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Camas-bulb restoration honors tribal traditions

By Scott Driscoll

SCOTT DRISCOLL

Cultural Roots

Two groups of chattering schoolchildren gather with their sack lunches on a boggy wetland in a farmer's vacant field in Moscow, Idaho. Soon a Nez Perce root-digger will arrive with camas bulbs. The students—43 third-graders from Lapwai Elementary School on the Nez Perce Reservation about 40 miles south of town, and 18 fourth-, fifth-, and sixth-graders from Moscow's Renaissance Public Charter School—are eager to learn more about the root food known to the Nez Perce as *qe'mes*. They have come to plant it.

Beside the grassy wetland trickles a tributary of Paradise Creek, sparkling in the October sunshine. Moscow Mountain looms to the northeast. Before the group is a shallow hole about the size of a softball infield—one of four such holes that have been scoured out of the dense soil by the Moscow-based Palouse–Clearwater Environmental Institute, which is sponsoring the planting. The institute is named for the Palouse region in the southeastern corner of Washington and the Clearwater River watershed in adjacent north-central Idaho.

The holes are dry now, but over the winter the four wetlands will fill from underground seeps and surface water, mimicking the wetland-meadow habitat that was once common in north-central Idaho and southeastern Washington.

The town kids can easily forget that just a block away from the farm are their familiar city streets. The reservation kids can see the beginnings of a habitat restoration that will return this patch of land to something resembling the tribal grounds where their ancestors once lived and dug roots.

When Gwendolyn Carter arrives, the kids crowd around her. The 53-year-old director of water resources for the Nez Perce Tribe hails from a long line of traditional root-gatherers. The students want to taste the brown stuff Carter is carrying in a glass jar. She pours into the children's hands samples of camas bulbs that have been roasted, dried and ground, and that now look like clumps of coarse, dark-roasted coffee.

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Above: Raw camas bulbs that have been gathered for roasting. Top left: Camas in bloom in Weippe, Idaho. Bottom left: Children from the Lapwai and Renaissance schools plant camas in Moscow, Idaho.

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Nez Perce root-gatherer Gwendolyn Carter tells the schoolchildren about camas' importance in Native American culture and diet.

The children examine but don't taste what's in a second glass jar: whole bulbs—resembling overripe figs—that have been roasted and dried, but not ground, and which will be stored for the winter. These are samples dug by the Corbetts—Carter's family on her mother's side—in July and August, near the family's summer camp above Musselshell Meadows to the southeast. The meadows, near present-day Weippe (pronounced WEE-ipe), Idaho, were once a week's walking journey from the Moscow area, Carter says. Groups of Nez Perce—who for centuries lived throughout southeastern Washington, northeastern Oregon and north-central Idaho—met on the Weippe Prairie each year to trade, arrange marriages, dance, gamble, compete in foot races and roast camas for the winter.

Carter's family has been using the same camas-roasting pit there for more than 100 years. It's one of the few tribal camas pits to survive into the 21st century. Most of the traditional camas grounds began to be displaced by farms starting in the 1830s, and many of the once-abundant wild camas plants were eaten by farmers' pigs. Camas bulbs, a staple food for the Nez Perce and several other Native American tribes for at least 4,000 years, became scarce on the region's prairies. As wild land became farmland, game animals such as deer and elk, and edible plants such as camas, dwindled, disrupting the tribe's hunter-gatherer way of life, including gatherings and celebrations that centered around camas roasts.

Zachary Terry licks his fingers after sampling Carter's ground camas. "Ummm, tastes good," says the bundle of energy from Lapwai Elementary. Terry is one of the few children who have eaten roasted camas before. "That's why I wanted to come out here," he says. "It really tastes good with sugar."

Musing on this, Linda Sterk, a teacher from Renaissance who's never tasted camas before, offers that the toffee-brown, slightly sticky substance "tastes like a cross between molasses and sweet potatoes."

