

Ecotourism, Trails and Interpretation in the Sierra de las Minas Biosphere Reserve Baja Verapaz, Guatemala

A Report of Findings from Fieldwork Completed from April 25 to May 7, 2004

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Executive Summary

From 4/24/04 to 5/8/04 I traveled to Guatemala under the DOI's International Technical Assistance Program. My task was to assist the US Agency for International Development and the Guatemalan NGO Defensores de la Naturaleza with evaluations, training and recommendations for ecotourism, trails and interpretation in the Sierra de las Minas Biosphere Reserve.

During this time I toured several sites (Las Cabañas and Chilasco) in the southern and western portions of the Biosphere Reserve to evaluate the existing situation and future potential for ecotourism in these areas. I met with a variety of groups and individuals both in the reserve and in surrounding communities to discuss ecotourism, management of the reserve and interactions between the reserve and nearby communities. I also worked with my colleague William Jackson to develop and teach a short, basic course for guides in San Jeronimo. During the entire project I coordinated regularly with personnel from Fundación Defensores de la Naturaleza which is responsible for the management of the Sierra de las Minas Reserve.

This Biosphere Reserve was designated in 1990 to include 2363 km² of mid to high elevation pine and oak forests in a major mountain range about 100 km east of the capitol. The area is significant for the diversity of plant life it supports, the animals adapted to these scarce cloud forest ecosystems and the critical role these forest play in water production and watershed protection. Like most forests in Central America it is threatened by deforestation and exploitation by timber cutting, slash & burn agriculture, hunting, livestock grazing, mining and other development interests.

Ecotourism is in its infancy here. Some infrastructure such as lodging, food services, transportation and guide services are available in scattered locations but much more could be done to help realize the area's full potential to attract nature based tourism that also helps support conservation and community development goals. I was pleased to see that much of the work that has been done to develop and manage ecotourism so far has been based on a good understanding of the priorities necessary for a successful program.

The sector of Las Cabañas has the advantage of a very good lodging facility developed in the heart of the reserve. Benefits are provided to the nearby community of Los Albores when ladies from the town are hired to cook meals for the guests and when these cooks purchase many of their food items from local farmers. The park guard from Defensores takes care of the buildings, patrols the sector and guides visitors and seems to do a good job at all three. The primary shortcoming of the location is the difficult (and expensive) road access to get to the lodge. Improving the road would provide benefits but could also open the area to more exploitation so caution is appropriate. I suggested a few improvements for the area but the infrastructure is good enough to offer visitors a very good experience. They could benefit from more efforts at focused marketing designed to attract more visitors, both national and international, that are interested in the experience this area has to offer.

The sector of Chilasco includes a larger community of about 3000 and a trail that leads to the highest waterfall in Central America. Defensores has developed an agreement with the Ecotourism Committee in town to have them help with managing the reserve in that area. The Committee has been active and successful in implementing recommendations from a very good Ecotourism evaluation completed in 2003. Benefits go to the community in the form of employment for hiking guides, horse guides, horse rental & food services as well as donations made to the community by the Ecotourism Committee. The biggest challenges in this sector are the need to improve the trail to their main attraction at the falls, the need to improve marketing to draw more visitors to the area and eventually the need to develop more infrastructure such as lodging and restaurants to accommodate overnight visitors. It will be important for

the town of Chilasco to try to coordinate on a regional basis with other communities, attractions and tour operators in the area to link a variety of smaller opportunities together to form a more attractive regional tourism package. The marketing for this package will be primarily geared toward Guatemalan visitors but could also be interesting for some international travelers.

The guide course was basic given the level of our students and the limited time we had to prepare. The 4 hour course provided an overview for the most important functions of a guide for ecotourism activities but did not allow us enough time for practical exercises in the field. We had 15 students from Las Cabañas, Los Albores, Chilasco, Peña del Angel and Defensores.

At the end of my assignment I joined in with three other colleagues working in other areas of the reserve to provide a briefing for personnel from AID and Defensores on the results of our evaluations.



Schedule for the Assignment

4/24 depart from Colorado. After an overnight in Dallas I arrived in Guatemala City about noon on 4/25. I met with the other team members and spent the rest of the afternoon and evening sharing information and ideas about how to approach the assignment. The following is the schedule I followed on the trip:

4/26 - We met with Igor de la Roca, Herbeth Reiche, Eduardo Mayen, Luis Castillo and Oscar Nuñez of Defensores to discuss the work goals and schedule. They briefed us on some of the history of the area, highlights of their management programs, current challenges, status of existing projects and partners etc. In the afternoon I was driven to San Augustin Acasaguastlan – the entrance to the Albores/Cabañas sector to spend the night.

From 4/27 to 5/1 I stayed at the lodge at Los Cabañas inside the Sierra de las Minas Biosphere Reserve. I spent the time getting to know the area, evaluating ecotourism potential, observing wildlife, evaluating the trail system, assessing the interpretive materials, talking with visitors, interviewing the women from Los Albores that cooked for visitors and providing informal training to Julio Lemos the local guard & guide. I also reviewed several hundred pages of information and past studies related to this area as background for my work.

On 5/1 I moved to San Jeronimo on the western side of the Sierra to look at some of the ecotourism opportunities on that side of the Reserve.

On 5/2 I joined Eduardo Mayen and Bill Jackson to talk with some of the tourism related businesses between San Jeronimo and Coban. This included several hotel owners and a tour company.

On 5/3 we met with a tourism related group in San Jeronimo and another in Salama. I was then driven up to Chilasco to evaluate ecotourism potential there and met with the Ecotourism Group.

On 5/4 I hiked some of the trails around Chilasco with Oscar, the park guard for that sector and David Lazerwicz, the new Peace Corps Volunteer for Chilasco and gave them advice on tourism management and trail maintenance. I returned to San Jeronimo in the afternoon.

On 5/5 I spent the day with Bill Jackson preparing materials for a guide course we were teaching the next day.

On 5/6 we taught the basic guide class for about 4 hours at the office of Defensores in San Jeronimo and returned to Guatemala City that afternoon.

On 5/7 we had a debriefing for personnel from AID and Defensores. I spent the rest of the day working on my trip report.

On 5/8 I returned to the US arriving home about 9pm.

