A Different Context: San Dieguito in the Mountains of Southern California

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Late Paleoindian or San Dieguito sites have not been well documented in the mountains of southern California. A site in the Mount Laguna area of San Diego County provides an example of a single component San Dieguito temporary camp at an elevation over 5000 feet. Focus is on the use of local quartzite for producing bifaces and the tool kit includes groundstone. This resource serves to broaden our understanding of the range and variability of San Dieguito Complex assemblages in southern California. It provides additional data with which to test models of early economic adaptation.

One model of human behavior worth testing is whether the predicessors of today's Indian tribes in southern California followed the same pattern of a highly adapted hunting and gathering economy. The Late Prehistoric and historic Indians of the region closely understood their environment and used all technologically available resources. They left an archaeological record reflecting their ability to adapt and utilize resources as diverse as *Donax* along the coast, acorns and small and large game in the foothills and mountains, agave and pinyon in the desert foothills, and mesquite, fish, and waterfowl along the Lake Cahuilla shoreline. Testing this model of a flexible and adaptable economy that focused on both hunting and gathering, dependant upon local resources, can help resolve many of the debates left by other models of the San Dieguito/La Jolla.

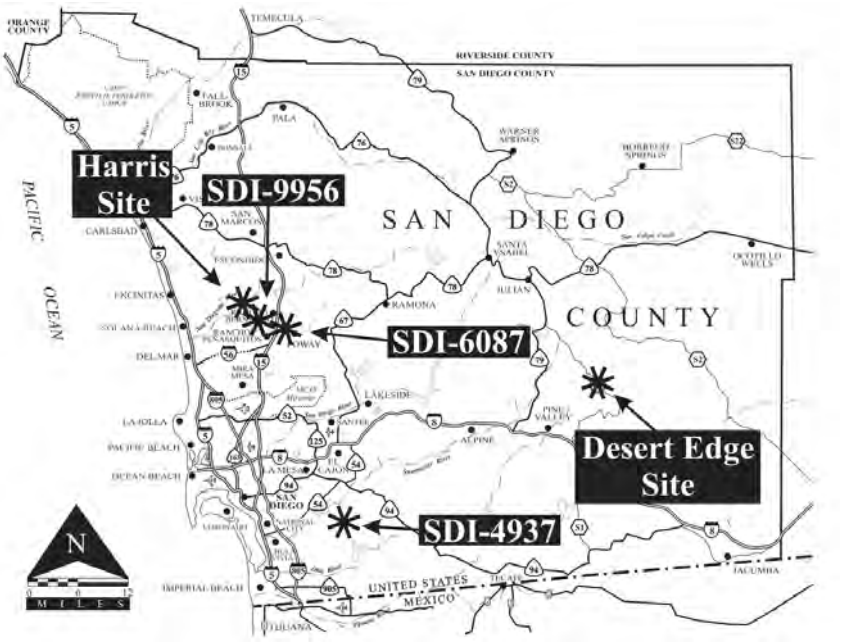
Carmen Lucas, a descendant of the Kwaaymii Band, has told me more than once that her ancestors have always lived in their territory in the Mount Laguna area. Thanks to the technological skill and the tools and artifacts left behind by people more than 9,000 years ago there is evidence of a great antiquity of occupation in the mountains of southern California. The tools these people have left us can play an important role in understanding the broader patterns of what people where doing during the Late Paleoindian Period.

The Desert Edge Site, in the Mount Laguna area of San Diego County provides an essentially single component Late Paleoindian or San Dieguito assemblage in a montane context (Figure 1). Small, single component sites can often be more valuable than larger, more complex resources because post-depositional process can not mix assemblages and confuse patterns.

The Desert Edge site is at an elevation of 5220 feet above mean sea level on the edge of the desert escarpment. The site covers an approximately 60 by 75 meter (m) area and was exposed in the Pines Fire of 2001. It is located on a narrow chaparral covered ridge with low Julian Schist outcrops and limited soils. This site may represent a retooling stop between mountain and desert resources. Both habitats could be accessed from the site, but the nearby mixed coniferous forest habitat is at roughly the same elevation and is most accessible.

Soils at the site are shallow and it is anticipated that little or no subsurface component is present, but no

Figure 1: San Dieguito sites in San Diego County.



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subsurface testing has been conducted. The soils, distribution of artifacts part way down slope, and exposed cobbles suggest that erosion and deflation, rather than deposition, has occurred at this site. The current research was limited to surface observations and artifact documentation. No subsurface excavations were conducted.

