expedition's departure from Fort Clatsop, when in fact it left on the 23rd. This is the letter's only incorrect date that seems an innocent mistake. All of the other dates in the letter differ from the known sequence of events as recorded in the journals. This was purposeful. The controlling intention here seems to have been primarily William Clark's. As an explorer occasionally troubled by Lewis's grandstanding, and as chief cartographer with ready access to the maps containing the campsite chronology, Clark had the motive and means to balance the account of accomplishments. In this sense Clark, in effect, was the expedition's historian.12 Upon returning to St. Louis and the expected publicity attendant upon a successful expedition, Clark leveraged his command of the documentary record for strategic effect. In so doing, he prefigured the steps he would take years later to correct Lewis's journal on the eve of publication of Nicholas Biddle's 1814 narrative of the expedition.

The arrival at the Pacific was the fifth of five key events chronicled in Clark's letter, the others being (1) arrival at the Great Falls of the Missouri, (2) arrival at the Three Forks of the Missouri, (3) arrival at the head of navigation on the
Missouri, and (4) emerging from the Bitterroot Mountains. In every case, the dates given in Clark’s letter represent a reconciliation of dates and events described in the journals:

Arrival at the Great Falls. Lewis, in the vanguard, arrived there on June 13, 1805. Clark and the bulk of the party arrived on June 14; this is the date recorded by Lewis in his draft of Clark’s letter—a date that Clark did not correct in the final version.

Arrival at the Three Forks. Clark, in the vanguard, reached the junction of the Gallatin, Madison, and Jefferson rivers on July 25, 1805. Lewis arrived two days later, on the 27th, the date recorded in Clark’s letter. (This was the sole instance when Clark was the first captain to arrive at a major object of discovery.)

Arrival at the head of navigation on the Missouri. Lewis’s draft of Clark’s letter says he and Clark reunited at Camp Fortunate, “at the forks of Jeffersons river,” on August 17, 1805. The real story of this phase of the expedition is the crossing of the Continental Divide, a feat first accomplished by Lewis and three others on August 12. Both the draft and final version of the letter aver to Lewis’s party penetrating “to the waters of the Columbia” but don’t mention the date.

Emerging from the Bitterroots. Clark and his party came out of the Bitterroot Mountains on September 20, 1805, and stumbled into the Nez Perce villages on Weippe Prairie. Lewis reached Weippe Prairie on September 22. Clark’s letter (both final and draft versions) gives the 22nd as the date of the expedition’s arrival.

Arrival at the Pacific. As noted, the final version of Clark’s published letter states: “On the 17th of November [1805] we reached the Ocean.” In this instance his text corrected Lewis’s draft that had the event occurring on November 14.13

Nigh upon St. Louis, and likely earlier, Clark contrived, with at least partial concurrence from Lewis, a calendrical compromise suitable to an exploratory command structure led by two men who on the most noteworthy occasions during the voyage happened to be separated. This created a particular problem for Clark that needed a solution. So, whether it was to his occasional personal advantage or not, in his letter and proto-press release Clark simply adopted a date when both captains were in each other’s company on or near the occasion of their great discoveries. In the case of arriving at the foot of the Great Falls of the Missouri, Clark worked in the date by which both he and Lewis knew of the existence of the falls.14

What might be termed Clark’s “common date of discovery” strategy was clearly settled upon after the departure from Fort Clatsop. Clark had seen the note Lewis posted at Fort Clatsop, and had left the date for reaching the Pacific uncorrected in his own verbatim copy of Lewis’s remarks. Clark would have thus known what this portended when it came to writing the expedition’s history. He may have conceived a mediating strategy to save his role in posterity’s understanding of the venture by the time he returned to the confluence of the Yellowstone and Missouri rivers in August 1806. Upon reaching these forks on the homeward journey Clark referred to it as the locale “at which place the [outward-bound] party had “all encamped the 26th of April—1805” (emphasis added). To use one of the captains’ favorite phrases, it is worthy of remark that Lewis, venturing ahead, had reached the confluence on April 25.15

James Holmberg suggests that the correspondence of September 23, 1806, was jointly authored, and this is certainly true to an extent. However, it is also true that William Clark had to contend with Lewis’s heroic propensity right to the last day of the expedition. Indeed, Lewis’s transmogrification of a partnership into a sole proprietorship continued even into the days, months, and years after the voyage. In a letter written upon his return to Washington in January 1807 to Secretary of War Henry Dear-
born, a man who surely knew of Clark’s value and contributions, Lewis referred to “my late tour to the Pacific Ocean.” Lewis used that exact phrasing two months later when he attempted to scare off “spurious publications” or otherwise unauthorized accounts of the expedition.