Background Information

Guatemala enjoys an active tourism program attracting from 700,000 to 1 million international visitors each year. The sector ranks either first or second to agriculture in the income it generates for the country. This is despite some moderate to serious concerns about the security of visitors in some popular areas. There also seems to be a relatively active national tourism market that seems to be made up of middle and upper class Guatemalans traveling on weekends and holidays to see sights that are well known or others that have been featured in newspaper articles, magazine stories or TV programs. International visitors seem to come primarily from Europe (Germany, England, France, Spain, Italy, Switzerland, Sweden and others) with lesser percentages coming from the US, Canada, Australia/New Zealand, Mexico and other

Latin American countries. Trips range from 1, 2 or 3 weeks focused in Guatemala to longer trips that include Guatemala as one of several countries visited in a larger Central America trip that could last several months.

These visitors are attracted primarily by world class archeological sites such as Tikal and Copan (just over the border in Honduras but often included in a trip to Guatemala), the strong Mayan culture that still exists in various parts of the country and the scenic beauty of this mountainous country. The destinations included in most trips to Guatemala include Tikal, scenic sights such as Lake Atitlan (with a tourist hub in Panajachel) and Pacaya Volcano, the historic site of Antigua (usually preferred over the capitol as a place to overnight and get trips organized) and the handicraft markets and Mayan culture prevalent in Western Highland towns such as Chichicastenango and Quetzaltenango. INGUAT is the national tourism office that helps promote tourism in Guatemala. We did not have the opportunity on this trip to visit with staff from INGUAT so I do not have first hand knowledge of their programs, budget or effectiveness. Based on the complaints we received from tourism related businesses in the eastern highlands it seems they focus most of their attention on the most popular tourism sites and pay less attention to developing or promoting smaller or newly emerging attractions. Some visitors may be attracted to Guatemala by the magazine ads put out by INGUAT but it is more likely that international visitors are more strongly influenced by word-of-mouth endorsements from friends who have traveled to the region and had a good experience.

Tourism guidebooks focused on Guatemala are very popular with international travelers and play a strong role in influencing visitor's choices on places to go, things to do, hotels to stay in and restaurants to eat in. Some of the more popular guides in English include the Lonely Planet Guide to Guatemala, the Rough Guide to Guatemala and Guatemala – Adventures in Nature. All of these books cover the most popular tourist destinations along with a variety of other opportunities that allow visitors to pick the attractions best suited to their interests, time and budget. Similar guidebooks are available in German and probably several other languages.

The Internet is increasingly used by travelers (particularly Americans) to look for information on places they are thinking of visiting. Search engines with increasing sophistication enable visitors to pull up information on sites and topics that interest them. Most travel related sites fall into 2 main categories. The first is sites for individual businesses (e.g. a hotel or tour guide). These are used regularly to select and book rooms, flights or tours. The second type is regional promotion sites. These sites serve best to help give visitors ideas of places to go and things to do in their area. They rarely give enough information to enable someone to plan their whole trip so once a site is selected for a visit a traveler will often refer to a guidebook to fill in the blanks in the information they need. It is anticipated that use of the internet for travel planning will continue to increase. As a result, it is best that effective marketing includes adequate information on the web to help visitors decide to visit an area. This needs to be followed up with more detailed information in popular guidebooks to make it easier for visitors to visit the site. Brochures advertising a tourism site can be considered as a supporting marketing tool, particularly for Guatemalan tourists, but are usually far less effective than a write-up in a popular guidebook. Newspaper & magazine articles along with TV spots can also be effective at attracting national visitors.

It is worth noting that the growth rate of the human population in Guatemala is extremely high (around 2.5% annually). At that rate it will take only about 25 years to double the current population of 13 million. Current population levels are contributing to a variety of social, economic, health political and environmental problems in the country. It is clear that all of these problems will increase significantly as the population grows, and as such, population growth should be integrated into any and all tourism and conservation plans developed and implemented.

Tourism and Ecotourism

Tourism is the largest industry in the world. Each year it employs 100 million people, generates expenditures of \$3.7 trillion and accounts for about 13% of all consumer spending worldwide. It has been said that tourism is like fire - it can cook your food but it can also burn down your house. It can be a powerful tool if it can be harnessed to produce positive benefits. It also has the potential to do great harm if its economic power is not managed well.

A traditional model for tourism has typically followed basic economic conventions. This means that a company would invest time and money in constructing infrastructure such as a hotel or developing visitor services, attract clients through marketing, charge clients enough to cover operating costs and generate a profit for the company.

Ecotourism is the name that is often given to a particular niche in the broad spectrum of tourism opportunities that is focused on clients who want to see, enjoy and learn from visits to national parks and natural areas. This is one of the fastest growing sectors in the business of tourism worldwide. Perhaps it is because natural areas in good condition are becoming scarcer and visitors often are attracted to attractions that are hard to find. Many tourism related businesses are looking for ways to cash in on this growing market.

The traditional business model for tourism mentioned above may often be successful from a business point of view but has not always been friendly to the environment or to local populations in developing countries when it is applied to tourism in and near natural areas. Often the lack of environmental regulations in developing countries makes it cheaper and easier to develop projects that would require more extensive scrutiny in developed countries. The result is often increased impact to natural resources in the area. Local populations often lack the education or training to fill jobs in high quality businesses so workers are brought in from other areas to fill all but the most basic jobs requiring unskilled labor. Supplies for the business are often purchased outside the local area so they don't contribute much to the local economy. Profits from the operation leave the area to go to corporate headquarters and generally contribute little to the local economy. Without economic benefits to the local community coming from the presence of the natural area in their backyard they will have no incentive to protect it. They will have to find another way to make a living and this is often done by exploiting local resources for agriculture, woodcutting, hunting, cattle grazing etc. The result is a further deterioration of resources and ecosystems. This deterioration of resources affects more than just the animals and plants – it affects people.

In a healthy forest the vegetative cover absorbs the force of heavy rains preventing soil erosion and loss of nutrients. The roots and leaves on the forest floor act as a sponge. They soak up and detain the water long enough for it to soak into the ground and filter through the soil to underground water supplies. Water slowly discharges from these underground sources through springs that feed rivers. This process usually takes long enough that the rivers continue to flow during the dry season providing year round water supplies which support domestic, agricultural, industrial and hydroelectric needs.

