

# Settlement Patterns West of Ma'ax Na, Belize

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## ABSTRACT

The focus of this project is to describe the settlement patterns and land use west of the Maya secondary site center of Ma'ax Na located in the Three Rivers region in Belize, Central America. A secondary site center is defined as containing 10 to 19 courtyard groups and a primary site center containing 20 or more courtyard groups. In the summer of 1999, I participated in a reconnaissance project near the north-western Belize and northeastern Guatemalan border with the Programme for Belize Archaeological Project. Our team identified and recorded vegetation changes, agricultural evidence and settlement patterns approximately six km west of Ma'ax Na. We found that the density of the settlement depended on its proximity to Ma'ax Na. This project will also look at past research on the peripheral settlements of the primary site of La Milpa and the secondary site of Dos Hombres during the Late Classic period (A.D. 600-900.)

## INTRODUCTION

In the 1999 Programme for Belize Archaeological Project's field season our field team organized a preliminary reconnaissance survey project that explored six km west of the Late Classic (A.D. 600-900) Maya site of Ma'ax Na. Part of this area is considered Ma'ax Na's sustaining area. The sustaining area cannot be defined until more fieldwork is completed. A sustaining area or catchment area is "the zone of resources both wild and domestic, that occur within reasonable walking distance of a given village" (Flannery 1976: 91).

The site of Ma'ax Na is located in the eastern Peten which has been called the Three Rivers region (Figure 1). The Rio Azul, the Rio Bravo, and Booths River are the three rivers that run through the region giving the area its name. The site of Ma'ax Na is located six km south of the primary center of La Milpa. A primary site is defined as having 20 or more courtyard groups. A secondary site contains between 10 to 19 courtyard groups and a third order site contains between five and nine (Adams and Jones 1981: 310). The site of Ma'ax Na has a total of eight courtyard groupings, which according to Adams' model of site ranking does not classify it as a secondary center (Adams and Jones 1981: 310). Comparing the contents, location and relative size of the site to the other sites in the region, I propose that this site can be considered an important secondary site.

The goal of our reconnaissance project was to record and identify the landscape, location of settlements and evidence of agriculture west of the site of Ma'ax Na. When our field crew began our project, we noted that a large *bajo*, La Lucha *bajo*, was located in our project area. A *bajo* is a seasonally-flooded, clay-filled depression. We were unaware of the settlement and vegetation around it, but proposed that evidence for agriculture and settlement would be observed by finding house mounds, elite residential structures and agricultural field terraces.

## METHODS

One of the focuses of the survey project, under the direction of Dr. Kathryn Reese-Taylor, was to survey the land between the site of Ma'ax Na, Belize and the northern Guatemalan-Belize border within the Programme for Belize's property. In the summer of 1999, this reconnaissance fieldwork began. The survey approximately extended six km from the western side of Ma'ax Na. We identified and noted house mounds, elite residential areas, water drainages, *bajos* and vegetation changes. The location of the features were recorded in two ways. The first was in relation to the topographic features on the UTM grid map. The second way of recording them was by recording their GPS readings.

After the fieldwork was completed, I decided the best way to describe the contents of this area was to make each square kilometer a numbered block in the 30 km<sup>2</sup> area (64-69 North and 75 to 81 West on the UTM map). In each block we noted the type of vegetation found and any land modification observed.

In the 19 blocks, we entered, we identified three types of vegetation: scrub swamp forest, transition forest and upland forest. "Scrub swamp forest occurs in poorly drained, clay filled depressions which are seasonally inundated" (Houk 1996: 90). These areas are also called *bajos*. The second type of vegetation recorded was upland forest. Upland forest occurs on well drained soils on escarpments and hill tops. The canopy ranges from 15-30 m in height (Houk 1996: 88). The final descriptive vegetation type is the transition forest. This vegetation occupies the shallow gradient in topography between the uplands and the scrub swamp forest and contains vegetation from both of these (Houk 1996: 89).

## RESULTS

Out of the 30 km<sup>2</sup> project area we entered 63.3% of the blocks. Figure 2 shows the explored and unexplored areas. Figure 3 is a UTM grid map, which shows the project area and its location in relation to the site of La Milpa. Figure 4 is a zoomed view of the numbered blocks of our project area. The following section describes the vegetation, agricultural evidence, and settlement found in each of the blocks in Figures 3 and 4.