The Desert Edge Site is located on Cleveland National Forest lands and I would like to give special thanks to Susan Roder for facilitating and allowing the research, Carmen Lucas for her help in survey and her ideas, Ted Cooley and Richard Carrico for their opinions on the tools and for allowing me to compare some of the material with that from the Harris Site, and to Carol Serr for her thoughts and illustrations.

SITE ASSEMBLAGE

The artifact assemblage is relatively small with 20 bifaces, 2 scrapers, 1 retouched flake, 1 core tool, 2 hammerstones, 3 metates, 4 manos, and approximately 50 fragments of debitage. The large number of bifaces in the assemblage suggests that site integrity is very high. Dense brush and the site's isolated location have precluded illicit collection providing us with the full range of site contents. Although an abundance of Late Prehistoric sites are present in a nearby canyon, this site appears isolated and indications of Late Prehistoric activity are limited to an adjacent pot drop. The small, isolated nature of the site and the consistency of both the tool and debitage assemblages indicate that this is essentially a single component site.

The assemblage and what it says about the range and form of the San Dieguito tool kit is the most important aspect of the site. Hunting technology and the associated bifaces have always led the way in terms of the San Dieguito because of the role these tools have played in its typological definition and models of interpretation. Although the Desert Edge Site is small, it does not lack for bifaces, reflecting its comparability with the Harris Site (Warren 1966).

A total of 20 bifaces and biface fragments have been identified at the Desert Edge Site (Figures 2 and 3). The bifaces all reflect local quartzite material that was probably quarried from nearby outcrops. The site appears to represent a retooling location where used bifaces were discarded and new bifaces were manufactured.

The bifaces can be grouped into four major categories, and one other possible type, in addition to examples of uncategorized preforms. Their weights and dimensions are within the range of points recovered from the Harris Site (Table 1). Two examples of Type 1 bifaces are present in the collection (Figure 2a). These are roughly bipointed leaf-shaped forms comparable to Type 1 points at the Harris Site (Carrico et al. 1991, Warren 1966). One example is virtually identical in outline and cross section to a point from the San Dieguito levels at the Harris Site (Figure 4). Another example is also comparable to a finished form with asphaltum at the Harris Site in terms of shape and cross section (Figure 5). This form is also comparable to isolated bifaces in the Lake Cahuilla basin, providing a typological link between these forms (Figure 6). Although isolated, cresentics were also found in the same context below sea level in the Lake Cahuilla basin (Apple et al. 1997).

The second point type (Type 2), shows a leaf-shaped form with a narrow, but purposefully flattened or unthinned base (Figure 2b). This type is exemplified by six specimens from the site. These are similar to the

Table 1: Desert edge site biface data.

Artifact Number	Type	Length	Width	Thickness	Material
1	Biface Fragment Type 3	6.0+	2.6+	1.5	Quartzite
2	Biface Preform	4.0+	3.5	1.3	Quartzite
3	Biface Fragment Type 2	4.4+	2.5	0.9	Quartzite
4	Biface Fragment Type 2	4.4+	2.9	1.2	Quartzite
5	Biface Type 1	5.1	2.5	1.1	Quartzite
6	Biface Fragment Type 2	3.1+	2.8	1.0	Quartzite
7	Stemmed? Biface Fragment	4.3+	3.4	1.2	Quartzite
8	Scaper	3.7	3.4	2.6	Santiago Peak Volcanic
9	Biface Fragment Type 3	5.8+	2.6	1.3	Quartzite
10	Biface Preform Fragment	4.0+	3.5	1.7	Quartzite
11	Biface Type 4	10.7	3.3	1.4	Quartzite
12	Biface Fragment Type 3	6.5+	2.5	1.6	Quartzite
13	Biface Preform Fragment	2.6+	2.2+	0.4	Quartzite
14	Biface Fragment Type 3	8.9+	2.4	1.5	Quartzite
15	Biface Type 2	6.5	2.7	1.2	Quartzite
16	Biface Type 4	6.4+	3.7	1.3	Quartzite
17	Biface Type 2	4.2+	2.4	1.0	Quartzite
18	Biface Type 1 (DT-I-1)	4.5+	2	0.7	Volcanic
19	Biface Type 2	4.6+	2.6	0.7	Quartzite
20	Biface Type 2	7.5	2.5	0.5	Quartzite
21	Biface Preform Frag.	3.5+	2.9	0.8	Quartzite
22	Biface Preform Midsect.	3.4+	3.4	1.3	Quartzite

