Qwu?gwes

The Qwu?gwes Archaeological Site and Fish Trap (45TN240), and Tested Homestead (45TN396)
Eleven-Year South Puget Sound Community College Summer Field School Investigations with the Squaxin Island Tribe
—Final Report—

Four sides of Qwu?gwes toy war club showing the considerable skill in creating this expedient toy (scale = cm, so very small); the handle is split cedar wood, the wrapping is a cherry bark strip and the head is a green sedimentary pebble (Illustration by Candra Zhang, 2009).

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Frontispiece: 3-D map of three major site areas investigated at Qwu’gwes with 1x1 m squares numbered and samples of continuous stratigraphic series in the three major areas investigated. The placement of the Welcome Pole, given to the Munro Family by the Squaxin Island Tribe, is depicted over site area (3-D stratagram created by Professor Michael Martin and student Mickey Nelson, Computer Aided Design Department, South Puget Sound Community College).
EXECUTIVE SUMMARY

South Puget Sound Community College (SPSCC), through its Field Course in Archaeology (Anthropology 280), carried out archaeological data recovery excavations of the Qwu?gwes site (45TN240), an ancient shell midden and intertidal wet site on Mud Bay, lower Eld Inlet, Washington, U.S.A. An associated fish trap complex was mapped by SPSCC Computer Aided Design (CAD) classes. An historic homestead was also tested (45TN396). This work occurred during eleven, 8-week summer field classes between 1999 and 2009. The program was coordinated with the Squaxin Island Tribe, whose ancestry and traditional territory include the Qwu?gwes Food Processing Site/Camp. An equal partnership was pursued in which both archaeological and tribal participants were involved in the permit application process, field and research strategies, and public presentations (tribal museum exhibits, conferences, and publications). The effort was part of the college educational training program, involving numerous students, faculty members, tribal members, and the public. This report contains information on the objectives, background, setting, research goals and methods, and findings.

Objectives and Background

The educational objectives of eleven South Puget Sound Community College field schools and the resulting follow-up research in classes provided a great deal of (a) training for hundreds of students, often culminating in preliminary research and paper presentations, with several students beginning successful professional careers in archaeology; (b) professional research and publications by faculty and professional researchers, Squaxin Island Tribe co-managers, museum staff and Elders; and (c) frequent public visitations and educational presentations, including annual regional newspaper and Seattle television news coverage, encouraged largely through the generous hosting by property owners Karen and Ralph Munro. This report represents the research, academic papers, publications, and conference symposia presentations by students, faculty, and Tribal members and the ongoing synthesis of this unique and first-ever extensive site excavation in south Puget Sound. The results of this educationally-based endeavor provide this first archaeological glimpse of the rich and ancient heritage of the Squaxin Island Tribe Peoples.

Significantly the Qwu?gwes Archaeological Project includes a waterlogged/wet preserved section containing examples of ancient wood and fiber material culture, including basketry, nets, cordage, wooden fish traps, and abundant woodchips and basketry construction debitage. The site also contains a distinct record of shellfish and fisheries used in this southern region of Puget Sound.
Research Goals and Methods

This project has always been an educational training effort, not a rescue excavation. Less than 2.3% (35 cubic meters) of the site has been excavated during the past 11 summer seasons of investigation. The 55, 1x1 meter units excavated and analyzed clearly revealed examples of three site use areas: (1) a seasonally used shelter/Habitation Area; (2) a shellfish and other Food Processing Area where large quantities of butter clams, Olympia oysters, and other shellfish were processed and dried for storage/trade; and (3) an inter-tidal discard Wet Site Shell Midden area containing preserved wood and fiber artifacts in its lower half. The three areas of the site are referred to throughout this document by the titles in italics above.

Evidence indicates a disastrous earthquake took place at the Qwu’gwas location approximately 1000 to 1100 years ago, when the area dropped 3 m (9 ft.), creating a drowned forest due to the flow of Puget Sound into what is now Mud Bay and establishing a new shoreline. Following erosion of the drowned forest along this shore, the site became seasonally occupied as a food processing camp between ca. 700 and 150 14C yr B.P. A second earthquake approximately 400 years ago appears to have been less dramatic, resulting in a gradual subsidence, and affecting the shellfish use at the site during this period.

Findings

This study describes and compares 173,317 cataloged elements of cultural remains that are the result of human activity, or artifacts that are classified into three categories: debris, debitage and discrete artifacts.

Debris, the most abundant artifact category (94% of all cultural remains), includes the by-products of food consumption and processing, and the fauna, flora, and thermally altered rocks (TAR). Sampled from Qwu’gwas excavations were 109,759 valved specimens of invertebrate shellfish fauna (the most concentrated food debris at the site), 20,658 specimens of fish, mammal, and bird vertebrate fauna, 3,759 elements of mainly nuts (especially acorns) and seed macroflora, and 28,397 thermally altered rock (TAR), a cultural debris by-product of the active shellfish processing (steaming ovens) at this camp.

The shellfish invertebrate faunal remains or artifactual debris (59% of cultural remains) was mostly bivalve shellfish, dominated by five species: Olympia oyster (Ostrea conchaphila; 42%), butter clam (Saxidomus giganteus; 13%), Pacific blue mussel (Mytilus edulis; 3%), native littleneck (Protothaca staminea; 0.8%), and horse clam (Tresus capax; 0.3%). When the meat weight and dietary contribution of each species is considered, it becomes clear that butter clams and horse clams were of greater significance than the more numerous Olympia oyster. Ethnographically butter clams are preferred for drying, storage, and trade. Analysis of butter
clam cross-sections indicates the primary season of collection was in the late spring/summer, and the age of harvest (death) has a tight range, with 75% of the sample within the range of 7 to 13 years of age. This focus on this age range for butter clams no doubt represents strict management of this key resource being processed at the Qwu?gwes camp.