With teachers' and students' taste buds satisfied, it's time to get to work. Carter jams eight *tu'kes*—traditional digging sticks used by her family—into the mocha-brown soil around the edge of the dry pond. Tu'kes are iron tools about the size of a small shovel, and with a somewhat similar handle, but with a curved, pointed prong on the digging end. Traditionally, the tool was used to dig bulbs, not plant them, but the tu'kes will help the students prepare the soil today.

"Put the hair end of the bulbs down, and don't pack them in too hard," Carter coaches the kids, who eagerly line up in rows behind the tu'kes. When each child's turn comes, he or she gouges a 5-inch divot out of the claylike soil, then gently presses a bulb— about the size of a large marble and wearing a brown sheath over a milky white interior—into the ground. The child then prods the soil back into place.

In all, the kids plant 350 young camas bulbs, purchased from Plants of the Wild nursery in the Eastern Washington town of Tekoa. By April, stalks will be poking up tall and slender around the wetlands. Members of the wild lily family, camas bulbs produce a stalk that grows 8 to 28 inches tall and that produces a delicate pale blue or purple flower in late spring. By mid-summer, the flowers give way to dry seed clusters that shake in hot breezes with a rattle similar to that of an agitated rattlesnake. The seeds drop back into the soil, producing new bulbs, while the old bulbs grow larger each year.

It will take several years—perhaps six or seven—but eventually the bulbs planted by the children will be optimal size for harvesting. It's a small beginning on the comeback trail for camas.

"The wetland plantings are a way of connecting cultures as well as helping people reconnect to the land," says Palouse–Clearwater Environmental Institute director Tom Lamar. The institute was founded in 1986 by local resident Mary Jane Butters, one of the first female forest rangers in the Northwest. Butters felt that a disconnect between the land and life in the modern world needed to be repaired.

The schoolchildren's camas project is possible thanks to a generous donation of the land from Steve and Heather Streets, owners of a 5-acre, mixed-use farm that includes U-pick strawberry fields, fruit orchards and Dominique hens. "That boggy spot has never been good for farming," says Steve, who lopes down the hill to observe the planting. He and his family moved to Moscow in 1998 from Durham, North Carolina, after Heather received an appointment as a professor of history at Washington State University in Pullman, less than 10 miles west of Moscow across the Idaho-Washington border. Steve is a carpenter by profession, and he and Heather farm on the side. They fell in love with the old farmhouse and its orchards, and with the idea of preserving some of the area's natural ecology.

"Offering the land for habitat restoration seemed like the right

thing to do," Steve says. "And this does something for us, too. Look at these kids here enjoying themselves." He beams. The planting is his way of connecting with a way of life and a community that dates beyond the time when the first farmers came.

Camas—*Camassia quamash*, as it is known by botanists—is found throughout much of the Western United States and Western Canada. It once grew so abundantly in the meadows along Paradise Creek that the flowers "occurred in dense drifts of azure, deep blue or purple," says Joy Mastrogiuseppe, ethnobotanist and curator at the Anthropology Museum at Washington State University. An especially delectable type of camas grew in the valleys along Paradise Creek—a 19-mile-long waterway that feeds into the South Fork of the Palouse River and whose 35-square-mile watershed includes Moscow and Pullman—giving the Nez Perce from that area most-favored trade status with their neighbors, she says.

Camas was so plentiful in north-central Idaho, and so central to the lives of the Nez Perce, that Meriwether Lewis wrote a 1,500-word description of it in his journal, notes historian Stephen Ambrose. On both legs of the Corps of Discovery's journey—heading to the Pacific Ocean and returning to Missouri—members of the Corps stopped in an area that Lewis and Clark called the "quawmash flats" on the Weippe Prairie.

In June 1806, on the return journey, Lewis wrote: "The quawmash is now in blume and from the colour of its bloom at a short distance it resembles lakes of fine clear water, so complete is this deseption that on first sight I could have swoarn it was water."