When forests are cut down we not only lose the diversity of plants, animals, insects etc. that inhabited the area but the natural processes in the water cycle are disrupted. The loss of vegetative cover means that heavy rains directly impact the soil – accelerating erosion and washing away scarce nutrients. Without the ground cover present in a healthy forest the water has nothing to hold it and let it soak into the soil. As a result groundwater supplies are not recharged and eventually dry up. This means that in the rainy season the precipitation erodes soil then runs directly into the rivers to cause significant (and sometimes catastrophic) flooding. During the dry season the rivers dry up because there are no underground water sources to keep them running.

Given these common environmental problems it makes sense to look for a way to harness the powerful economic engine of tourism to try to reverse some of these destructive trends. Ecotourism can be a way to do this. For this to happen we must think of ecotourism as more than just people going out to watch the birds or smell the flowers. It needs to be a philosophy of managing nature based tourism in a sustainable way so that it not only avoids damaging resources but actually encourages their protection. When done properly I feel that we can also use ecotourism to achieve some development goals for rural populations in and around protected areas. Ecotourism is not a cure-all that can be applied in all areas but it is a valuable tool available to us to apply in appropriate cases. Towards that end I feel that there are 5 critical points that must be considered when managing ecotourism for environmental and community development advantages.

- A. We must offer outstanding experiences for the visitor.
- B. We must minimize or avoid negative impacts on natural areas or critical natural resources.
- C. We must minimize or avoid negative impacts on local people and cultures.
- D. We must find ways to provide benefits to local people to give them incentive to protect natural areas.
- E. We must find ways for ecotourism to contribute to the conservation of natural areas.

The economic objectives we might apply to this type of project would not necessarily be similar to traditional business models. Our goal here is not to concentrate business in the hands of a few or to maximize profits for a company. Instead we need to look for ways to maximize the number of families in the local communities that are receiving direct or indirect economic benefits from ecotourists. Given the low average income of many of the families we are dealing with we don't need to generate much money for these families to make a significant difference in their lives.

It is not necessary that all these people work full time or year round with ecotourism. In fact, it may be preferable that they don't. Tourism can be a fickle business that is affected by many factors. Here in Guatemala the issue of security problems can easily change the flow of visitors. Someone who has given up their traditional way of making a living to work with ecotourism will suffer significantly if tourism diminishes. If they continue to work in their traditional (hopefully sustainable) pursuits but work with visitors on the side they will be in a better position to continue providing for their family even if tourism declines. This requires more effort to train and manage a larger group of service providers but in the long run will pay off in more allies in the local communities helping us ensure the protection of the area.

It is important to remember that, as much as possible, the infrastructure planned for visitors should be within the economic means of the local people to build and maintain. Since income is often low in these communities the early stages of infrastructure development is often very basic or rustic. The visitors that are best suited to this type of opportunity are the backpackers and adventure travelers. Many of those working with tourism have little interest in this demographic because they feel they aren't spending much money and aren't often using organized tours or expensive hotels. For my work I look on this segment of the tourist population as the pioneers. They are often young, idealistic, supportive of environmental and development causes, more interested in finding tourism opportunities that are off the beaten track & haven't been "discovered" by the majority of tourists and more willing to "rough it" with rustic facilities. They are tight with their money but are still spending enough to lay the foundation for local communities to start to benefit from tourism. By working with this group first, local service providers can start to build their skills in dealing with visitors. The money they earn from these visitors can be reinvested in their business to improve infrastructure so that they eventually can offer successful services to more mainstream visitors.

With that said I will try to evaluate the sites I was assigned in the Sierra de las Minas Biosphere Reserve in light of these objectives.

Las Cabañas / Los Albores

- **Visitor Experience** – this is dependent on a variety of factors including the strength of the attraction and the infrastructure available to meet their basic needs such as transportation, lodging, meals, guide services and other amenities. The healthy and extensive cloud forests of oak and pine that surround Las Cabañas are a medium to strong attraction for ecotourists with an interest in diverse flora and fauna. Cloud forest ecosystems are very scarce in Central America occurring mostly in small pockets on isolated mountains. The animals and plants that occur here are often tied to this scarce habitat. Like all forests in the region they are under immense pressure from forces that demand their resources. Some of these rare islands are well protected. Others will likely disappear with time. The Sierra de las Minas contains the largest contiguous block of cloud forest remaining in Central America. Birds are the most common form of wildlife to see in the area. Visitors interested in birds will not see a great diversity of species but they can see a good variety of species that are tied to the cloud forest ecosystem and hard to see in other places such as the Resplendent Quetzal (seen and heard every day while I was there), Pink Headed Warbler, Unicolored Jay, Horned Guan, Garnet Throated Hummingbird and others. See the appendix for a full list of the bird species seen on this trip.

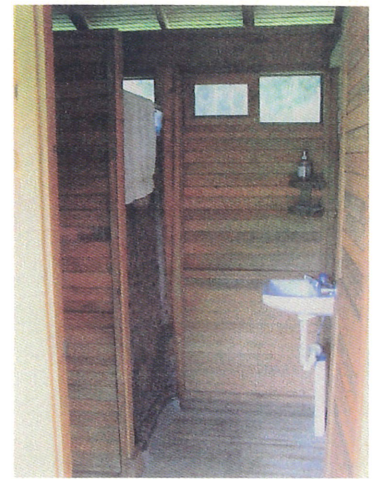


- ♦ **Transportation** – transportation is difficult in this sector. Public bus transport can arrive to San Augustin. From there it is 27 km on a 4 wheel drive road taking 3 hours or more depending on the weather. At this time there is only one driver from San Augustin willing to take his truck on this road to take visitors to Las Cabañas. The trip is expensive costing about \$100 round trip which can be a significant deterrent for many visitors. Most visitors have to leave their vehicle about 2 km short of the guest cabins and walk the remaining distance up a steep road. This will also cut down the number of people who are willing to make the trip. It would be nice to be able to improve the road but this could easily have the undesirable effect of improving access for hunters, woodcutters and migratory agriculture. Defensores has a locked gate at the edge of their property that seems to adequately control the access from that point on.