David McKeehan, the publisher of Patrick Gass’s journal, the first book-length account to appear in print, took Lewis to task for this presumptuousness. Calling Lewis “Your Excellency,” McKeehan mocked him for daring to interfere “in this affair of the journals of what you very modestly call your late tour.” In another fusillade, McKeehan chided Lewis for his callous attitude toward his companions. McKeehan wrote: “Perhaps I ought to beg pardon for using the word companions, as it has been thought proper at the seat of government to degrade them to mere ‘Followers.'”

In a bicentennial age when much of the literature about the expedition, and Lewis in particular via Stephen Ambrose’s Undaunted Courage, seems an exercise in retrospective hagiography, McKeehan’s contemporary insights offer a healthy corrective vision. From the time he was eighteen years old, Meriwether Lewis wanted to be an explorer. He pleaded with Thomas Jefferson to join the proposed American Philosophical Society subscription expedition of 1792, an assignment that went instead to the botanist André Michaux. (Perhaps just as well for Lewis, since that ill-conceived venture aborted while Michaux was still on the Ohio.) Lewis long remembered that disappointment. Leaving Fort Mandan for the far west more than a decade later, he described the impending voyage into the unknown as “a darling project of mine for the last ten years.” Then, as secretary to the president in 1803, upon first learning of Jefferson’s interest in tracing the Missouri to its source, Lewis again “renewed his sollicitations,” which this time resulted in the command.

At the end of his tragically short life it seems to have occurred to Lewis that none of the associations and trappings of glory he had sought so assiduously mattered much. In a letter to a close friend a little more than a year after his safe return to St. Louis, he wrote of the anguish brought on by his troubled love life. As a “perfect widower with respect to love,” with a “void” in his heart, he lamented, “certain it is, that I never felt less like a hero than at the present moment.”

Back at Fort Clatsop in the spring of 1806, not confident the Indians could serve as a medium for a lengthier report to the coastal traders than what his brief note contained, “we declined making any,” said Lewis. However, he did use the journal entry of March 18 as the occasion to expand and amplify on the return track where it “happened to vary” from the outbound voyage. Tempted to send several men back by sea, Lewis thought the better of it. Leaving any men behind to wait for a ship left both the overland return party and the coastal remnant small and vulnerable to attack. This risk assessment was compounded by Lewis’s surmise that a coastal trader would spend the ensuing summer bartering with the Indians rather than immediately returning to the eastern seaboard. He concluded, no doubt correctly, that he and Clark could get the party back to the United States on a timelier basis. Besides, Lewis reasoned—and this was the definitive thought—he needed as large a party as possible to divide it three or four ways “to accomplish the objects we have in view.” Either way, this is the first intimation of the captains’ intention to split the party at Travelers’ Rest, in the Bitterroot Valley, which they did on July 3, 1806.

Several days of rain prevented the application of pitch to the canoes, but it did allow Lewis additional time to reflect on their coastal sojourn. On March 20, he wrote, “Altho’ we have not fared sumptuously this winter and spring at Fort Clatsop, we have lived quite as comfortably as we had any reason to expect we should; and have accomplished every object which induced our remaining at this place except that of meeting with the traders who visit the entrance of this river.” Lewis went on to explain that the primary value from such an occurrence would have been the acquisition of merchandize for trade with the Indians which “would have made our homeward bound journey much more comfortable.” Lewis’s prized salt supply was deemed “sufficient to last us to the Missouri.”

With many of the men complaining of being unwell, Lewis expressed confidence that if the party could just simply get “under way” they would become “more healthy.” Lewis the physician-turned-psychologist noted that proceeding on “always had that effect on us herefore.” By March 21, down to one day’s provisions, the captains sent out the hunters. Privates Shields and John Collins soon returned to the fort without any game. George Drouillard and the Field brothers, Joseph and Reuben, were therefore ordered to head up the river above Tongue Point to lay in provisions for the shortly expected departure of the larger party. On the 22nd, Lewis gave Fort Clatsop and its furnishings to Coboway, the Clatsop chief who was “much more kind and hospitable to us than any other Indian in this neighbourhood.” Having made this testimonial will, the expedition was “determined
to set out tomorrow at all events.” The huckleberries were leafing, Lewis noted, which reminded the party of spring and, no doubt, easterly destinations.21


Notes

1 Gary E. Moulton, ed., The Journals of the Lewis & Clark Expedition, 13 volumes (Lincoln: University of Nebraska Press, 1983-2001), Vol. 6, p. 382; Vol. 10, p. 196. All quotations or references to journal entries in the ensuing text are from Moulton, by date, unless otherwise indicated.