**Block 1.** We did not enter this block.

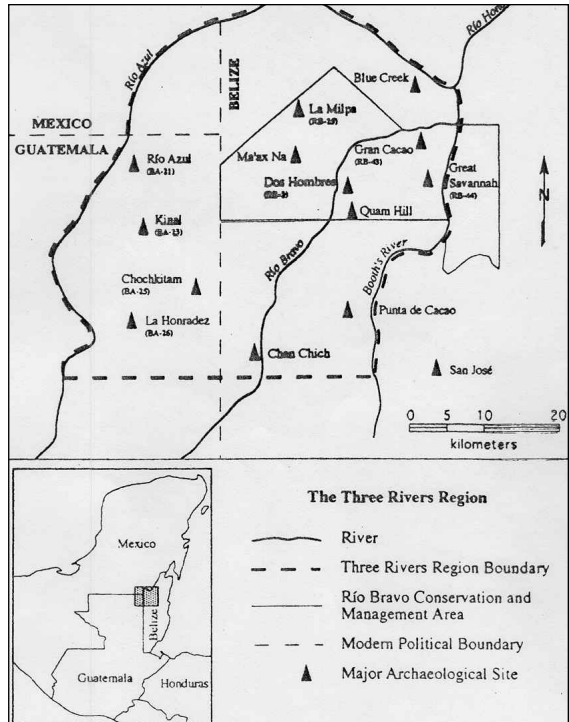


Figure 1: Map of the Three Rivers Region

**Block 2.** The vegetation in this area is considered transition forest. Only two house mounds were recorded, but we hypothesize that there is more.

**Block 3.** The southeast portion was thick *bajo* or scrub swamp forest. The northwest was more of a dense vegetation possibly transition forest.

The 140 m rise had good vegetation, but could not be considered upland forest.

**Block 4.** This block contained mainly scrub swamp forest but in the northwest corner was an upland area.

**Block 5.** This area was not entered but we hypothesize that it contains scrub swamp forest vegetation.

**Block 6.** This block was not entered, but we propose that it contains scrub swamp forest vegetation.

**Block 7.** A 180 m ridge is located in this block. Along the block is scrub swamp forest and at the top of this ridge is possibly upland forest or transition forest vegetation. One mound was found on the 180 m plateau and was approximately 3 to 4 m high. It had steep sides, which may indicate it to be more of a shrine than a residential mound.

**Block 8.** We did not enter this block, but hypothesize it to be transition forest.

**Block 9.** We did not enter this area but hypothesize it to be scrub swamp forest.

**Block 10.** The northwest and southeast portions are scrub swamp forest areas.

**Block 11.** This block skirts an area of scrub swamp forest and appears to have no evidence of transition forest.

**Block 12.** We did not enter this block, but we propose that the northern portion is scrub

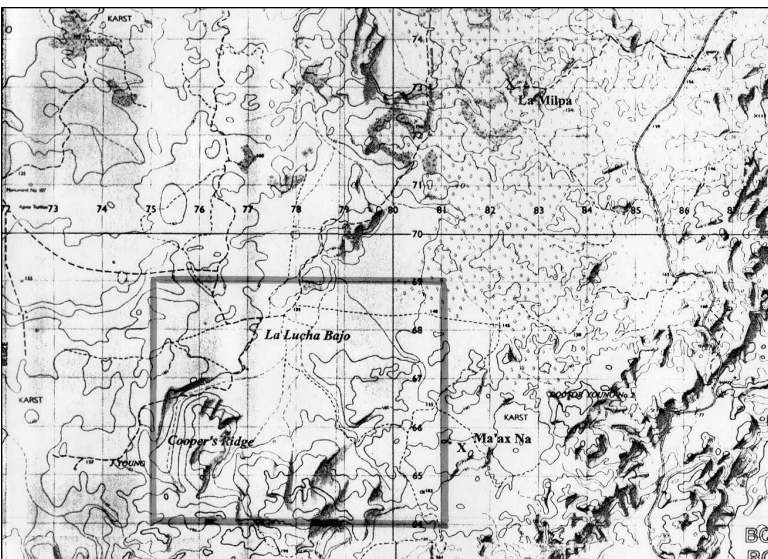
	75	76	77	78	79	80	81
1	2	3	4	5	6		
7	8	9	10	11	12		
13	14	15	16	17	18		
19	20	21	22	23	24		
25	26	27	28	29	30		