- ♦ **Lodging** – There are 3 recently built cabins to hold visitors and staff. These buildings are well designed, well maintained and are a great place to house ecotourists. There are a total of 17 beds currently available for visitors in 6 different rooms holding from 2 to 6 beds each. The lodges have cold running water which comes from a potable spring source and is pumped up to a large storage tank then gravity fed to all the cabins. Each cabin has shared bathrooms with flush toilet, sink and shower. Water drains into a septic system. The cabins have solar panels to provide florescent light but not enough to run devices that draw



more power such as a laptop computer. In general, the cabins are comfortable. The beds are sometimes uncomfortable when you can feel the wooden slats through the mattress. The cost per night for Guatemalans is US\$15 and US\$30 for international visitors. This is a bit higher than expected still reasonable given the isolated location and quality of the facility. Maintenance for these buildings currently runs around Q 10,000 per year (US\$1,300). Income from 150 to 200 visitors per year was not available but given the high percentage of Guatemalan clients, average stay of 2 nights and regular number of official visitors I would guess it is about US\$4,000. This allows Defensores to cover the cost of maintenance and part of the salary for the park guard in the area who also works to maintain the buildings.



I spent a night at the Hotel Turistico Guaytan in San Augustin Acasaguastlan – a nice facility with a restaurant, swimming pool, soccer field and room for camping. Prices were very reasonable – about \$8 for a single with a bath & fan. This could serve as a starting point for tours that wanted to observe birds in the diversity of habitats on their way up to Las Cabañas.

- ◆ **Meals** – a kitchen is located in an older building about 100 meters from the cabins. Generally, women from an organized group in Los Albores (about 12 km away) come up to cook meals for the visitors. They have received training sponsored by Defensores on how to cook well, customer service and organizational development. It is a good way to provide some income for the families of the 7 women in the group to be sure they are benefiting from the flow of visitors. I had a chance to speak with 4 of the 7 members of the group to get their perspective on how things are going for them. The ladies use many ingredients purchased from their village such as beans, coffee, cheese, eggs, chicken etc. This adds other economic benefits for the village. Still they must go down the hill to San Augustin or El Progreso to get some of the things they need. There is public transport (relatively cheap) on this route from Los Albores down to the highway only 2 days each week. If the ladies get short notice of a group coming and do not have time to catch public transport down then they must rent a private truck at a much higher rate. This can eliminate all their profits for a trip. The ladies take turns at cooking for groups. This system seems to be working well and the ladies are more or less satisfied. When a group comes up with the truck from San Augustin they usually stop in Los Albores to pick up the cooks and their gear. If there is not room in the truck then the ladies have to rent a private truck to make the trip. This costs them about US\$50. and usually results in them losing money on the trip. They didn't complain too much about this but we should look for a way to help them avoid these losses. The meals they fix are simple but a step above typical rural meals including a greater variety of dishes. Their methods of preparation seem to be hygienic. They even wore hair nets while they are working. Customers seemed to be very pleased with the meals. They charged Q40 per meal which is higher than the going rate of about Q25 for similar meals. This higher cost seems justified given the remote location, quality of the meals and added costs of transport. It appears that the ladies have not done an analysis of their income and costs. This would be useful to be sure they continue to make a reasonable profit from their business. One cook estimated that her annual income from this work was about Q1300 to Q1500 (US\$160 to \$185). This doesn't seem to be much until you learn that the average yearly income for a rural family in Guatemala is only US\$250 to \$300.
- ◆ **Guide Services** – currently these services are provided by Julio Lemus, the Defensores employee that cares for the area. He has 3 years of experience in this area and seems to enjoy this isolated post. He works for 22 days straight then takes 8 days off to go down to his family in Zacapa. He has a very friendly and outgoing personality that is essential in a good guide. He has a good focus

on customer service. He knows the forest, the plants and the animals pretty well but still could benefit from more training. A university student prepared interpretive guides for the 3 trails he guides visitors on. He has the habit of reading from these rather than memorizing them or paraphrasing them in his own words. He knows most of the material well enough but he lacks confidence because a visitor one time doubted the facts of his presentation. He is careful about walking ahead of the visitors to spot poisonous snakes called Mano de Piedra which are common in the area. His services are included in the cost that visitors pay for lodging though he sometimes gets tips from visitors. He normally accompanies them on all their walks to keep them from getting lost and to look after them. In all he seems like a good hand and an experienced enough guide that he could be used to train or evaluate other guides for Defensores. If there is a weak point in the system it is that he is generally working alone. This doesn't provide a margin of safety if he should hurt himself. It also cuts down on his ability to deal with multiple groups at the same time. In the time that he is off there is no one to guide visitors to the area so Defensores doesn't book visitors during those times and could be losing out on some potential revenue. Visitation is heaviest from January to June and just trickles in during the rest of the year because of the rainy season so another full time worker in that sector may not make sense. It would be appropriate to consider an assistant during the busy season that could help Julio and learn to be a guide from him. He mentioned the possibility that one of the ladies from the women's group in Los Albores may be a possibility to learn how to guide visitors and help him during busy times. He was adamantly against trying to recruit one of the men from Los Albores to fulfill this role because he felt they could not be trusted to not abuse resources (e.g. hunting or wood cutting) when he wasn't around. Julio does have radio contact with the Defensores office in San Augustin.