2 Ibid., Vol. 6, pp. 396, 407; Vol. 10, p. 197; Vol. 6, p. 161; Vol. 9, p. 276; Vol. 11, p. 427. Whitehouse is the source that Gass was assigned canoe repair. Ibid., Vol. 11, p. 426. Gass took the count of moccasins but numbered them at 338 pairs.

3 Ibid., Vol. 6, pp. 407, 413.

4 Ibid., p. 421.

5 Ibid., p. 426.

6 Ibid., pp. 429-430. Ordway describes this episode as follows: “our officers Sealed up some papers and letters for Mr. Hailey and gave them to the Savages.” Ibid., Vol. 9, p. 277. This was a reference to what the explorers concluded was the favorite trader of the local Indians, after whom they attempted to name the bay that faced them from Station Camp. Ibid., Vol. 6, p. 50.

7 Ibid., p. 431.


9 Jackson, Vol. 1, pp. 319-324; 329-330n; 334 (qtn.), 335n6; Cutright, p. 184


11 Ibid.; Moulton, Vol. 1, map 82; Vol. 6, pp. 48-50, 52, 60.


13 Jackson, Vol. 1, pp. 327-29, 332-334; Moulton, Vol. 4, pp. 283, 428; Vol. 5, pp. 73-74, 109, 219. Clark reconfirmed November 17 as the common date denoting the arrival at the Pacific Ocean in a recapitulation of the voyage constructed after the return of the party to St. Louis in September 1806. Moulton, Vol. 8, p. 413.


15 Ibid., p. 66; Vol. 6, p. 431; Vol. 8, p. 276.


19 Moulton, Vol. 6, pp. 430 and 432, note 2.

20 Ibid., p. 441.

21 Ibid., pp. 441, 444.
In June 2003 pilot and photographer Ron Lowery and writer Mary Walker took off from St. Louis on a journey along the Lewis and Clark Trail. Their three-month odyssey is chronicled in *Chasing Lewis and Clark across America: A 21st Century Aviation Adventure*, a large-format book with an accompanying DVD.

Lowery’s plane, a two-engine, open-cockpit ultralight named *Cloud Chaser*, was built from a kit by the photographer and his son. This “canoe in the sky,” as Walker calls it, flies low and slow and was designed for aerial photography, with twin engines mounted on high wings set behind the cockpit for unobstructed views of the landscape.

Images captured by Lowery’s lens include most of the sites important to the Corps of Discovery’s saga such as Floyd’s Bluff, the White Cliffs, Lemhi Pass, the Lolo Trail, the Dalles, and the Columbia estuary. The authors also spent a lot of time interviewing and photographing people, from ranchers to reenactors, who work the land today or interpret the Lewis and Clark story for others. On a typical day, writes Walker, “We lifted off before sunrise, sometimes from a rugged dirt strip, to witness the play of first light on rivers, on rugged mountains and canyons, on cliffs and ocean beaches. We floated for hours over fields of grain and reveled in the abundance of the land. Our versatile little plane climbed high enough for the camera to capture the form and function of landscapes and low enough to let us smell the mud in the rivers and the flax in the fields.” Exploring on the ground, “We found ways to enter the lives of people of all heritages and occupations—natives and settlers, fishermen and cropduster pilots.”

This story is more about the authors’ experiences than the explorers in whose steps they followed, and it has some gaps. For example, they retraced Clark’s return trip along the Yellowstone but not Lewis’s exploration of the upper Marias River. (For a more comprehensive and historically oriented book of aerial trail photos, see *Discovering Lewis and Clark from the Air*, by Jim Wark and Joseph A. Musselman, reviewed in the August 2004 WPO.)

