2004 SEASON OF THE BLUE CREEK REGIONAL POLITICAL ECOLOGY PROJECT: GENERL OVERVIEW

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Introduction

The 2004 season of the Blue Creek Regional Political Ecology Project (BCRPEP) was carried out in upper northwestern Belize over eight weeks in June and July. The project's research objectives are to understand social and political developments of ancient Maya culture in the context of environmental change and natural resource exploitation. This research, initiated in 2001/2002, complements that carried out by earlier phases of the Blue Creek Project, directed by Thomas Guderjan from 1992-2001 (Guderjan 2004). In the current phase, we hypothesize that political and economic organization in the upper northwestern Belize region (Lohse et al. 2004b) should reflect, to some degree, the distribution and arrangement of key natural resources that shaped subsistence and utilitarian production. Additionally, cultural material "patterns," including settlement systems and the administrative and integrative networks they imply, are a result of deliberate strategies by both elite and non-elite actors alike as they responded to changing environmental and demographic pressures, participated in shifting local and long-distance exchange relationships, and constantly negotiated their social roles and access to important resources.

In the 2004 season, we carried out archaeological research including survey and excavations in each environmental setting (Figure 1); summaries of those efforts follow this overview. Much of the theoretical perspective that informs our research has been previously presented, particularly in research proposals for the 2004 season (Lohse 2004) and the summary for the 2003 season (Lohse 2003). Portions of those introductory statements are updated here so that this summary might stand alone as a comprehensive reporting of the goals and approaches of the BCRPEP.

Research Framework

Our work in the Blue Creek area of upper northwestern Belize seeks to understand the integration of local and regional economic and political systems, particularly in the Late Classic period (ca. A.D. 600-850) immediately prior to the apparent abandonment of much of the lowlands. Our premise is that the dispersed quality of key natural resources, including stone for tool making, clay for potting, and prime agricultural lands, strongly conditioned economic practices and relationships across the area. Local producers, reliant on such fixed resources, employed a diverse range of strategies to meet demands of both subsistence and tax and tribute. This element of Maya economic production has been referred to as the "subsistence economy," and previous scholarship has suggested that it did not play an important role in political development (e.g., Brumfiel and Earle 1987:6). While factors such as long distance exchange and specialization of prestige goods, commonly seen as key elements of "political economies" *did* make significant contributions to regional political organization (e.g., Schortman et al. 2001; see Sullivan [2002] for discussion of ceramic exchange in the northwestern Belize region), an exclusive focus on exotic items and their place in

political organization strategies overlooks the role of subsistence- and utilitarian-based economic production at local as well as regional levels. Important to our approach is the assumption that the economic and political prosperity of different communities was determined by their productive enterprises on the one hand, and by the nature of intra and interregional exchange on the other. Regional political integration was therefore based in equal measure on (1) elite networks and (2) the strength and diversity of local production. This premise can be evaluated by correlating large-scale environmental variation, including availability of resources such as those discussed above, with patterns of utilitarian craft production and site distribution and interaction.