- ◆ **Trail System** – there are 4 trails used by visitors along with the access road for visitors to walk along. They range in length from 350 meters to 30 km. Most folks just use the 3 trails close to the cabin – Trueno, Alex and Piñalon. The trails are generally well designed with only a few sections that are overly steep. Despite the heavy rainfall the trees and other vegetation protect the soil and reduce the chance of erosion problems. The trails were easy to follow but they were not marked with signs. This is not a big issue if visitors will always be accompanied by a guide but if some might be self guided then signs would be a good idea to reduce the chances of visitors getting lost. I was told that signs are ready and that they just need to be installed. As mentioned before, the 3 main trails have interpretive guides developed for them. The long trail to Chilasco is 30 km, requires a guide and an overnight stay at an old farm along the way.
- ◆ **Security** – the safety and security of visitors is a major concern in any tourism operation. Concerns about assault, robbery, rape or kidnapping will drive the vast majority of visitors away from a region or a country. Guatemala does not have a good reputation in this respect. Guidebooks and internet sites regularly mention the high number of armed robberies and attacks on tourists in popular attractions such as Panajachel, Pacaya and Tikal. This sector of the Sierra de las Minas seems secure at this time particularly in light of its remote location. I did not see any unauthorized people in the area during my time there. I was told of an adventure race that went through this area recently with about 80 competitors. One of the competitors was confronted by a 14 year old boy in Los Albores who said he had a pistol and would kill him if he didn't hand over his mountain bike. The racer did not comply and it turned out the boy didn't have a gun and nothing came of it. When the incident was reported to teacher at the school nothing was done. This sort of thing leads me to wonder what might happen if we attract more visitors to the area or when the boy gets old enough to get a gun. Some things from the facility were stolen by a local several years ago but it appears the police may have caught him. In another case, I heard the story that the son of a former park guard in the area was murdered by locals who didn't like being told they couldn't hunt and cut wood in the reserve. So there is at least some evidence of violent behavior that suggests caution is in order. If we can keep security problems under control then it

is possible that visitors could be attracted to this area when other parts of Guatemala are considered more dangerous. If security problems in the country are not dealt with there is an increasing chance that tourism in general will be decreasing and ecotourism in the Reserve could be affected even though security in this particular site may be fine.

- **Minimizing Impacts to Resources** – in general the number of visitors in this area is low. The fact that the vast majority already have a concern for the protection of forests like this makes it easy to minimize the impacts of their visits. The fact that they are accompanied by a guide that is helping to monitor their behavior reduces their impact even more. Vehicle traffic on the road both inside and outside the land owned by Defensores is causing ruts and erosion especially during the rainy season. This can be reduced by some improvements including water bars to divert water off the road. Otherwise, vegetation and soils seem to be in good shape. Everyone who goes to the reserve is interested in seeing a Quetzal. These appear to be sensitive birds that easily disturbed. During the breeding season they are easier to see because they are more closely tied to the dead trunks (called tocones) that they nest in. There are only a few of these key nesting sites available and regular traffic by visitors on trails that pass too near these nesting sites may reduce breeding success for this scarce species. It makes sense to do a study of occupied nest sites, their proximity to regularly used trails and nesting success as affected by visitor traffic. It is possible that the construction of blinds a respectful distance away from known nesting areas in a position that offers good views can help meet visitor desires to see the bird yet reduce the chances of disturbing them during the critical nesting season.

Many people have an interest in what the carrying capacity of an area like this is. The concept of carrying capacity was originally developed for livestock management. It developed the idea that in a given pasture there was only so much forage. It could support only a certain number of cows for a certain amount of time. If the area was grazed beyond those limits then the resources in the pasture would likely be damaged. The concept breaks down quite a bit when it comes to managing people because their behavior and impact on resources can be altered through management and education. There are some fixed limitations such as the number of beds available in the lodge, the amount of passengers we can fit in a truck that can drive up the road or the amount of waste water a septic system can handle. When it comes to how many people can walk the trails without causing significant impacts to resources it is much harder to put a firm number on because it mostly depends on how those people behave. Five careless or abusive visitors can cause more impact than 100 careful and respectful visitors. For resource and cultural impacts it is often more appropriate to talk about what resources might be sensitive to impacts from increasing visitation and what are the limits of acceptable change for those resources. We can then take steps with management and education to avoid impacts to those resources and monitor their condition to ensure that we do not exceed those limits of acceptable change.

I would say in this area that the lodge and services available for visitors will be the primary limiting factor for the number of visitors the area can handle. Right now there are only 17 beds available in the lodge. Even if every bed was full every night of the year the resources of the area could handle 17 people traversing the trails each day if they are properly guided and managed. Another limiting factor is transportation – there is not enough transportation available to even get 17 visitors up there in a day unless most of them bring their own vehicle. These limiting factors would have to change before we would have to worry about the effect of visitors on resources.

- **Minimizing Impacts to Local Culture** – Las Cabañas is located far enough from Los Albores that there is minimal contact between visitors and the community. Women in the community cook for visitors but again the amount of contact and the potential for problems is minimal. Some of these ladies are offering lodging in a room in their houses to try to expand their chances of making money

from visitors. A tour operator brought a few groups by in the past but they haven't had much business lately. If they do manage to generate more business in the future there would be more opportunities to interact with visitors and the community would need to be monitored more for possible cultural impacts.

- **Providing Benefits For Residents in Local Communities** - the ecotourism operations in this area provides both direct and indirect benefits to the community of Los Albores. Seven of the 23 families in the community are augmenting their income by cooking for visitors at the cabins. Some of the food supplies they purchase for visitors come from producers in Los Albores so those farmers are also receiving a direct benefit. I believe that some of the women in Los Albores also make some baskets from pine needles. I am uncertain how much they are earning from this pursuit. Indirect benefits the Reserve generates for the community come in the form of protection of the watershed they need for their crops. In general I would consider this a moderate amount of community benefit. It is not bad but it could be better. If more visitors come then the women will be cooking more and earning more. There could come a time when they may need more women from the community to help them with the job. If so, it would be nice to look into using some women from the other 2 communities near Los Albores. This would involve other communities in the benefits generated by the reserve and encourage more cooperation with conservation goals. Julio feels it would be difficult to involve the men of the communities in work in the reserve because of their past record of exploiting the resources here. I have seen similar cases in which hunters were educated enough to understand the importance of conservation and were converted into excellent guides. This can take time and certainly won't work in all cases. Still, it is typically the men that are most likely to impact resources in the reserve and having their wives work with tourists may not be enough incentive to encourage them to change their ways. Another option is to put some effort into working with the schools in the area to teach the importance of protecting the forest and its resources to achieve the same goals with the next generation.
- **Having Ecotourism Contribute to Conservation** - money from visitors in this area is contributing directly to conservation efforts here because Defensores is the group collecting money from visitors. After paying for operating costs on the cabins they use the money to cover some of the salary for the park guard in the area. The cabins and facilities used for visitors also house researchers that help us better understand the ecology of the area.