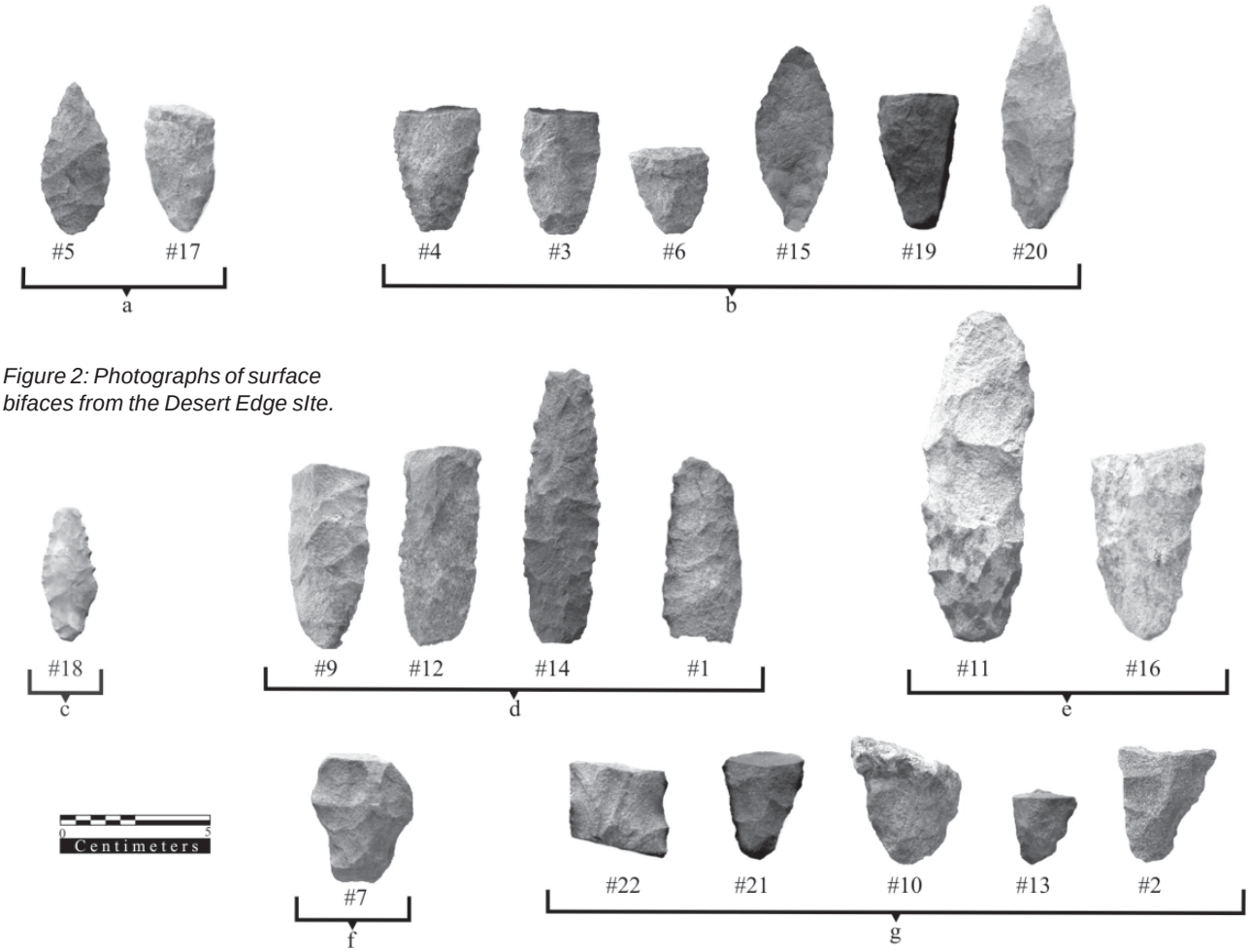

Figure 2: Photographs of surface bifaces from the Desert Edge sIte.