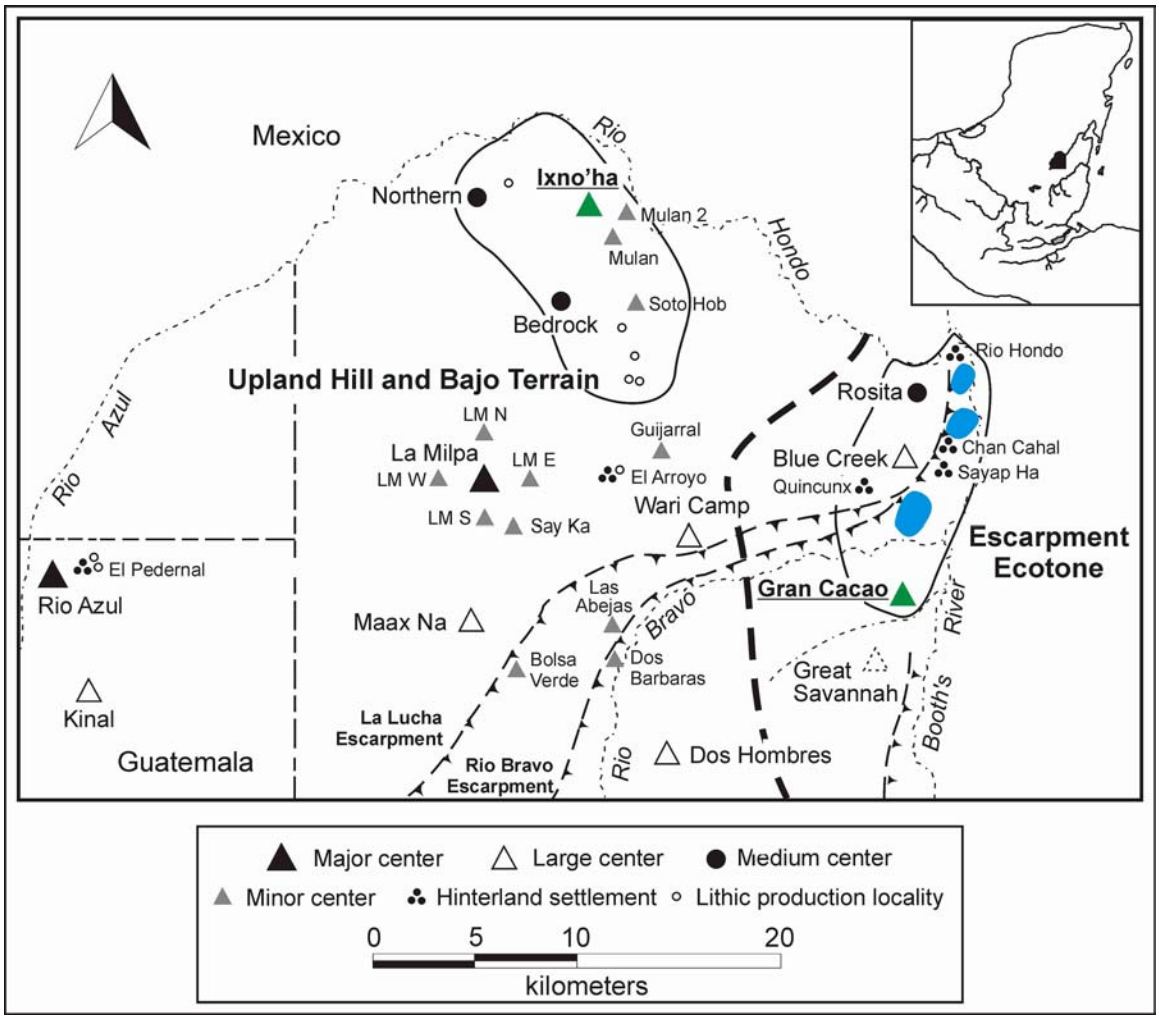

Figure 1. Map of upper northwestern Belize showing locations of archaeological research by the BCRPEP in 2004. Gran Cacao and Ixno'ha, underlined and in green, were the focal areas of season-long investigations. Complexes of ditched fields, indicated in blue, were intensively examined for a period of two weeks.

Because some elements of local and regional political affairs were grounded in utilitarian production, shaped largely by the nature and condition of key resources, our research is also able to evaluate how environmental change factored into the political event referred to as the Maya Collapse (Culbert 1973; Webster 2002, Chapter 7). The

decline of Maya society did not occur evenly in all parts of the lowlands, and is widely seen to have resulted from a variety of factors including warfare, disease, environmental degradation (Adams 1973; Sabloff 1973), and climate changes that altered patterns of rainfall (Gill 2001; Hodell et al. 1995). Elsewhere, region-specific programs of research have illustrated how certain of these factors combined to effect the abandonment of major centers and their sustaining hinterlands (Demarest et al. 2003).