Other Findings and Recommendations for Las Cabañas

In general, this sector has good potential for increasing ecotourism visitation. The segment of the tourism market that would be interested in this type of experience is relatively small but it is not the sort of place that we want to attract large numbers of visitors to.

An actual count of the visitors visiting this sector was taken from signatures from the guest book at for 2001, 2002, 2003 and 2004. For 2003 and 2004 the Defensores office in San Augustin provided their counts of visitors. These were sometimes different from what was recorded in the guest book so it is safe to assume that not everyone signs the guest book. The office counts did not distinguish between National and International visitors so I included those numbers to the side in parenthesis. The guest book was started on 3/31/01:

	Guatemalan Visitors		International Visitors			
March & April 2001	14		15			
May & June 2001	24		5			
July & August 2001	6		0			
September & October 2001	0		0			
November & December 2001	<u>13</u>		<u>7</u>			
Total for 2001	57	+	27	=	84	
January & February 2002	18		2			
March & April 2002	55		8			
May & June 2002	36		5			
July & August 2002	6		1			
September & October 2002	2		2			
November & December 2002	<u>9</u>		<u>7</u>			
Total for 2002	127	+	25	=	152	
						(Office counts)
January & February 2003	8		16			(25)
March & April 2003	17		8			(67)
May & June 2003	24		1			(10)
July & August 2003	7		0			(25)
September & October 2003	1		2			(30)
November & December 2003	<u>30</u>		<u>6</u>			<u>(35)</u>
Total for 2003	87	+	33	=	120	(192)
January & February 2004	20		11			(50)
March & April 2004	<u>32</u>		<u>5</u>			<u>(74)</u>
Total so far for 2004	52	+	16	=	68	(124)

These numbers suggest that the drier months of January to June attract more visitors, and that Guatemalans outnumber international visitors by 3 or 4 to 1. The data did not indicate how many nights visitors stayed but I would guess the average stay was about 2 nights. Based on my experience the site receives a number of official visitors from AID, embassies, donor organizations like The Nature Conservancy & World Wildlife Fund etc. It is unclear to me whether these folks are paying for lodging to contribute to maintaining the facility but the experience they have undoubtedly helps solicit funding and other assistance from these groups so recovering lodging costs is not a high priority. For example while I was there we received a visit from the Ambassador and Deputy Ambassador of England. Based on their experience they were willing to assist Defensores in applying for grants from a British environmental organization. The public relations value of a well-run facility in a natural environment can be significant.

In terms of expanding visitation to the area I see several potential audiences for this type of experience.

- **Middle to Upper Class Guatemalans** who are concerned about environmental issues that have heard about this area from a TV program or newspaper article and want to experience the forest and see Quetzals. This is a smaller subset of the sort of folks who visit the Biotope for the Quetzal (which has attracted up to 35,000 people a year). This seems to make up the majority of people who are visiting the area now. To attract this group it will be good to look for opportunities to periodically

generate news articles or other publicity on a regional or national scale particularly during the dry season when they are more likely to have a pleasant experience. Any articles to attract people must be clear about what to expect in terms of hiking, rain, mud, transport costs, cold water, chilly temperatures, road conditions etc. If they know what to expect before they get here there is less likelihood they will be disappointed. Some may have their own vehicles so it may be worth increasing parking space at the sign and possibly using the ATV to help them carry their luggage up to the cabins.

- **International travelers with a strong interest in nature, cloud forests and birds.** These could be individuals or couples traveling on their own or organized groups traveling with a tour operator. At this time there are not many visitors from this group visiting the area. The potential for growth in this sector is high but it will take some effort to pull these visitors off their preferred routes to get them to think about visiting this area. To do this it will be necessary to make sure there is complete information on this site in popular guidebooks and some internet sources such as planeta.com, lonelyplanet.com and the Defensores website on Sierra de las Minas. For guidebooks you can write to the authors directly (perhaps even invite them to visit the area). They are usually reprinted every 2 or 3 years so it takes awhile to get the information where you need it. If you put information on a website you need to remember to update it periodically – particularly if the key points change. Information submitted to these sources should be short (a page or 2) but complete. It also needs to focus on the values that this group is interested in – virgin forest, rare & unique wildlife and safe, comfortable accommodations. For tour groups it will be more difficult because they will need a number of customers expressing an interest in this type of trip before it is worth their while to arrange. Still, it may pay to talk with tour companies who handle ecotours to be sure they are aware of the opportunities in the Reserve and can include them in their itineraries. These companies will try to encourage you to lower the prices you charge for lodging to give them a group rate. You can consider a discount to try to gain the advantage of bringing in larger groups. At the same time don't feel like you have to discount too much. These companies charge US\$100 to \$150 or more per client per day so even at full price for lodging you are still leaving them plenty of profit. The attraction for birding groups could be increased if the trip includes stops at the diversity of habitats available from the dry spine forest around San Augustin up to the cloud forest in the reserve. This may broaden their chances to see up to 180 species of birds. To help attract birding groups it will be important to compile a complete list of the birds that can be seen in this zone. I saw a bird list generated by someone who spent several months at Las Cabañas but it was incomplete. At the end of this report is a list of the bird species I saw during the few days I spent in this area. I suggest that Selvin Perez, the ornithologist that works with Defensores, add these lists to his own for the area and keep track of other sightings by capable observers to build a complete list and make it available for visitors.
- **Students** - these could be school groups from secondary or university classes in biology, ecotourism or other natural resource studies. This could take some coordination with the schools to make them aware of the facility is available and well suited for their studies. School groups may be challenged to pay full lodging cost so you may consider some discount for them. It is important to remember that educational goals for the area should be a priority along with economic return.
- **Adventure Travelers and Hikers** – this group could be attracted to the long distance hike from Las Cabañas to Chilasco (30 km). The audience for this kind of experience is small but it will bring a few visitors each year. My guess is that they will mostly be national visitors so any articles or TV spots developed should make a quick mention of this possibility. You may also check to see if there



are any hiking clubs or other special interest groups that may be interested in the opportunities the area has to offer. Since it takes the park guard all day to guide hikers to the midway point we should consider charging for his services – especially if the group does not stay in the cabins for a night.