The accompanying DVD offers a slide show of Lowery’s pictures as well as video clips that complement many of the images found in the book—reenactors, for example, get to talk about the explorers’ weapons and equipment. Lowery’s wife, son, and dog, Jack, followed *Cloud Chaser* in a camper, and their cameo appearances (Jack rooting for prairie dogs or gingerly sparring with a feisty crayfish, for instance) give some of the footage an appealing home-video quality.

*Chasing Lewis and Clark across America* is self-published through Windsock Media (www.chasinglewisandclark.com). The book and DVD are available separately for $45 and $25, respectively, or together for $56.

—J.I.M.
Few people, if any, know the story of Lewis and Clark on the Columbia River better than Rex Ziak or have interpreted it more thoughtfully—his brilliant *In Full View* (*WPO*, February 2004) broke new ground in its skillful use of maps, journal entries, and trenchant analysis to reconstruct the explorers’ harrowing 31 days on the storm-swept Washington shore in November and December of 1805.

Now Ziak has followed up with a guidebook. *Lewis and Clark: Down and Up the Columbia River* follows the Corps of Discovery day by day on both the outbound and homeward treks. The book, unique in design, sets a standard for creative geography. It fits easily in the hand while comprising two back-to-back foldout maps that, extended full length, stretch eight feet, taking the reader from Weippe Prairie to the Pacific coast and back. Each of the 51 panels represents some increment of the journey from September 26 to November 14, 1805, and from March 23 to June 10, 1806.

Stripped to essentials, the maps are nicely uncluttered, conveying basic information about what was happening when and where, with the author’s narrative running along the top and journal excerpts at the bottom. Each of the two extended maps has a ribbon along its lower border with data on annual precipitation (westbound) and mode of travel (eastbound). Thus, we learn that The Dalles, Oregon, immediately east of the Cascade Mountains, gets 14.6 inches of rain a year while nearby Carson, Washington, on the west side of the mountains, get 86.5 inches, and that the party departed Fort Clatsop in six canoes and arrived at the Nez Perce villages six weeks later with 27 horses. To help orient the reader, the maps also indicate the locations of present-day towns and structures such as Bonneville Dam.

Like *In Full View*, Ziak’s guide is self-published through his own imprint, Moffitt House Press, and is sold through bookstores ($18.95 listing at powells.com and amazon.com).

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**Guide to L&C on the Columbia is a stretcher**

**Lewis & Clark: Down and Up the Columbia River**

* Lewis Ziak
* Moffitt House Press
* unpaginated / $18.95 cloth

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**In Brief:**

Medical appendices; Nebraska guide; biking and canoeing L&C Trail; Drouillard biography


John Fisher, a L&C reenactor and former teacher from Juliaetta, Idaho, has put together a modest but useful volume. *Medical Appendices of the Lewis & Clark Expedition*, spiral bound and assembled from photocopied pages, is now in its seventh edition, with new ones coming along as the author collects more or better information. Fisher knows his subject well, but recognizing that there is never any final word on this (or any other) topic related to the expedition, he encourages readers to send him additions and corrections to the text.

Contents include a summary of the expedition’s “medical events,” from abdominal problems to venereal diseases; a lexicon of 19th-century medical and pharmaceutical terms; biographies of historical figures who directly or indirectly influenced medical knowledge circa 1803; and annotated lists of the medicines and instruments known or assumed to have been carried by Lewis and Clark. There are also suggestions for making group presentations and performing simulated blood-letting.

Although most of the booklet’s information can be found in standard...
works such as E.G. Chuinard’s *Only One Man Died* and David Peck’s *Or Perish in the Attempt*, Fisher’s itemized summary of the illnesses, accidents, and other medical hazards faced by the explorers—and the often debilitating treatments they endured—can make compelling reading. There are entries for animal bites (broken down by rattlesnake, wolf, and beaver), frostbite and hypothermia, heat exhaustion, parasites (ecto- and endo-), and skin infections, to name just a few. Fisher also devotes a page to the discovery of what might be remnants of medicinal mercury in the area of Travelers’ Rest, where the explorers camped in the Bitterroot Valley, but he remains somewhat skeptical of claims connecting the mercury to the Lewis and Clark Expedition.