Camas had helped save Lewis' life the year before. The members of the expedition were on the verge of starving after struggling through September snows in the Bitterroot Mountains on the border of modern-day Montana and Idaho. William Clark and six hunters, who were forging ahead of the main group, saw three Nez Perce boys digging camas in a meadow along the Clearwater River near the Bitterroots. Clark's group followed the boys to a Nez Perce camp on the Weippe Prairie, where the Native Americans gave the men dried salmon and roasted camas. Clark subsequently bought some fish and roots, and sent Private Reubin Field to take them back to Lewis and the main group.

Camas and fish kept the expedition members from perishing, although a lot of them gorged themselves, according to Ambrose, and experienced severe cramps and vomiting. "I tend to think," says Mastrogiuseppe from the Anthropology Museum, "that not knowing better, they ate some bulbs raw or not properly cooked."

Even though the Corps didn't fully appreciate the roots that sustained the Nez Perce, the fine, rich, moisture-laden soil of areas such as Paradise Creek and the Weippe Prairie once produced an especially large variety of camas in abundance, says Mastrogiuseppe. A practiced digger could yield a year's supply for her family in as little as four days.

Every summer, the Nez Perce gathered in high-meadow camps above the valleys of rivers such as the Clearwater and Palouse, and their tributaries, to dig camas, pick berries and gather medicinal plants; hunt deer, elk, moose and buffalo; fish for trout and salmon; tan hides and weave tule mats, Mastrogiuseppe says.

The camas digs usually started in June or July and continued into early September, culminating in fall camas roasts. A typical camas roasting pit, Mastrogiuseppe says, was dug 2- to 6-feet deep. The bottom was lined with round stones and covered with driftwood left in the area by flooding creeks and prized because it burned hot but was lightweight. Once the bottom of the roasting pit was ready, the group alternated leaves and grasses with camas—often placed in hemp dogbane bags, as much as 20 to 30 pounds per bag—until the pit was full. They poured water over the pit to create steam and inserted hollow elderberry stems so that more water could be added later to create more steam. They covered the final layer of leaves with soil, and also often built a driftwood fire on top of the pit, adding more wood as needed to keep the fire burning for two or three days.

Gathering stones and driftwood was the men's job. The women dug the bulbs. Because they did the digging, they were considered the owners of the bulbs. This gave them power in their society since camas was a highly valued food and could be used in trade with other tribes for beadwork, blankets and just about any other commodity.

Camas was so important that when a girl received her first digging stick, it was considered a rite of passage, and her fam-ily held a special feast in her honor, according to *Handbook of North American Indians.* The girl gave her first camas bulbs to someone important in her life, such as a grandmother, aunt or tribal elder, says root-gatherer Gwendolyn Carter.

Carter says her family made pits that held 20 to 25 bags and, following a secret family recipe, included a special assortment of grasses and herbs to enhance flavor. For instance, they added a layer of *ho'pop*—the black moss peeled off old-growth pine trees—and draped it in strips over the bags of camas. When steamed, the moss not only imparted a rich flavor to the camas, but also cooked into a sweet, black pudding that Carter describes as looking and tasting like black taffy.

While the camas was roasting, the Nez Perce smoked meat and fish to store in hemp baskets. In October, when the weather turned cold, they moved back to their winter villages in the river valleys, where the weather was milder, and fish and game were available much later into the winter season. The stored food was kept dry in underground pits or put up in caves.

Root foods, especially camas and biscuitroot tubers, made up more than 50 percent of the Nez Perce diet each year, according to *Handbook of North American Indians.* Camas, a nonstarchy food, is approximately 10 percent protein, and for this it was valued above all other plant foods as a protein source. Camas was also known as an excellent energy source—a sort of natural power bar—in addition to providing minerals, vitamin C, riboflavin and thiamin. However, the bulb is full of inulin—a complex carbohydrate that is indigestible to humans unless properly cooked. "The bulb should be black all the way through, and the texture is hard to describe, but it should be somewhat similar to the consistency of a baked potato," says Carter. If the camas was accidentally overcooked, it was mixed with honey and used as cough syrup.