The website run by Defensores for the Sierra de las Minas should include some basic information about the ecotourism opportunities available here in Spanish and English. Right now I would guess that not many Guatemalans use the internet to plan their vacation trips but the number will undoubtedly grow as the technology becomes more common. International visitors are more likely to use the Internet to plan trips and information on the site can help them decide if the area offers something they are interested in. It can also help them plan their trip far enough ahead to avoid impacts to the women's group.

It would be nice to improve the road up to Las Cabañas from Los Albores. This would make it quicker, easier and more comfortable for visitors to arrive. It could also significantly reduce the cost of the trip for visitors. As stated earlier, improved road conditions can attract increasing problems from hunters, loggers and nomadic agriculture. If patrol and security are not adequate to avoid these threats then it would be better to leave the road as it is. Even if we can't improve the whole road it may make sense to improve the road above the gate on the land belonging to Defensores. The gate seems to be working well so it seems safe to improve the road above the gate. This would cut down on rutting & erosion along with eliminating the need for visitors to walk the final 2 km.

The mattresses on the beds in the cabin need a bit more support to be comfortable. They need either more slats to form a more continuous base or a sheet of plywood to form an even base. When it comes time to replace the mattresses I recommend 4 inch foam rather than the 3 inch foam that is there now.

Defensores should work with the women's group in Los Albores to try to resolve the issues related to their extra costs for transport with some groups. You may try to include information for visitors that encourages them to make reservations for the cabins a week ahead of time. This will give the women adequate time to do their shopping without incurring extra expenses. Visitors should also be aware that they should plan to give the women a ride up the hill from Los Albores or expect to pay a fair price to transport them. The women should not have to lose money by paying for their own transport. It may also be worthwhile to have some additional training on how to handle money – calculating their expenses, how to set a fair price for meals, making sure they are making a profit etc. The training should also include suggestions on how best to use their money to help their family, educate their kids, improve their business etc. This will help ensure that the economic benefits of ecotourism are being focused on basic needs and not squandered. The cooking and serving gear that is provided by Defensores seems to be adequate for groups up to 15 but they could use more gear for the times when they get groups larger than that. There apparently are plans to construct a kitchen in the largest room in the lodge. This would provide more room for seating (the current dining area holds 8 or so), a relatively bug free environment for visitors when they are eating, more room for cooking and running water to wash dishes.

Algae growing on the steps to the main lodge is very slippery when it gets wet and can be a hazard for visitors. It would be good to look for a way to make that stairway safer either by removing the algae or installing something to improve traction.

It would be a good idea to find a way to support Julio with additional assistance during the busy season. He will be resistant to the idea because he prefers to work the sector alone but if we manage to double or triple visitation to the area he will not be able to handle the load. My impression is that he maintains fairly high standards in his work and will have high expectations for anyone that is assigned to work with him. It would be best to let him participate in finding someone to help him. This will probably increase the chances that he will get along with them. He seemed reasonably open to the possibility of training

one of the women from Los Albores to help him guide visitors. I think he would be a good teacher for the right person.

I reviewed several studies related to the area. The first is a university thesis by Maria Jose Menendez de Nes which designed and produced the interpretive brochures for the 3 main trails. These seemed to be well done. They encourage visitors to use a variety of senses to understand a variety of facts about the vegetation in the forest and the wildlife that lives there. The information is accurate as far as I can tell. The only mistake I found was in the brochure for the Sendero Alex at stop 4 - 2nd paragraph where she misspells the name for flycatchers as papamoscas rather than atrapamoscas. My suggestion for improving the full interpretive package would be that it needs to go further to relate the importance of conservation to the lives of visitors. For example, I feel that every visitor must be educated about the effects of deforestation – how it affects the watershed below, how it affects the country and how it affects the world.

Another document I reviewed was a marketing plan for Las Cabañas done by Miguel Rivera in 2002. It was done by someone who had studied hotel management in the US. He developed an aggressive marketing plan that aimed to maximize visitation and profits with little understanding of conservation or education goals for the area. He suggested upgrading the facilities to be attractive to more clients. This included hot water, better furniture, better groomed landscaping, more electrical power for stronger lights, computers and other appliances, a library, teaching equipment such as blackboards, flip charts, digital projector, computer modem & antennae, games to play in the evening, better mattresses, heaters, exercise room, curtains, art on the wall etc. He suggests the possibility of raising the facility to the level of a 3 star hotel, converting the older buildings to more rooms, building additional buildings to accommodate more clients etc. All of this would be supported and maintained by a much larger staff of 6 to 8. He envisioned ecotourists as a group that would be interested in the facility but also wanted to market to church groups, meditation groups, military training, corporate meetings, substance abuse programs and others. He recommended charging prices from \$40 to \$100 per night. All of this would take a significant investment in facilities which will take a long time to recover. It is likely that some of these ideas could result in unacceptable impacts to the resources of the area. To support this type of operation it would be necessary to significantly improve the road which, as I have said earlier, could have negative impacts on the reserve. He also suggests contracting the operation of the facility out to a private company. I think the plan goes too far in suggesting high cost improvements for the purpose of attracting more guests which could have undesirable negative impacts on the reserve and its resources.

Some of the suggested improvements may be economically feasible and worth consideration. The electrical system powered by solar panels and stored in car batteries is ok for providing minimal fluorescent light but not much more. The current system adequately handles the demand despite the lack of sunny days to charge the panels. By adding more panels or more storage capabilities we may be able to run other low amp appliances like a computer or projector to support research or education. Right now the common place for group gathering and conversation is the comedor in an older building. It can only hold about 8 guests around the table. Insects are a bother here because the building is not bug proof. There is a large room in the main lodge that currently holds just 3 beds. I think Defensores has plans to install a kitchen and dining room in this room. This would provide more room for the women to cook in, running water for them to wash dishes with, enough room to seat larger groups and a good place for conversation, meetings or classes. This room is relatively bug proof so it is a much more comfortable place to spend time in. This would also be a logical place to develop a library of books and education materials related to nature and conservation. It would also be reasonable to provide a few games such as chess, cards, and dominoes to help pass a rainy afternoon. Hot water would be very nice to have in this cool, wet climate. I am sure that there are propane powered water heaters and I think they could be easily adapted to this facility. The initial cost would have to be budgeted but after that the cost of maintenance should be reasonable. This will likely increase the amount of water consumed at the facility and we would have to be sure the spring can provide enough water and that the septic system can handle the

discharge. The small water pump used to push water from the spring up to the storage tank above the lodges was acting up when I was there and may need to be repaired or replaced. A few inexpensive plastic chairs should be available for the porches of the lodges to allow people to read, have conversations or watch wildlife. I feel the current prices charged are at the upper end of what we can reasonably expect from the clients that are likely to use this facility so I would hope we could make these improvements over time without raising prices much.