The Pacific-bound Corps of Discovery spent two months, from July 11 to September 7, 1804, poling, hauling, and sailing its flotilla of two pirogues and a keelboat up the stretch of Missouri River now bordered by Nebraska on the west and by Iowa and portions of Missouri and South Dakota on the east. The explorers had left the familiar woodlands and entered a starkly different and mostly treeless environment, an ocean of grasses rippling in the hot summer winds. In their journals they recorded the exploration of Spirit Mound, reputedly peopled by dwarf-like devils who killed anyone who came within sight, and Blackbird Hill, named for an Omaha chief and smallpox victim interred there astride his horse. It was during this phase of the journey that they buried Sergeant Charles Floyd, the only man to die on the expedition (probably of a burst appendix) and selected Patrick Gass as his successor; counseled with the Missouri and Oto Indians and the Yankton Sioux; punished the deserter Moses Reed by forcing him to run the gauntlet; searched for Private George Shannon, last for 16 days; and had their first encounter with prairie dogs, in the shadow of a sandy knob called Old Baldy (see related story, page 39).

Orville Menard, an emeritus professor of political science at the University of Nebraska, recounts these and other incidents in *Rulo to Lynch with Lewis and Clark*, a handsome little guidebook published by the historical society of Douglas County, Nebraska. Each of the 22 entries for various locations includes a brief narrative of events and directions for reaching the site (maps would have been helpful), augmented in most cases by historical details about the place before and after the expedition’s visit and suggestions about other nearby sites of interest.


Gordon Ward was a teacher at a private school in Far Hills, New Jersey, when he was inspired by an older friend, Louis Starr, to retrace Lewis and Clark’s route to the Pacific. (Starr had inherited William Clark’s field notes, now at Yale’s Beinecke Library, after their discovery in 1952 in a rolltop desk that had belonged to his grandfather.) In June 1994, with his friend and fellow teacher Todd Paige, he flew to St. Louis for the first
phase of a two-month-long tour by bicycle, foot, and canoe. (From St. Louis they flew to Bismarck to begin the overland phase.) Ward, like the captains he followed, kept a journal. His daily jottings and the photos he took became the basis for *Life on the Shoulder: Rediscovery and Inspiration along the Lewis and Clark Trail*. As the subtitle suggests, the author’s journey was about more than scenery and history. He explains in the foreword, “While personal growth is a continuous process, the trip brought to the fore, challenged, dashed and tested many of the beliefs that I had learned or had developed.” As “a sort of spiritual litmus test,” it inspired earnest reflections about God, nature, and the universe in some ways similar to the self-conscious musings of Meriwether Lewis. Ward occasionally reveals these deeper thoughts in excerpts from his journal, which for the most part deal with quotidian details—calls to relatives and friends, for example, or what they ate for breakfast. Like Lewis and Clark, Ward and Paige endured thirst, fatigue, and bug bites, and in Great Falls, Montana, the author was waylaid by Lyme’s disease contracted in New Jersey.

*George Drouillard: Hunter and Interpreter for Lewis and Clark and Fur Trader, 1807-1810*, by M.O. Skarsten, with a new introduction by Robert C. Carriker. Arthur H. Clarke Co. $42.50, cloth; University of Nebraska Press/Bison Books. $16.95, paper.

M.O. Skarsten’s out-of-print 1964 biography of George Drouillard, arguably the most important member of the Lewis and Clark Expedition besides the captains themselves, has been republished in hardback by Arthur H. Clarke and in paper by Bison Books. This second edition includes an introduction by historian Robert C. Carriker that provides details of the author’s life. Malvin Olai Skarsten, a professor and administrator at Pacific University, in Oregon, was born in Minnesota in 1892, the son of Norwegian immigrants, and died in 1993, at the age of 101. His biographical subject was the expedition’s chief hunter and sign-language interpreter, who later returned to the mountains as a fur trader and was killed by Piegan Blackfeet in 1810. Skarsten’s work remains the only biography of this “man of much merit,” as Lewis called him, and in Carriker’s assessment it has “stood the test of time.” Of his post-expedition years, writes Carriker, “More important than any pelts Drouillard may have found are the geographic insights he provided in 1808 to his former boss, William Clark, about the Yellowstone River region.”

—J.I.M.
Looking Back

Present at the creation: The conservation roots of the LCTHF (Part II)

BY KEITH G. HAY

This is the second part of a two-part article about the origins of the Lewis and Clark Trail Heritage Foundation. Part I appeared in the May issue. It discussed the role of cartoonist and conservationist “Ding” Darling, who died in 1962, and the J.N. “Ding” Darling Foundation, established by his friend Sherry Fisher and members of the Darling family. In 1962, the Darling Foundation won the endorsement of Secretary of the Interior Stewart Udall to study the feasibility of a “wildlife and recreational ribbon” following Lewis and Clark’s route from St. Louis to the Pacific Coast. This led to the establishment by Congress of the Lewis and Clark Trail Commission, chaired by Fisher, and a thorough inventorying and mapping of resources along the Corp of Discovery’s route. The results were outlined in a report titled The Lewis and Clark Trail: A Proposal for Development, which was reviewed by the commission at a meeting in St. Louis in the fall of 1965.