The Nez Perce's hunter-gatherer way of life began to be threatened with the arrival of the first Euro-American farmers in the mid-1830s, says Diane Mallickan, a cultural interpreter and park ranger at the Nez Perce National Historical Park in Spalding, Idaho. The settlers—some of them following missionaries such as Henry Spalding, some heading west specifically in search of land—tilled virtually every square inch of land they could get a plow on once they realized how rich the soil was and how well it held moisture.

Volcanoes and floods had laid the groundwork for some of the best farmland in the country. Starting 17 million years ago and continuing up to 6 million years ago, lava flows erupted from deep-seated vents in what is today northeastern Oregon, and poured repeatedly across the

landscape, creating successive layers of basalt thousands of feet thick. The basalt cooled and subsequently trapped water in cracks and fissures, creating seeps and springs, and a groundwater table close to the surface. Then, 20,000 to 13,000 years ago, multiple ice-age floods raced toward the ocean from a now-extinct lake in the Missoula, Montana, area, depositing layers of glacial silt and gravel atop the basalt in what is now the Tri-Cities, Washington, area. Winds redeposited the nutrient-rich silt in the Palouse and north-central Idaho. The abundance of water and superior soil provided a habitat in which wildflowers such as the camas lily bloomed prolifically.

But to the early farmers, camas was a weed that got in the way of wheat. And what the plows couldn't reach, down in creek beds and muddy ponds, the pigs finished off. Pigs had no trouble digesting raw camas bulbs; they loved to eat them, says Mastrogiuseppe.

"Moscow's first name," observes Tom Lamar, the director of the Palouse–Clearwater Environmental Institute, "was 'Hog Heaven.' "

"As long as the pigs could fatten on camas bulbs," says Mallickan, "the farmers didn't have to feed them grain."

By the time of the last war with the Nez Perce in late 1877—in which Chief Joseph's band, along with four other bands, was defeated and its members scattered among reservations in Oregon, Washington and Idaho—many of the camas meadows had been ruined. Neither the bountiful Paradise Creek watershed nor the Weippe Prairie was on reservation land, and even on the reservations, many Native Americans turned to farming to survive. In addition, reservation land was sold and leased to farmers who were not members of the Nez Perce tribe, Mallickan says.

Today the Palouse—a 2 million-plus-acre area in southeastern Washington and north-central Idaho that includes Moscow and Pullman—is known for exceptional dry-land wheat yields. For instance, Whitman County, Washington, where Pullman is located, has been the top wheat-producing county in the country every year since 1978. Last year, it averaged 73.2 bushels per acre of winter wheat—almost twice the national average of 38.5—according to the U.S. Department of Agriculture's Washington Agricultural Statistics Service.

The Palouse—whose name comes from a Palouse Indian word, *palus*, which means "something sticking down in the water" and which was the name of a major Indian village where a big rock was sticking down in the water—plays an important role in feeding the region, the country and the world. Instead of seas of blue camas, modern visitors see rolling waves of umber soil, amber grain and emerald crops, with deep troughs be-tween them. Bald of trees, the hills of the Palouse shimmer in late summer and fall with dun-colored wheat and barley. The sky is an open basket of deepest blue and produces the kind of unforgettable golden sunsets that can make city dwellers long for uncluttered spaces.

It's a land still picturesque and productive, but as a result of such successful cultivation, "the Palouse Prairie ecosystem has become one of the most endangered ecosystems in the United States," Lamar says.