Our proposed research will contribute, therefore, not only to a broader understanding of (1) the role of local economic production (practiced at the household scale and above), conditioned by environment, in community organization and (2) the nature of political relationships between neighboring centers in northwestern Belize, but also (3) failing conditions of economic and political viability, referred to as the Collapse, that perhaps were brought on by dramatic environmental and climatological shifts in the mid-ninth century. To facilitate our comparative research, we have distinguished between two major environmental settings in our research area, the Escarpment Ecotone to the east and the Upland Hill and Bajo to the west. Framing our research according to these environmental zones allows us to give weight to localized factors, such as resource diversity, that may have contributed to the development of individual community traditions across the region.

Upper Northwestern Belize Setting

Our corner of the Maya world sits across the boundary between two large-scale environmental provinces, the Petén Plateau to the west and the Belize Coastal Plain to the east (Figure 2). The line between these two is established by a series of three dramatic escarpments running southwest-to-northeast; these scarps provide as much as 100m of topographic relief and are associated with a series of freshwater springs that surface along their base. In order to better understand the prehistoric cultural record of this region, our project area is divided into two general settings: the Upland Hill and Bajo to the west and the Escarpment Ecotone to the east.

Upland Hill and Bajo

Upland Hill and Bajo terrain is characterized by large, low-lying seasonal wetlands referred to as *bajos*, separated by karstic limestone hills. One northwestern Belize bajo in particular, the Dumbbell Bajo (Robichaux 1995) dominates the area, occupying as much as 42 km^2. Bajo terrain makes up much of the Central Maya Lowlands and is associated with many of the largest sites in the Maya world (Beach et al. 2002a; Culbert et al. 1990, 1996; Dunning et al. 2002, 2003; Fialko 1999; Harrison 1977; Kunen et al. 2000) and it might be suggested that the requirements for gleaning subsisting from bajo terrain shaped much of Maya settlement and administrative organization. Previous research in northwestern Belize bajos around the site of La Milpa (Dunning 2002; Dunning et al. 1999; Kunen 2001; Scarbrough and Dunning 1997), sponsored by the National Science Foundation, has indicated that many of these depressions, now inundated only seasonally, were once perennial wetlands that became in-filled with sediments by centuries of proximate Maya occupation and settlement. This transformation occurred by the beginning of the Early Classic period, ca. A.D. 250 (Dunning 2002, 2003), and continued until the general abandonment of the area. To date, known utilitarian resources of the Upland Hill and Bajo include arable soils, chert

outcrops for tool production (Barrett 2004), and perhaps deposits of high quality clays suitable for pottery production (Little et al. 2004). While we are still developing our understanding of the manner in which these resources, and others that may have existed, were exploited, it is clear that the availability and distribution of such resources is fundamentally different in character from the Escarpment Ecotone.