The commission unanimously passed 13 resolutions expressing its favorable reaction to the report and setting forth specific recommendations for implementing them. These included:

- A continuous, convenient, and attractive highway trail for public use in retracing the route of the Lewis and Clark Expedition from St. Louis to the Pacific Ocean.
- A Lewis and Clark Trail symbol to mark the trail throughout its length.
- Facilities along the water route of the Missouri and the Columbia systems for the use of boaters following the historic trail.
- Hiking and horseback trails to follow the expedition’s route as closely as possible.
- The acquisition and development by public agencies of major segments of the trail with important historic, wildlife, scenic, and recreation resources.
- Establishment by each of the 10 original trail states of a Lewis and Clark Trail Committee to coordinate trail development.
- Development by each state’s Trail Committee of an educational program to inform the public of available resources and enhance public understanding of the trail’s importance to American history.
- Acceleration of efforts to control water pollution on the lower Missouri for the enhancement of recreation.
- Assistance to private enterprise to provide lodging, meals, and other services of good quality at moderate rates at intervals along the trail.

All 10 trail states soon established Lewis and Clark committees and designated adjacent highways to be marked by an appropriate trail sign. A year earlier, the Darling Foundation had sponsored a contest for a trail symbol and received several hundred entries. An artist for the Des Moines Register, Frank R. “Bob” Davenport, designed the winning symbol—the now iconic and ubiquitous “pointing finger” silhouette. (He also captured the captain’s in a similar pose in his 1968 painting, Lewis and Clark West to the Pacific (above).)

In 1964, Iowa artist Frank R. Davenport created the “pointing finger” silhouette (right), which now adorns highway signs along the L&C National Historic Trail. He used the same pose in his 1968 painting, Lewis and Clark West to the Pacific (above).

On October 6, the commission submitted a 24-page report on its activities and accomplishments to the President and Congress as required by its founding legislation, Public Law 88-630.

By 1969, the commission had largely completed its mandate to stimulate federal, state, and local action to mark and preserve the historic sites and natural areas paralleling the expedition’s 2,000-mile route. Its efforts made Ding Darling’s vision a permanent reality and fulfilled Sherry Fisher’s commitment to his old friend.

With its five-year task completed, the commission published a final report. Among its recommendations were that Illinois be included as the 11th trail state and that a private organization, consisting of representatives of the trail states, be created to continue the goals of the commission.

On June 27, 1970, representatives of nine trail states met in St. Louis and voted to establish and incorporate the Lewis and Clark Trail Heritage Foundation to carry on the work of the now-
The Darling Foundation continued to encourage and support the new foundation, whose goals were in keeping with the principles and vision of the man whose memory it honored. Christopher D. Koss, Darling's grandson and a charter member of the Lewis and Clark Trail Commission, became president of the Darling Foundation and worked tirelessly to fulfill its goals. Under his direction, the Darling Foundation initiated a program of educational grants to students taking courses in conservation and wildlife management at Iowa State University. It also produced materials for teaching conservation education and released a CD-ROM containing 6,800 of Ding Darling's editorial cartoons.

Another initiative was the development of a central research and information data center for conservation, wildlife management, and outdoor recreation. The foundation also played a major role in the creation of the J.N. “Ding” Darling National Wildlife Refuge, near Sanibel Island, Florida. In 1982, The Ding Darling Society, a friends group, was founded to increase visitors’ understanding of the refuge’s natural history. The Darling Foundation had no paid staff and relied solely on the time and efforts of its trustees. The foundation “sunset” on March 31, 2006, but not before establishing a Ding Darling Conservation Education Fund of some $700,000. The foundation will live on through this program and its many other worthy initiatives.

The Bureau of Outdoor Recreation continued to study and implement the Lewis and Clark Trail concept during the 1970s. After the bureau was abolished during the Reagan administration by Secretary of the Interior James G. Watt, the National Park Service assumed administrative responsibilities for the Lewis and Clark National Historic Trail and prepared a comprehensive management plan.