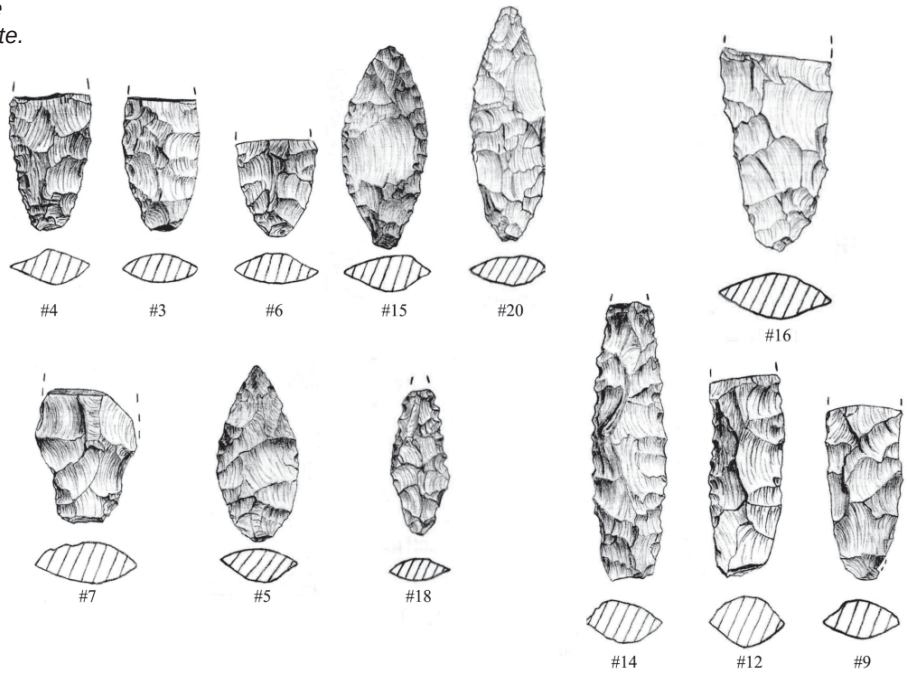

Figure 3: Illustrations of surface bifaces from the Desert Edge sIte.

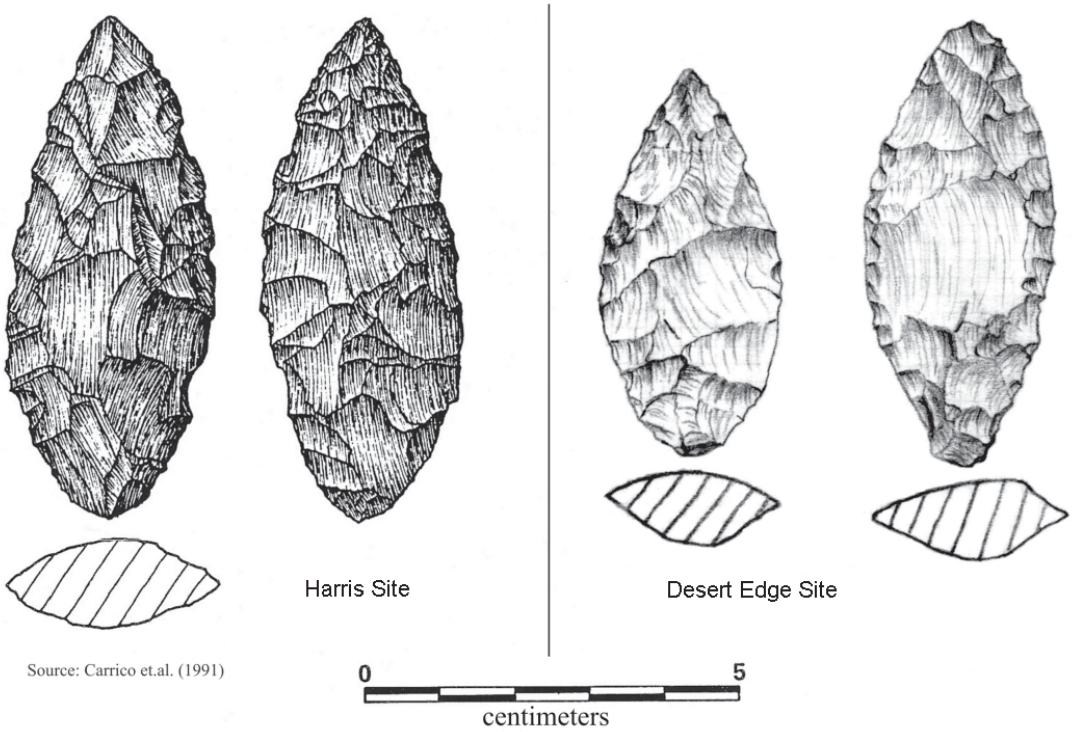

Figure 4: Harris Site-Desert Edge site biface comparison.