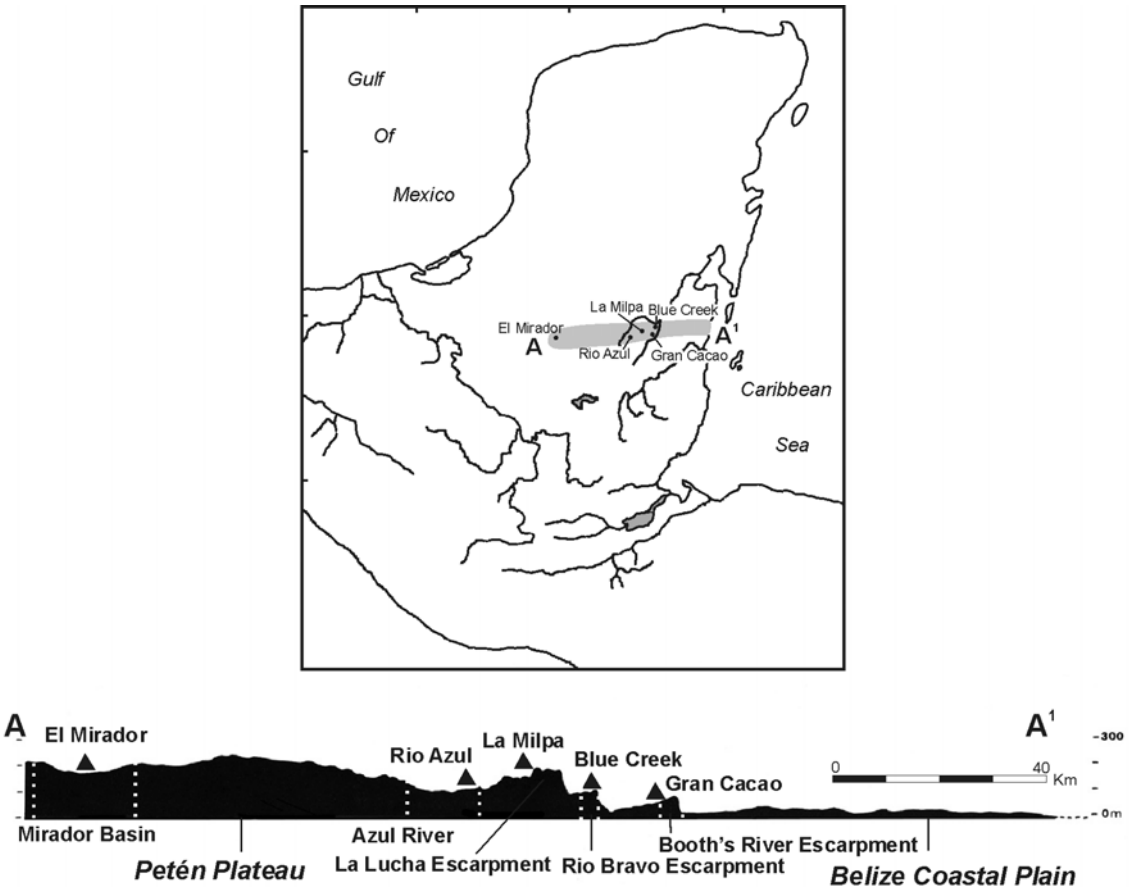

Figure 2. Elevational cross-section of the Maya Lowlands showing juxtaposition of environmental features and provinces and some sites.

In terms of the availability of lithic resources, localities have been identified in bajo settings where fine-grained silicious stone occurs in quantities sufficient to sustain intensive tool production. Surface inspection of some of these sites suggests that early-stage cobble reduction took place at certain localities. Such sites are characterized as open, flat (though these have been plowed by modern farmers) surface scatters of medium and large flakes and tested cobbles. It is unknown whether these sites were associated with architecture or whether harvesting and testing of material simply took place where resources were available. These surface sites contain virtually no unfinished tool forms broken in production. In sharp contrast, other localities are known where tool production and finishing occurred in substantial numbers. One of these "workshop" or manufacturing sites, located in the Dumbbell Bajo near an elaborate residential site called Soto Hob, has been excavated (Barrett 2004). These sites are characterized by profiles

almost completely of debitage, by the presence of numerous broken bifaces in various stages of reduction, and the association of cobble architecture.

Escarpment Ecotone

To the east, a series of three dramatic escarpments, the La Lucha, the Rio Bravo, and the Booth's River escarpments (Brokaw and Mallory 1993), run southwest-to-northeast; these converge just south of the Blue Creek center. Each poses a sharp increase in elevation of up to 100 m, and together these features represent a large-scale ecotonal boundary between the Belize Coastal Plain to the east and the bajo-dominated Petén Plateau to the west (see Figure 2). Several freshwater springs surface along the base of these fault-line features, creating rich microenvironments that stretch out along the base of the escarpment ranges. Termed the Escarpment Ecotone, this area offers an extremely broad array of environmental resources, including both those of the nearby Hill and Bajo terrain as well as of the flat but nutrient-rich Coastal Plain.

Historically, ecologists and biologists have recognized ecotones as abundantly rich and capable of sustaining dense populations of biological organisms including plant and animal life as well as human communities (Crumley 1994). One of the most noteworthy adaptations to this environment recorded so far in northwestern Belize are expansive sets of canalized-field agricultural systems (Figure 3), representing an adaptation to spring water-inundated terrain and aggrading landscapes (Baker 2003; Beach and Luzzadder Beach 2004; Beach et al. 2002b).