The camas restoration in Moscow is part of the Palouse–Clearwater Institute's effort to restore native habitat along Paradise Creek and its tributaries. The organization is shoring up stream banks and planting a variety of native plants, such as quaking aspen, serviceberries, and spirea. In all, they've led nearly 40 restoration projects along Paradise Creek. Today's camas project is the institute's second camas planting. The group's immediate goal is to control pollution such as runoff from soil erosion, pesticides and nonbiodegradable soaps used to wash cars in streets. Its long-range goal is to restore cultural connections with native habitats.

"We're not planting camas like a crop," says Lamar. "It's a way of honoring a native species. And by participating in the planting, the kids make an emotional connection to each other and to the land."

This rings true for Linda Sterk, the Renaissance School teacher, who smiles as she watches kids from two different traditions running, tumbling and playing together after the camas bulbs are planted.

"There's not much of an ethnic mix at our school, so this is good exposure," she says. "The kids seemed pretty into it." The camas-planting expedition is part of their "field work" for studies about Native people of Idaho, she says.

"I thought it was a lot of fun," says Renaissance student David Steury. "I'd do it again. It was a good experience."

Jackie Taylor, third-grade teacher at Lapwai Elementary School, says her students also were enthusiastic. "The kids were pretty excited. It was really good for their self-image to get to know the roots their ancestors ate."

"It was fun planting camas," says Victoria Lara, one of Taylor's students. "And I got to meet a lot of nice people."

However, some Nez Perce are opposed to restoration efforts because they seem to go against tradition, says Carter. "We dig camas. We don't usually plant camas."

"We've thought about domesticating camas," says Diane Mallickan, the Nez Perce Historical Park interpreter, "but you lose something when you don't find it naturally growing. Foods are gifts from the Creator. The Creator put things on earth. Indian people value what's on the earth beyond human capacity. We value the earth as it is."

Still, some families have broken with tradition and begun planting bulbs in hidden spots on the 770,000-acre Nez Perce Reservation, far from the reach of poachers and plows, Carter says. While deliberately planting camas is a new step, the idea of nurturing camas is not new, she notes. In more traditional times, diggers would shake seed clusters into the soil where they were digging, then turn the seed clusters back into the soil along with the stalks. Also, they were careful to take only the largest bulbs. In this way, they assured continuing abundance.

"I hope camas can make a return," Carter says, "but it won't be enough on its own. We need to restore the health of the meadows. We need to look at replanting bear grass and the bunchgrasses and the trees. When camas and the roots and berries come back, this will invite the animals to come back, too."

The tribe is purchasing land on and off the reservation for restoration and preservation, she says.

Mallickan agrees that a camas comeback is conceivable. "We've never lost all of our hunting-and-gathering lifestyle.
We still hunt deer and elk, and our root-diggers gather roots such as biscuitroot, bitterroot and camas where we can find it. We have an annual First Roots Feast each spring to celebrate these gifts from the land. Ours is a story of how much has survived, despite everything."

Modern approaches and tribal traditions are already being paired in other recovery programs. For example, scientific knowledge helped the tribe build 10 successful salmon hatcheries. But to honor tradition, the Nez Perce carry the fingerlings up to headwaters of the Clearwater and Grande Ronde rivers, and to the main stem of the Snake River, and let the fry migrate down from there. This way, when they migrate back, instead of going to the hatchery, they swim toward areas where they can spawn

in the wild, and they will pass traditional summer-camp areas.

The return of traditional resources such as camas will take many years, but the Nez Perce are a patient people, Mallickan says. “Given time, what goes wrong can be made right again.” ■

Scott Driscoll is a Seattle writer.

For more information on the Palouse–Clearwater Environmental Institute, visit www.pcei.org. A Camas Festival takes place each Memorial Day weekend in Weippe, Idaho (www.weippe.com). Visitors can taste roasted camas, participate in a run/walk alongside blooming camas fields, take part in Nez Perce games, and listen to historical presentations. (Do not gather camas for food unless you are an expert in identifying edible species; one of the camas species is poisonous.)

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