**Figure 2:**

 **Partially Explored Area**

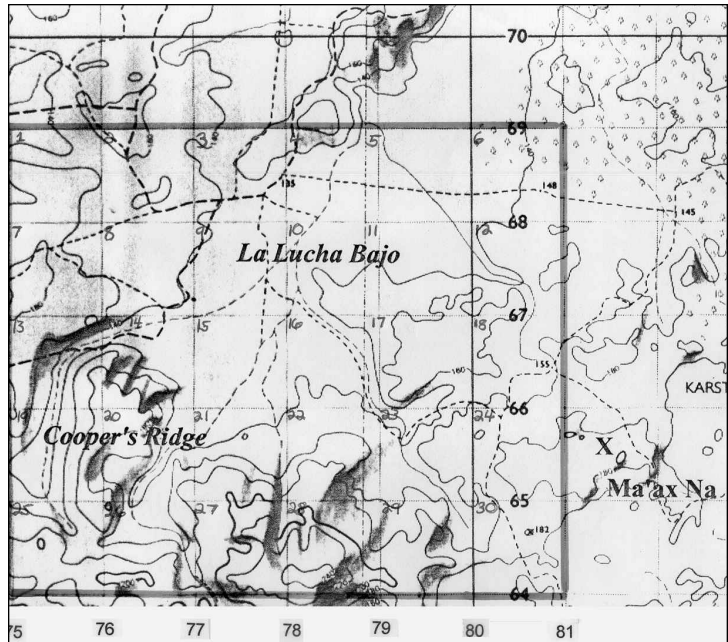
 **Unexplored Area**

\*Each numbered block is 1 km<sup>2</sup>



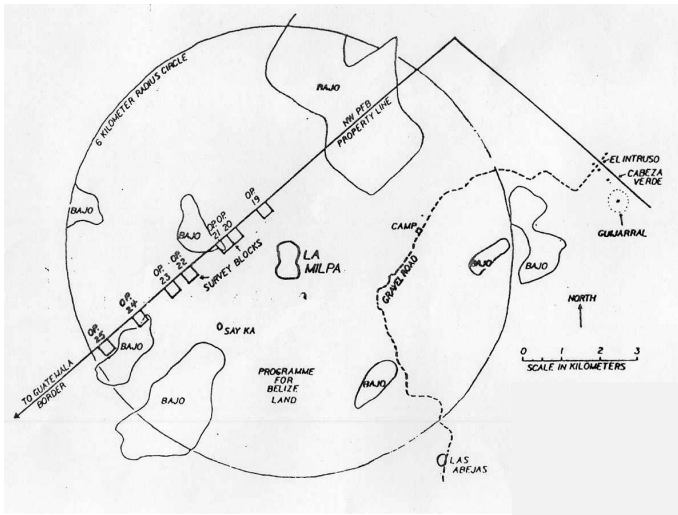
**Figure 3:**  
Topographic map of the area

**Figure 4: A zoomed view of the project area and the numbered blocks.**



swamp forest.

- Block 13.** We did not enter this area, but hypothesize that the central portion is scrub swamp forest vegetation and there may be a possibility for terraces to be located along Cooper's ridge (as seen in block 14.)
- Block 14.** The southern portion of this block contains Copper's Ridge. On top of this ridge were many small mounds and along the ridge were many agricultural terraces.
- Block 15.** We did not enter this block, but hypothesize that the area is scrub swamp forest.
- Block 16.** We did not enter this block but hypothesize that the area is scrub swamp forest.
- Block 17.** A high density of structures were found. Small scrub swamp forest was located in the middle. Vegetation in the other portion was upland forest.
- Block 18.** West half of this block has a high density of structures.
- Block 19.** This block was not entered.
- Block 20.** The east portion of the block contains scrub swamp forest vegetation. The block also contains the west slope of Cooper's Ridge. One mound was noticed as well as some upland forest vegetation.
- Block 21.** Dense settlement was observed at an elevation of 140 to 160 m.
- Block 22.** The northern 1/3 of this block has very dense settlement. It is also possible that the southern area may also have dense settlements, but we did not observe this portion of the block.
- Block 23.** The northern region contained a couple of courtyard groups.
- Block 24.** This block contained transition forest vegetation.
- Block 25.** One courtyard was found in the eastern portion of this block and also in this area were located agricultural terraces.
- Block 26.** Western 3/4 had very dense vegetation possibly transition forest. This vegetation



**Figure 5:**  
**The La Milpa**

does not seem normal because of the high elevation.