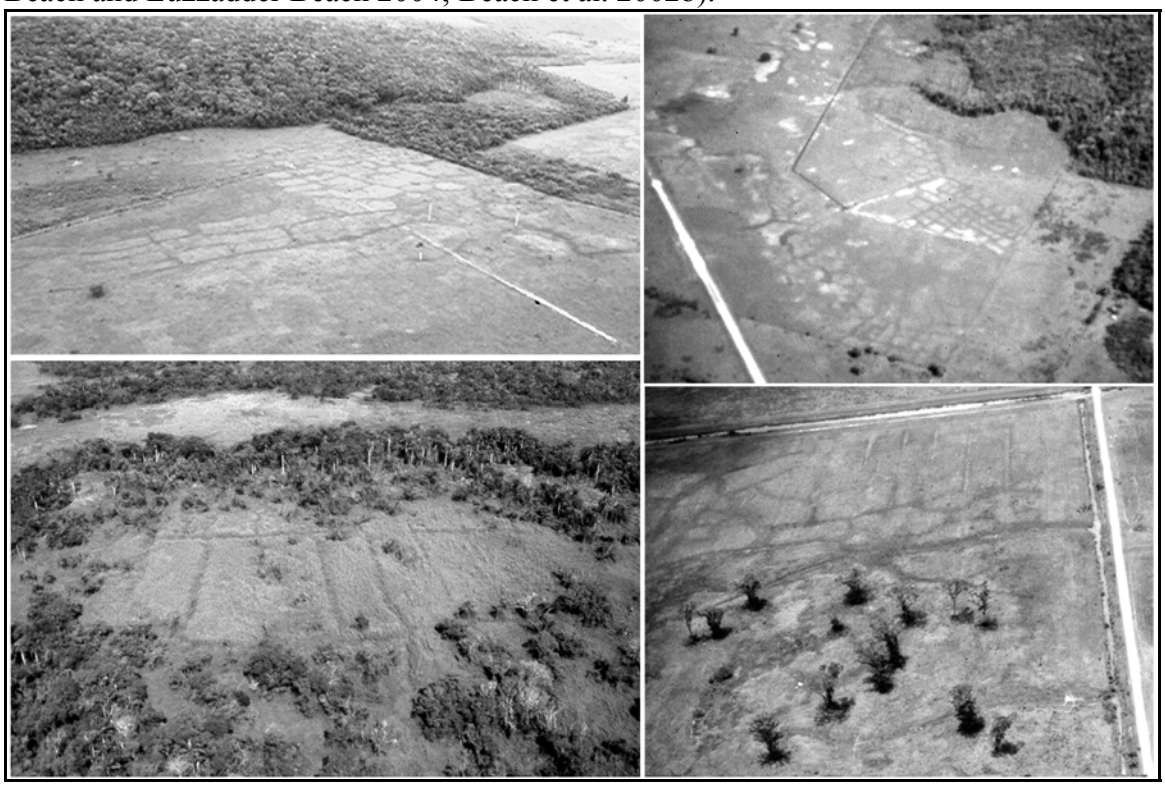

Figure 3. Aerial views of ditched agricultural complexes in the Escarpment Ecotone. Fields located close to Blue Creek (top L), Rosita (top R), Gran Cacao (bottom L), and away from major centers in the low-lying floodplain of the Rio Bravo (bottom R). Dark radiating lines represent canals.