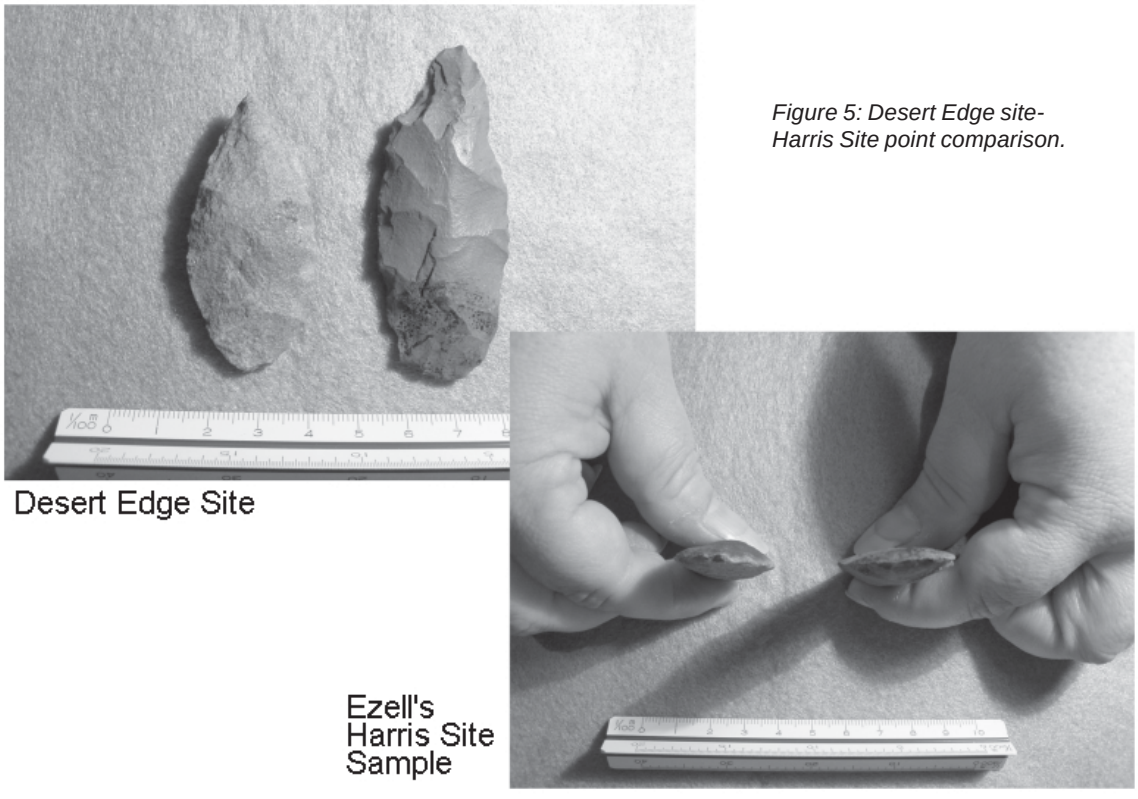

Figure 5: Desert Edge site-Harris Site point comparison.

bipointed forms and their distinction may be based on the small sample.

Another similar point was found less than 1/4 of a mile away as what was probably an isolated hunting loss (Figure 2c). It is smaller, somewhat stemmed, and more serrated, possibly reflecting reworking, but shows the same general pattern of an unthinned base and leaf-shaped form. In contrast to the bifaces found at the Desert Edge Site itself, this point is made from Table Mountain or Alverson Volcanic material.

The third major type found in the assemblage is the generally straight-sided form with relatively narrow and thick cross-sections, often typical of Harris Site points (Figure 2d). The points are similar to those from the Harris Site including the unthinned base typical of these forms. An example from the Harris Site has the same thick base but shows asphaltum indicating it was finished and hafted and that this pattern of a thick base was left purposefully for hafting.

Two examples of larger bifaces may represent another type (Figure 2e) Although one of the examples has be heavily impacted by fire spalling, these forms show a range of larger size comparable to some of the larger bifaces at the Harris Site. At both sites this type may represent an earlier stage of reduction.

One unfinished biface in the collection (Figure 2f) appears to show purposeful stemming, perhaps providing an additional link between San Dieguito and Lake Mojave styles. The remaining bifaces in the assemblage (Figure 2g) provide examples of preforms indicating, along with the debitage assemblage, that replacements for the broken or unsuccessful discards were being made at the site.