Vertebrate faunal elements or artifactual debris were recorded from the excavated units as well as from intertidal surface erosion. The excavated units included 14,375 fish elements (72.5% of the assemblage), 4,891 mammal elements (24.7%), 309 bird elements (1.6%), 20 unidentified bird or small mammal elements, (0.1%), and 17 snake elements (0.09%). Clearly fish bones are the bulk of the assemblage, and salmon is the most abundant fish resource (averaging 95% of fish NISP). Mule deer is the most abundant mammal resource (51% of mammal NISP), followed by elk (10% of mammal NISP). Salmon are most abundant in Eld Inlet during the fall season, suggesting an autumn use of the Qwu?gwes camp and fish trap complex. The Qwu?gwes faunal assemblage shares commonalities with nine other sites reported in the Salish Sea region (Puget Sound, Gulf of Georgia, Georgia Strait, and Strait of Juan de Fuca), in particular, those typically found in riverine settings. For example, most of these sites show salmon, deer, and elk as the most abundant fauna. Perhaps the most distinctive aspect of Qwu?gwes compared to these other sites is the great variety of taxa present. It appears that the residents of the Qwu?gwes site hunted and fished for an unusually wide variety of taxa.

Macroflora remains (especially nuts and seeds) from the waterlogged intertidal shell-midden levels contribute only 2% of the cultural debris recovered. Acorn shells (*Quercus garryana*) are the most abundant plant food remains (1,660, 44%) and hazelnuts are the second most abundant (312, 8%). Berry seeds are not common. Hazelnuts are evenly distributed across the site and appear to be snack foods. Acorns are concentrated in different discard areas and appear to contribute more to the carbohydrate intake.

Cellular analysis of charcoal remains from the food processing, habitation, and intertidal shell-midden areas show a wide variety of fuelwoods being used, with a distinct focus on bitter cherry wood (*Prunus emarginata*), a fuelwood known for its ethnographic use in smoking salmon and shellfish.

The abundant Qwu?gwes thermally altered rock (TAR) artifactual debris (16% of all cultural remains) appears to be used as heated platforms in steaming ovens to cook, open, and shuck the abundant shellfish resources processed at Qwu?gwes. These steaming ovens represent the main features found in the food processing area of the site.

Debitage, the next most frequent artifact class (6% of all cultural remains), represents the by-product of manufacturing artifacts, including 1,217 lithic flakes, and from the waterlogged portion of the site, 6,375 woodchips, 2,533 basketry waste elements (by-products of basket
making or repair), and 272 cherry bark curl remnants. Clearly woodworking and basketry making and repairing were important activities at the Qwu’gwes camp, with less active lithic tool production, most of which appears to be the re-sharpening of stone artifacts and the production of expedient flake tools.

Discrete artifacts, numbering 347 items (0.2% of all artifacts), are the end products of manufacturing and were often used until broken and discarded. Twenty nine basketry and 64 cordage artifacts, including large piles of fiber gill nets, were found in the intertidal waterlogged areas of the shell-midden. The basketry and cordage are complex artifacts with styles that are compared to all other ancient wet site basketry collections on the Northwest Coast, providing a solid basis for hypothesizing an ancient Coast Salish ethnicity.

Other discrete artifacts that were recovered include 50 bifacially flaked stone projectile points, 80 blade-like flakes, 36 stone scrapers, and 5 ground stone artifacts. The defined projectile point types were compared with designs found throughout Puget Sound, the Gulf of Georgia, Strait of Juan de Fuca, and south into the lower Columbia River. The projectile point types clearly showed a relationship to those found in regions north and west of the site but much less similarity to those found to the south (lower Columbia River basin). Blade-like flakes and scrapers reflected the preparation of foods and hides, and ground stone artifacts, such as nephrite adze bits, reflected the active woodworking at Qwu’gwes.

Eighty-three bone artifacts represent a wide variety of discrete artifact types and are statistically compared with those from throughout the Central Northwest Coast to see how the Qwu’gwes bone (and stone) artifacts link with traditional archaeological phases defined for this central region. They fit well within the Late/Gulf phase cluster.

From the overall temporal analysis of the site, two distinct periods of intense activity appear to have occurred at Qwu’gwes. The earlier period focused on a wide variety of food processing, including fish and mammals. Geomorphological and excavation evidence suggest that during a proposed earthquake subsidence event that created considerable intertidal degradation (estimated to occur between 300-500 BP), the site may have experienced a shift in processing goals and possibly fewer people using it. Following this period of environmental turmoil, faunal data suggest the residents shifted focus to include more shellfish collection. This was perhaps due to lower abundance of local salmon, possibly caused by the silting in of spawning grounds. Pronounced silting could have been caused by major ancient wildfires recorded in this region and/or the 1700 AD earthquake. It may also indicate that salmon were being harvested and processed at a different location such as the associated fish trap complex. These potential environmental episodes appear to represent the final phase of subsistence intensification at Qwu’gwes prior to non-Indian contact and expansion at approximately 150 BP.
In summary, the eleven year project has been an equal partnership between South Puget Sound Community College and the Squaxin Island Tribe, a mutual effort for which all participants take great pride. The eleven years of work included field classes involving many college students, Tribal members, Elders, and Spiritual Leaders, enhanced the learning experience among all groups and developed a culture of respect for both the history and traditions of the Squaxin Island Tribe as well as the scientific demands of archaeological research. While there is further work to be continued at the Qwu?gwes site, significant research and synthesis has resulted in the first careful investigation of ancient Squaxin in the South Sound. For these accomplishments and more, all of those involved in the work over the past eleven years are both proud and pleased to submit this final report that documents the results of more than a decade.