Our research to date in these low-lying wetland fields (Beach et al. 2002b, 2003, 2004; Beach and Luzzadder-Beach 2004; Lohse et al. 2004a) indicates that the ground surface was stable and dry ground surface around 2000 years ago. This buried paleosol is termed the Ekluum Paleosol, and is a regional occurrence. Soon after, however, local water tables began to rise, perhaps keyed by sea level rises. Also around this time, sedimentation took place through two simultaneous processes. Soil erosion from nearby uplands, together with the precipitation of carbonates and other minerals present as dissolved solids in ground water, contributed to the in-filling and aggradation of low-lying wetlands. Preliminary investigations suggest that agricultural fields may have been constructed primarily in the Late Classic period (see Beach and Luzzadder-Beach, this volume) as a response to these conditions and corresponding with the regional population peak, by digging canals to effectively lower water tables sufficiently to permit sustainable crop yields.

Integrating Regional Subsistence and Political Economies: Political Ecology

Subsistence economies involve the production of utilitarian and subsistence goods required for daily survival (see D'Altroy and Earle 1985:188). These are most often dependant on resources that are locationally fixed, and movements of finished goods generally occur through mechanisms of tax, tribute, or informal reciprocity between local settlements or kin groups (see Fry and Cox 1974; McAnany 1989a; Rands 1967 for examples from the Maya region). Political economy is described as "the system that mobilized and allocated the goods and services that funded state activities" (D'Altroy and Earle 1985:189). Some (e.g., Adams 1977) have linked Maya cultural florescence with the development of intensive agricultural schemes (McAnany 1989b:352), and many scholars have placed control of intensified food production under the auspices of managerial elites (Earle 1997; Chase and Chase 1998; Ford 1996; Sanders 1977) who, theoretically, appropriate surplus production in the form of tribute "upwards" through bureaucratic levels of administration. This includes mobilizing subsistence goods (Brumfiel and Earle 1987:4) from sustaining areas, as well as direct supervision and oversight of specialized exotic craft production occurring within central precincts (Blanton 1976; see Inomata 2001), and managing long distance exchange networks (Rathje 1971). In this way, political economic strategies consisted of multiple potential sources of power (Blanton et al. 1996; Earle 1997:7; see Hirth 1996).

However, problems often arise with subsuming subsistence economies within political economies. As posed above, our argument is that the organization of subsistence and utilitarian production in the Maya lowlands mirrored to a large degree the distribution of natural resources. This distribution has been characterized as "patchy" (Fedick 1996; Graham 1987; Potter and King 1995), and we view intensified production as having been similarly arranged. This means that in areas where key resources are not to be found in concentrated abundance, local production might be characterized as generalized rather than specialized. One imbalance that arises from approaches to the past that focus exclusively on elements of political economy is that studies of specialization focus on non-food production (Pyburn 1997), omitting from consideration the time spent by the overwhelming majority of the ancient Maya in non-specialized production. Another is that models of political economy often overlook rural or hinterland non-food production altogether. This is problematic, as some research addressing subsistence and

utilitarian production (e.g., Douglass 2002; Henderson 2003; King and Potter 1994) indicates that utilitarian craft technologies fell under the control of local producers rather than community or regional elites, suggesting a degree of autonomy on the part of common-status craftspersons. A significant challenge that results from these scenarios is accommodating non-specialized activities of rural populations within models of political economy.

In addition to problems in understanding the role of non-elite producers in complex economic and political systems, mechanisms for achieving economic integration across community or even regional systems remain poorly understood. Given the uneven distribution of most utilitarian resources, it is difficult for scholars to recognize how surpluses were mobilized from non-urban settings. Marketplace exchange offers one possibility for facilitating the movements of goods and foodstuffs throughout community and regional systems. Markets played important roles in economic integration in historic times in the Maya area, and while the organization of markets is one role often imputed to Maya centers identifying their presence in the prehispanic era remains a challenge (Hirth 1998). It is not known how the different sizes of centers reflects their role(s) in potential regional market systems, in spite of well developed economic theories that address such questions (e.g., Smith 1974). Rank-order models, reflecting scalar hierarchies in settlement distribution, are frequently used to characterize relationships of economic or political control (Crumley 1995) without due attention given to functional differences between communities. Thus, specific details of the role of Maya centers in facilitating economic integration across the spectrum of society are often glossed, leaving the specifics of regional interaction poorly understood (see Marcus 1983).