Quartzite is not what comes to mind when one thinks of San Dieguito or Lake Mojave assemblages. Use of volcanics have generally been associated with these large bifaces in southern California. This may be related in part to the larger cores required to produce these artifacts. While Santiago Peak Volcanics dominate the assemblage from the Harris Site and various basalts dominate Lake Mojave points, obsidian, cherts and quartz have also been used to produce these tools when available. While the generally poor concoidal fracture of quartzite tends to make this material less preferred, Late Prehistoric sites nearby clearly attest to its use when alternative materials were not locally available.

The Desert Edge Site is located in an area of Julian Schist that includes various outcrops of grey fine to coarse grained quartzite. Quartz dikes are also present in the area but these exposures are fragmented and core size is usually less than 10 centimeters (cm) which would not allow for large leaf-shaped biface production. Quartzite outcrops as bands within the bedrock outcrops and as large associated fragments where core size is not limited. While the coarse texture of quartzite would be anticipated to limit the form of bifaces, the skill of the knappers appears to have overcome any constraints.

Perhaps just as important as the biface forms is the rest of the assemblage for what it tells us about the broader scope of technology and economy of these people. The flaked tool assemblage at the site beyond bifaces was generally limited in scope. A single Santiago Peak Volcanic scraper was recovered from the eastern portion of the site (Figure 7). This is a small unifacially retouched scraper with a planer lower surface. It is closely comparable to scrapers from the Harris Site (Warren 1966). A similar small scraper of milky quartz is also present. One large core tool/chopper of quartzite and two quartz hammerstones are also present. A flake of Table Mountain Volcanics is unifacially retouched along a single edge.

The assemblage at the Desert Edge Site includes groundstone. The presence of groundstone technology within the San Dieguito Complex has been a point of discussion for some time. The presence of groundstone technology at the Desert Edge Site adds another data point supporting its association with San Dieguito hunting technology.

The groundstone assemblage from the site includes three unifacial slab metates made from angular to subangular granitic slabs not available on the site itself. The presence of slab metates corresponds to other early milling assemblages in contrast to later basin metates and mortars.

Four manos and mano fragments are present at the site. They represent a variety of materials but three of the four are simple unshaped and unshouldered cobble-based manos. Two of manos are made from porphorphyritic volcanic Eocene cobbles. They are bifacial fragments that do not show evidence of pecking. A third mano is much smaller and is made from a small gabbro cobble. It shows bifacial grinding use without pecking.

The fourth mano is an exception when compared to the others. It is granitic and highly shaped into a rectangular form. This roughly squared form reflects use on slab metates and the extensive shaping shows a well developed groundstone technology. The groundstone assemblage suggests that seeds were an important component of the diet in addition to the hunting technology suggested by the bifaces.

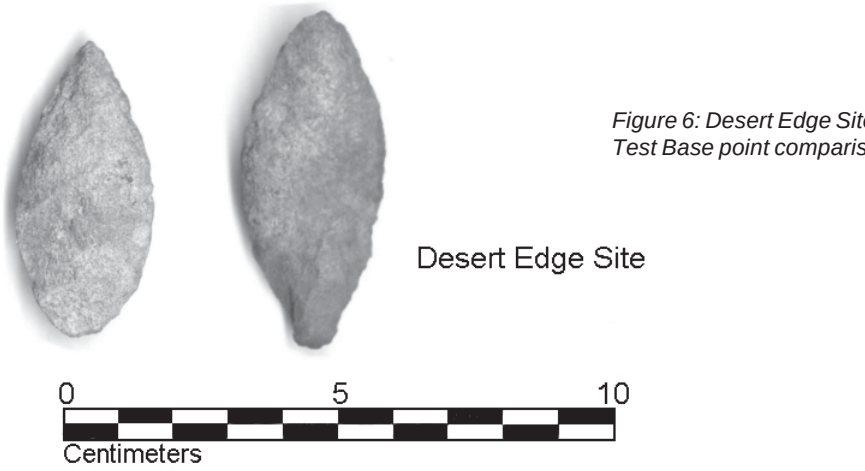

Figure 6: Desert Edge Site-Salton Sea Test Base point comparison.