The foundation’s future

During the last fifteen years, we have witnessed a burgeoning interest in the Lewis and Clark Expedition and a renewed sense of the historical and cultural importance of the Lewis and Clark Trail. Even as the expedition’s bicentennial draws to a close, people are discussing how we will observe the tercentennial. Thanks to the efforts of its members and affiliated chapters, we can be certain that the Lewis and Clark Trail Heritage Foundation will continue in its vital role as “Keeper of the Story and Steward of the Trail” for another 100 years.

Foundation member Keith G. Hay is the author of The Lewis and Clark Columbia River Water Trail Guide and a founding member and former president of the Oregon Chapter. He currently serves as a member of the LCTHF Stewardship Committee and lives in Newberg, Oregon. All quotes in this article come from documents of the “Ding” Darling Foundation and the U.S. Department of the Interior.
On September 7, 1804, the Corps of Discovery reached a point about four miles below the present-day Nebraska-South Dakota border. According to William Clark, the party landed “near the foot of a round mounting which I saw yesterday resembling a dome.” This feature Clark later labeled “The Steeple.” We know it today as “Old Baldy,” a high chalk dome that looks “bald” in comparison to the surrounding grasslands.

Near this spot the expedition first encountered a village of “barking squirrels,” or prairie dogs. According to Sergeant Patrick Gass, “all the party except the guard went to it and took with them all the kettles and other vessels for holding water; in order to drive the animals out of the holes by pouring water in; but though they worked at the business till night, they caught only one of them.”

Old Baldy lies within viewing distance of the Missouri River. Development pressures even in this section of rural Nebraska, near Lynch, have been increasing. A narrow strip of land between the river and Old Baldy is already subdivided, and lots have been leased for development.

The site is now protected through a conservation easement by the landowners and several partnering organizations. The Northern Prairies Land Trust, a South Dakota nonprofit organization that also works in Nebraska, has entered into an easement agreement with landowners to enroll 524 acres surrounding Old Baldy. The family owning the property can still graze it, but the land is protected from subdivision or conversion to nonagricultural uses. The majority of the funding came from the U.S. Department of Agriculture’s Natural Resources Conservation Service, with the Nebraska Environmental Trust being the other key partner.

The area around Old Baldy is covered with unbroken mixed-grass prairie and burr-oak woodlands. The grassland and its proximity to other habitat areas make it an attractive place for bald eagles, sharp-tailed grouse, prairie chickens, elk, and prairie dogs. Last year the National Park Service erected an interpretive panel on a nearby road to tell the story of the expedition’s visit to Old Baldy.

**Stevensville statues**

A civic organization in Stevensville, Montana, is commemorating the Corps of Discovery in the Bitterroot Valley with a set of statues of Lewis, Clark, York, Sacagawea, and Seaman.

The four figures (the tallest is 16 inches) are by sculptor Jim Brousseau and were executed between 2002 and 2005. Now the Stevensville Main Street Association is offering a limited-edition set of 35 for $1,500 each, or $6,000 for the ensemble, which comes with a base for mounting the figures.

Brousseau is a protégé of the late Bob Scriver, regarded as one of the best western sculptors of recent times. Brousseau maintains a studio and bronze works near Libby, Montana, and did all of Scriver’s castings from 1972 until Scriver’s death, in 1999.

Proceeds from the sale support the promotion and restoration of Main Street in Stevensville, whose founding in 1841 makes it Montana’s oldest incorporated community.

For more information, call the association at 406-777-3773.

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For the Record

On page 21 of the May WPO, in a caption accompanying the article “The Short Rifle of Lewis & Clark,” the weapon identified as a Model 1803 rifle is actually a reproduction of the Model 1800 (the same rifle pictured immediately above it). A photo of the very similar Model 1803 appears on page 12 of the issue.

A $600 LCTHF grant reported in the February L&C Roundup went to the Fort Walla Walla Museum, not the “Fort Walla Museum.”

Also in the February issue, the illustration on page 36 accompanying an article about Benjamin Smith Barton shows a herbarium sheet with a specimen of the broad-leaved gum plant, *Grindelia Squarrosa*. The caption says in part, “The note at the bottom, in Lewis’s handwriting, states that it was collected on August 17, 1804, ‘at our camp near the Old Maha [Arikara] village,’ in today’s Nebraska.” Readers looking for Lewis’s note did so in vain. There are two herbarium sheets for *Grindelia Squarrosa*, and we mistakenly used the one without Lewis’s note. The sheet that the caption was meant to accompany appears below. Lewis’s note is on the darker paper in the lower left.