Our view of the integration of subsistence and political economies, termed ***political ecology***, places equal emphasis on the relationships (1) between subsistence and utilitarian producers, including farmers, and the distribution of suitable resources; and (2) between craft producers, both urban and non-urban, and centralized surplus-extracting elites. Political ecology, then, represents something of an integration of traditional views of political economy, described above, with studies of human ecology and adaptability to the landscape (see Ensor et al. 2003). Following a long tradition of community-focused ethnography (see Roseberry 1988), we see Late Classic Maya "political econom*ies*" as having been historically contingent, with well developed traditions negotiated over time within community contexts, shaped by localized environmental and social factors, and also involving the intersection of local and extra-regional traditions. This view balances previous models of developing Mesoamerican and Maya complexity (Rathje 1971; Sanders and Price 1968) that, while also based on patterns of environmental exploitation, focused attention on elite roles in managing economic production and exchange networks that were needed to overcome environmental constraints. Such models overlooked entirely the role of localized producers in community-scale political affairs and so have failed to account for significant variation in natural resource distribution and its potential effects on local-to-regional scale political organization.

We hypothesize that political and economic organization in a given region will reflect to some degree the distribution and arrangement of key natural resources that shape subsistence and utilitarian production, and will also be conditioned by community elites and their participation in interregional exchange networks. Testing this model requires examination of several lines of evidence, including: (1) regional data concerning

the size, nature, and spatial relationships of centers to postulate their potential roles in regional market and/or administrative networks; and (2) economic production involving both local goods (such as intensified agriculture and utilitarian lithic and ceramic production) and non-local goods, and how these are organized in both urban and non-urban contexts.

2004 Season Objectives

The 2004 BCRPEP season was organized to accomplish three primary research objectives. These included 1) completing the settlement survey and domestic testing program initiated by Jason González around the site of Ixno'ha, 2) conducting excavations in the ballcourt area of the site of Gran Cacao, and 3) continuing paleoecological investigations relating to the development and exploitation of wetland field areas by the ancient Maya. Ixno'ha has been under investigation by the BCRPEP since the 2002 season (González 2004; Lalonde 2002), and is a medium-size center in the upper northwestern part of the country. The 2004 season concluded dissertation research by Mr. González, who is conducting a comparative settlement study of this site with the much larger center of La Milpa, located approximately 14km to the south. Gran Cacao (Figure 4) is located in the far northeastern corner of the Programme for Belize property and is under the permit auspices of Dr. Fred Valdez, Jr. and the Programme for Belize Archaeology Project (PfBAP). No work had been conducted there since the 1994 season of the PfBAP (see Lohse et al., this volume). A collaborative arrangement was made between the IOA, PfBAP, and BCRPEP so that our project might carry out excavations in the ballcourt area and surrounding architecture. The purpose of this arrangement was so that archaeologists working in the region could begin understanding the role of Gran Cacao in regional political developments. Given that only a single season of research was planned at this site, at least preliminarily, it was decided that investigations in the ballcourt and surrounding area would yield the most useful data with which to understand the site. Our final objective represents a continuation of multidisciplinary research into the processes of wetlands formation, aggrading landscapes below the Rio Bravo Escarpment, and ancient Maya responses to these forces (Beach et al. 2002, 2003; Beach and Luzzadder-Beach 2004a, 2004b; Lohse et al. 2002). In addition to these field programs, intensive examination of excavated ceramic remains was conducted by Kerry Sagebiel, who joined the project in the 2004 season as Project Ceramicist. A summary of her findings is presented in this volume.