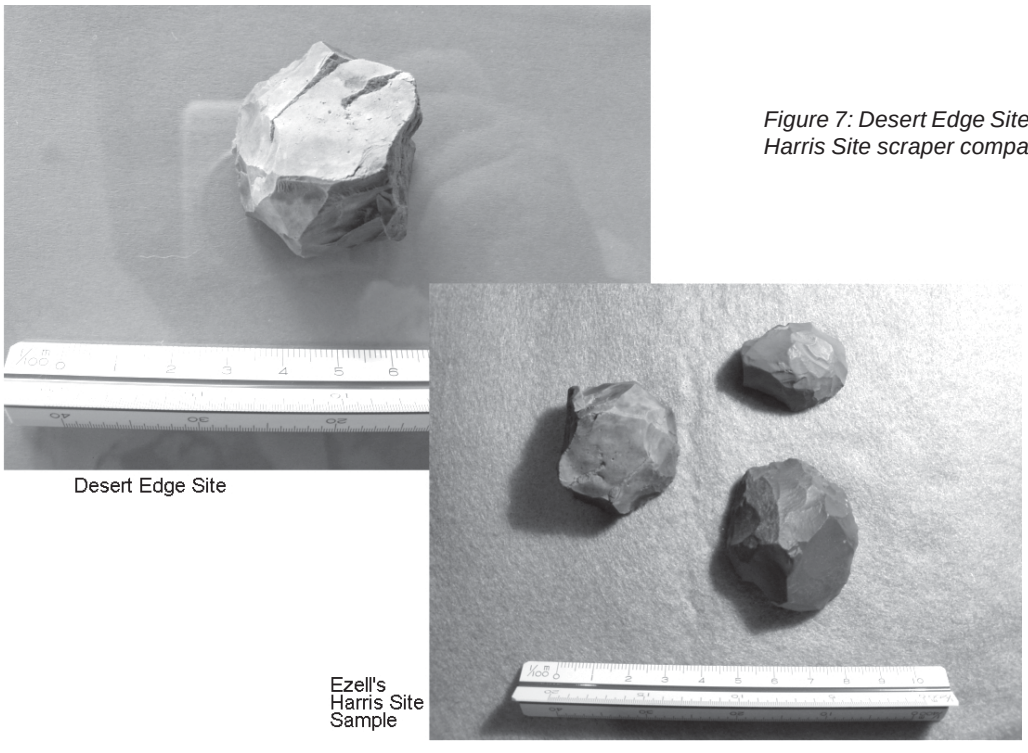

Figure 7: Desert Edge Site-Harris Site scraper comparison.

Discussion

The artifacts left behind by the occupants of the Desert Edge Site can help us to understand more than their own lives, but something about the larger patterns of economy and culture in the Late Paleoindian Period.

I think one of the things the artifacts from the Desert Edge Site can tell us is that there is a distinct hunting technology that we can associate with the Late Paleoindian Period. This is a general technological pattern with regional styles we can call the San Dieguito or the Lake Mojave. The Desert Edge Site provides another example, along with the Harris Site and others in that region of how distinctive this technology is from later Archaic Period atlatl and dart technology.

Along these lines, I think the Desert Edge Site closely fits the pattern of sites, including the Harris Site and the two others in the same region, that Warren (et al. 1993) has identified as part of the San Dieguito pattern (see Figure 1). While this amplifies the range of the San Dieguito pattern into the mountains of southern California, and broadens material use to locally available quartzite, it also highlights the narrow focus of these sites. Not only can all these sites be linked by their hunting technology, age, and style, but they all stand out as biface manufacturing workshops near sources of raw material. All of the sites in the foothills region parallel Santiago Peak Volcanic sources and the Desert Edge Site is associated with quartzite outcrops in the Julian Schist. The addition of the Desert Edge Site to the others makes this pattern more clear.

Paul Ezell (1987) warned us to not be bedazzled by the bifaces and not to rely on the Harris Site as a type site. Perhaps what we are seeing in these sites is more than just the San Dieguito hunting technology. What links these sites may be their type as well. All are biface production workshops where these tools would be likely to accumulate in unusual numbers in relation to general occupation sites and camps. The accumulation of both broken discards and rejected preforms at these types of sites, I think has over magnified their importance in the pattern of larger Late Paleoindian life as Ezell suggested. I think this is what has led Warren et al. (1993) to continue to use a model of a hunting-focused economy for the San Dieguito.

Another important thing the Desert Edge Site provides us is a broader example the rest of the tool kit than does the more narrowly focused Harris Site. I think our inability to link the rest of the assemblage with San Dieguito tools has been a major problem with our current models. Manos and metates at the Desert Edge Site, tell us these people were relying on seed and plant resources, hammerstones, retouched flakes, and core tools would all fit our model of an Archaic or La Jollan assemblage. I think this consistency in the broader tool kit across these two periods is what has led Gallegos (1987) to lump the two hunting technologies into one broader Early Period.