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**Old Baldy: newly protected L&C site**

**1803 rifle**

**Broad-leaved gum plant**
U.S. Mint funds aid stewardship efforts

The Lewis and Clark Trail Heritage Foundation will receive an estimated $1.5 million for trail stewardship later this year. The parameters for acquiring, holding, and spending that money have yet to be determined. What we do know is that for the first time we have a solid foundation upon which to build trail stewardship programs.

The money comes to us by way of the U.S. Mint, from the sale of the Lewis and Clark commemorative silver dollar. Surcharges on the sale of those coins raised nearly $5 million. Half of the money goes to the National Council for the Lewis and Clark Bicentennial and half goes to the Missouri Historical Society. Both organizations raised matching funds required to access the money. When the two organizations’ bicentennial debts are paid and their books are closed, leftover dollars will fund a Native American language preservation program and our trail stewardship efforts.

Stewardship priorities

It is difficult to develop a plan for the future without knowing the requirements and restrictions associated with the money that will fund it. Nonetheless, several stewardship priorities have emerged during the bicentennial and likely will be part of the foundation’s long-range stewardship plan.

An essential element of any plan will be promotion of the trail as a hands-on educational resource enabling students to study a variety of sciences in conjunction with history, art, languages, and many other subjects. Students can study the natural environment, learn about their heritage, and make significant contributions to the preservation and protection of the trail through research and educational or recreational projects.

Volunteers across the country will continue to preserve and protect the trail while teaching new generations of its historic, cultural, and natural significance. The foundation will continue to identify and prioritize trail needs and provide opportunities for members to volunteer and contribute to the preservation and protection of the trail. The foundation has not had the financial resources to conduct a wide variety of projects across the trail, but this new funding may provide us the opportunity to expand our volunteer efforts.

A commitment from members and chapters is essential as we consider expanding our volunteer opportunities. Stewardship may not be a chapter’s top priority, and many individuals choose to volunteer in other capacities, but each chapter should make a commitment to stewardship and provide opportunities for its members to be stewards of the trail. The foundation’s stewardship efforts will be more successful if we have an organizationwide commitment to our projects and programs.

This unity requires a nationwide interest in and commitment to stewardship. Our priorities should include educating members and the public about our stewardship efforts and the needs of the trail. This approach will give us additional ways to share the stories of the Lewis and Clark Expedition with new audiences and increase interest in the foundation.

A final essential priority of our stewardship plan should be ensuring adequate funding for the trail by Congress. As Congress prepares its budget each year, we should advocate sufficient funding, not only for the National Park Service, which administers the trail, but also for each of the federal agencies with land-management responsibilities along the trail.

Over the next few months, the details of our trail stewardship fund will be finalized and the planning will begin. The foundation’s strategic plan will provide direction to our efforts, and the $1.5 million will allow us to exceed previous stewardship expectations.

Trail extension efforts continue

The Lewis and Clark National Historic Trail Extension Act of 2006 has been introduced in the U.S. House of Representatives and Senate. Representative Melissa Hart, of Pennsylvania, and 17 cosponsors are supporting trail extension through House Resolution 5053. Senator Jim Bunning, of Kentucky, introduced Senate Bill 3513 in June. Supporters currently are recruiting additional co-sponsors in the House and Senate.

Congress is in recess through Labor Day and its target adjournment date for this session is September 30. Time is limited to pass this measure in this session. Foundation members are encouraged to contact their Congressional delegations to request their support for trail extension and urge them to co-sponsor the measure.

Updated information on trail-extension legislation can be found on the Library of Congress Web site at http://thomas.loc.gov/. Congressional contact information is also available on the site.

Wendy Raney
Director of Field Operations

New Kentucky Web site

A new Web site devoted to Lewis and Clark in Kentucky is now available on the Internet at www.lewisandclarkinKentucky.org. Sponsored by the Kentucky L&C Bicentennial Commission, it features important people (including George Druillard and the Nine Young Men from Kentucky), places, and events associated with the Corps of Discovery in the Bluegrass State, as well as links to educational resources and other L&C Web sites. Development of the site continues with the addition of photos, images, and other materials.