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the 2004 season to help defray the many expenses involved in processing soil, diatom, and water samples taken from Belize to various laboratories in the United States. The contributions of so many members of the San Felipe village have enriched our work in more ways than can be expressed by written word. Simply put, they occupy a central place in northwestern Belize archaeology, and have become part and parcel of the projects that work there. I wish to thank our friends and neighbors in the Mennonite communities in northwestern Belize. Without the support of these fine people we would not be able to conduct our research, and over the years there have developed real bonds of friendship that will last long after the Blue Creek project is concluded. Finally, I want to acknowledge the efforts of the outstanding 2004 season staff: Jimmy Barrera, Tim Beach, Jean Borchardt, Margaretha and Ben Dyck, Jason González, Nicole Little, Sheryl Luzzadder-Beach, Antonio Padilla, Jerry Reed, and Kerry Sagebiel. I could not have asked for a finer group of people with whom to work, and I sincerely appreciate their dedicated efforts in helping make the 2004 season a success in every sense of the word.

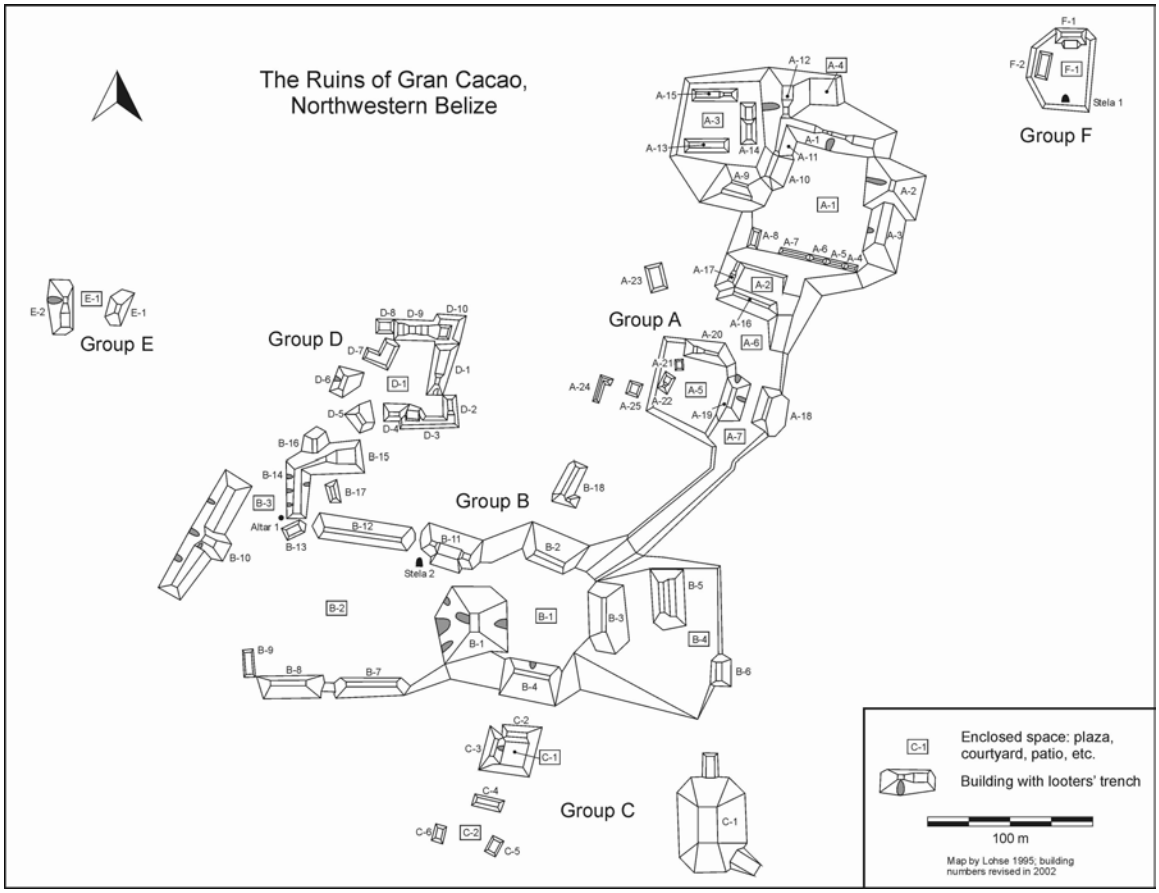

Figure 4. Map of the Gran Cacao site center, investigated by the BCRPEP in 2004.

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