If we apply the Late Prehistoric economic model to the Late Paleoindian data along with the information on hunting technology and the broader assemblage from the Desert Edge Site, we can come up with several major expectations:

- People in the area more than 9,000 years ago were closely adapted to the resources of the region and occupied and used all available niches.
- They were well adapted hunter-gatherers and had an economy that shifted in focus from hunting to gathering depending on available resources.
- They had a distinctive hunting technology that used large leaf-shaped bifaces of a style we can call the San Dieguito.
- We should expect an important part of the economy and technology is related to seed processing and gathering similar to Archaic Period and Late Prehistoric tool kits.

The implication of these expectations is that what will distinguish Late Paleoindian sites from others is largely their age and hunting tool technology and style. As indicated by the tool material at the Desert Edge Site, these people were well adapted to local lithic resources whether they are Santiago Peak Volcanics, Julian Schist quartzite, or Eocene quartzite and volcanic cobbles. Looking at the broader archaeological data with these expectations and implications in mind we should not be surprised or baffled by sparse examples of San Dieguito hunting technology in more gathering-focused early dated sites. Sites like Windsong Shores (Gallegos 1991) and Scripps Estates/Chancellors House (Shumway et al. 1961) provide examples of small amounts of San Dieguito hunting technology in largely gathering focused sites. They support the model that Late Paleoindian people did not ignore important resources like shellfish along the coast as exemplified by early occupation evidence on the islands of the California coast.

I think by looking harder at mixed assemblages in the mountain and foothill areas of the region we can pick out the San Dieguito hunting technology and show

that the expectations of the model at met. People more than 9,000 years ago found ways to use a variety of resources and occupy all environments they encountered. I think we can even pick out San Dieguito technology in the desert basin around old stands of Lake Cahuilla where game may have been limited to fish and seasonal waterfowl.

I think the application of a model of a largely consistent hunter-gatherer economy but a distinctive Late Paleoindian hunting technology resolves many on the stalemated dilemmas left by other models. Through resources like the artifacts left behind by people at the Desert Edge Site, we can see the amazing skill these people had when producing hunting tools in the styles and technology of their time. We can also see the link between this hunting technology and the broader tool kit and economy. These people were well adapted and closely linked with their environment. I think broader application of this model to the remainder of the archaeological record can help us come to a better understanding of human behavior and adaptability in the past.

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REFERENCES CITED

Apple, Rebecca McCorkle, A. York, A. Pigniolo, J. H. Cleland, and S. Van Wormer
1997 Archaeological Survey and Evaluation Program for the Salton Sea Test Base, Imperial County, California. Unpublished technical report on file with the Southeastern Information Center, Ocotillo, California.

Carrico, Richard L., Theodore G. Cooley, and Joyce M. Clevenger
1991 Final Archaeological Excavation at the Harris Site Complex, San Diego County, California. Unpublished technical report on file at the South Coastal Information Center, San Diego California.

Ezell, Paul
1987 The Harris Site - An Atypical San Dieguito Site or Am I Beating a Dead Horse? In *San Dieguito - La Jolla: Chronology and Controversy*. San Diego County Archaeological Society Research Paper, Number 1. Dennis Gallegos, Susan M. Hector, and Stephen R. Van Wormer editors. Pp. 15-22. San Diego.

Gallegos, Dennis
1987 A Review and Synthesis of Environmental and Cultural Material for the Batiquitos Lagoon Region. In *San Dieguito - La Jolla: Chronology and Controversy*. San Diego County Archaeological Society Research Paper, Number 1. Dennis Gallegos, Susan M. Hector, and Stephen R. Van Wormer editors. Pp. 23-34. San Diego.

1991 Antiquity and Adaptation at Agua Hedionda, Carlsbad, California. *In Hunter-gatherers of Early Holocene Coastal California*. Edited by J. M. Erlandson and R. H. Colten Pp. 19-41.UCLA Institute of Archaeology. Los Angeles.

Shumway, G., C. L. Hubbs, and J. R. Moriarty
1961 Scripps Estates Site, San Diego California: A La Jolla Site Dated 5460 to 7370 Years Before Present. *Annals of the New York Academy of Sciences* 93(3):37-132.

Warren, C. N.
1966 *The San Dieguito Type Site: M. J. Rogers' 1938 Excavation on the San Dieguito River*. San Diego Museum of Man Papers 5.

Warren, Claude N., Gretchen Siegler, and Frank Dittmer
1993 Paleoindian and Early Archaic Periods. In *Draft Historic Properties Background Study for the City of San Diego Clean Water Program*. San Diego.