**Block 27.** Rugged terrain and upland forest were both observed in this block and on the western plateau dense settlement was found.

**Block 28.** The northern portion of this block contained dense settlement. The southwest had a more rugged area, but was prime for settlement, meaning upland forest was located in this area, but no settlement was found in the west. Settlement was only observed in the southeast.

**Block 29.** We did not enter this block but the 180 m plateau shows potential for settlement.

**Block 30.** The southern area drops into scrub swamp forest.

Some of the patterns that are seen in the 30 km<sup>2</sup> area can also be seen in other peripheral regions of nearby sites. A study was done in 1994 of the peripheral regions of the secondary site of Dos Hombres and the primary site of La Milpa (Robichaux 1994). That study found the settlement at both sites seems to drop off which they hypothesize signifies a sustaining area. At La Milpa, "suburbs" are located up to five km away from the site center, which defines the sustaining area. (Tourtellot et al. 1999) In our project we also see a point of dropping off, but we cannot make a conclusion until further work has been completed. Another similarity between our project area and that study is that they found substantial settlement in upland zones with mild to moderate relief which lie near *bajos*. In Robichaux's study only light settlement was noted in rugged upland zones (Robichaux 1994).

Figure 5 shows the La Milpa peripheral zone and the operation survey blocks. Op. 22, which is located three km from the site center, contained the most architecture out of any of the operations and was proposed to possibly oversee agriculture (Robichaux 1995: 19). The dense settlement in our area is located about one to three km from the Ma'ax Na site center. In Op. 19, a village-sized settlement was found that had fifty-one mounds and the settlement was only one and two tenths km from the site center. (Robichaux 1995: 21). In Op. 20 and 21 fifty-five mounds were mapped some of these mounds were proposed to have been agricultural housing (Robichaux 1995: 21). We find this type of settlement on the top of Cooper's Ridge.

## CONCLUSIONS

In conclusion, our project reveals that intensive agriculture was practiced and that there is an identifiable relationship between vegetation and settlement in our area. We have hypothesized that the agriculture terraces in our project area indicate that intensive agriculture was practiced. On top of Cooper's Ridge are located many small mounds, similar to those found at La Milpa, which are thought to have provided temporary shelter for farmers.

In our area, the settlements with the most volume are located one to three km west of Ma'ax Na's site center. The size and amount of these settlements show that this is a possible elite residential area. The smallest settlements or least dense settlements are located in the northwestern portion of the project area. This pattern shows that the settlements with the largest volume are located closest to the site, and the areas further from the site seem much smaller.

The vegetation changes in the 30 km<sup>2</sup> region gave us an idea of the amount of settlement in a given area. The largest settlement in the area was located in upland forest vegetation. Transition forest vegetation contained some small courtyard groups and isolated house mounds. The majority of the scrub swamp forest contained very little or no settlement. These vegetation changes are either a direct result of the Maya's modification of the land or a result of Maya choosing to live in a specific environment.

Our project area proved to have dense settlement and also small and isolated settlement. The settlements with the largest volume were located closest to the site. Evidence for intensive agriculture is present in this area. The final pattern observed is a correlation between vegetation in the project area and the amount of settlement.

## ACKNOWLEDGEMENTS

I would like to thank Dr. Kathryn Reese-Taylor for her help in the field as well as her guidance on this project. I would also like to acknowledge Paul Cackler, Lance Dowd, and Michelle Rich for their assistance in the fieldwork. I am also grateful to Emily G. Willis for her help with resources and insight. Finally, I would like to thank the Programme for Belize Archaeological Project and the UW-L Undergraduate Research Grants Program for permitting research projects like this one to be completed.

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