Chilasco

Chilasco is a town of about 3000 located in the buffer zone of the reserve at 1883 meters. It covers 4222 ha, gets ~3000 mm of rain annually and temperatures are around 13 to 16 °C. Agricultural production is the main source of income for the area. Broccoli is one of the chief crops and there is a concern about the number of children who are forced to work in the fields. They estimate that 33% of the work on broccoli is done by children ages 7 to 14 and 22% is done by folks 15 to 18 which cuts down on their education. Defensores has made an agreement with the Ecotourism Committee of Chilasco to help manage this portion of the reserve.

The background materials for the area include a report titled “Tourism Development in the Community of Chilasco” written in March 2003 by Digna Magdala Sagastume Lopez. I believe the report was sponsored by the International Organization of Work (OIT) which has been doing considerable work in the area. Its goals were to develop and reinforce ecotourism in Chilasco to provide economic benefits and reduce the amount of child labor in the broccoli fields. It provided a variety of good information and analysis similar to those I would have done if I had more time. The report wisely warned that ecotourism is not a cure all.

It identified 3 important aspects of tourism – Natural features & attractions, Infrastructure to support tourism and promotion & marketing. Other critical elements such as benefits to local communities and reducing impacts to resources were implied. They identified 9 attractions inside the city and 5 outside along with some basic services. The main attraction is the big waterfall of Chilasco which is reported to be the highest in Central America (134 meters). Smaller attractions included the pools in the Rio Chilasco, the forest of Liquidambar, La Laguna, the Saltita, Lomo de Macho and the waterfall on it, and the artesanía of basket makers (vara). Some visitors were already coming to visit the area and the following number of visitors were recorded from 1996 to 2001:

1996 – 101	1999 – 200
1997 – 210	2000 – 275
1998 – 105	2001 – 240

During these 6 years only 34 visitors were recorded from other countries – the rest were Guatemalan. All came to visit the main falls and were not aware of or not interested in the other attractions.

The researcher worked with locals to do a FODA evaluation (strengths, weaknesses, threats & opportunities) with members of the town and the Ecotourism Committee. This is what they came up with:

Strengths – natural attractions, spectrum of hard and soft opportunities, the link with Sierra de las Minas, uncrowded area, a variety of scenery, proximity to the capitol, possibility to link with other attractions to make a 2 day trip, possibility of assistance from the municipality of Salama/IPEC/OIT, NGOs, tour operators that bring trips here, national recognition as a tourist destination, year round flow of visitors, friendly folks in town.

Weaknesses – poverty in much of the population of Chilasco, lack of infrastructure for basic services which results in pollution, little interurban transport for visitors to get here, lack of tourist facilities at the attractions, high amount of deforestation, lack of political support for small to medium tourism businesses lack of workforce skilled in working with visitors, lack of tourism related businesses in the area, lack of initiative to develop new tourism opportunities, loss of scenic value around some attractions.

Threats – political & economic instability in the country, growing poverty, security problems, destruction of natural areas.

Opportunities – the virgin nature of the area, developing small businesses in ecotourism will stimulate the local economy, natural attractions along with handicrafts gives them an advantage over other areas, Guatemalan visitors are attracted to what this area has to offer, there's a demand for new products and tourism services in Chilasco.

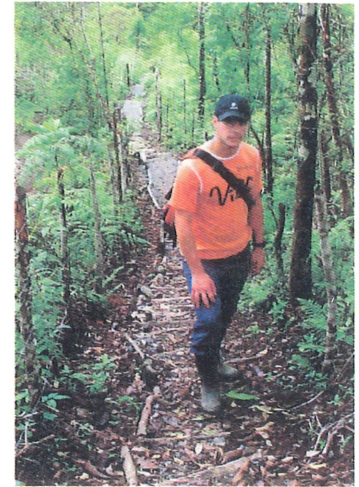
They also found some deficiencies – streets & bridges in poor repair, lack of drainage, lack of street lights in public places, trash, access routes to attractions were poor, a dam upstream was reducing the flow in the Rio Chilasco & the waterfall. A visitor center was built a few years ago but is being used for other purposes – they feel it should be used as a visitor center. They also built a parking lot for the waterfall that was not being used. Guide services went to the waterfall and not to any other attractions. They suggested action in 4 areas – the center of town, the entrance to town, the route to Santa Cruz and the waterfall.

They suggested renting horses and bicycles, developing a comedor in town suitable for visitors and lodging of some kind for visitors. They also suggested marketing efforts that include maps, brochures, developing a website, participating in tourism & ecotourism fairs, offering familiarization trips for tour operators & press, working with tour operators to create package tours with other attractions in the area and organizing adventure events such as a mountain bike race or multisport race. They recommended fixing up the visitor center to receive visitors including public bathrooms, fixing up the parking area at the trailhead for the waterfall and improving the trail to the waterfall creating separate paths for hikers and horses. The plan also includes a detailed financial plan that estimates costs for implementation. There were a few ideas that got carried away but in general I thought it was a well done study and can serve as a good basis for ecotourism development in the area. It tends to concentrate on maximizing visitation and does not focus much on protecting resources. This would have to be included for the plan to qualify as ecotourism.

During my visit to the area I met with members of the Ecotourism Committee to discuss their work and hiked the trail to the big and small waterfall to evaluate infrastructure. The committee is made up of 5 people from the community who seem to be selflessly working to develop ecotourism in the area. They have identified 3 other people to be in charge of different services such as guides, rental horses and food. They meet regularly and have received some training from OIT to help them achieve their goals. I was pleasantly surprised to see that the group was working actively to implement some of the recommendations of the plan mentioned above.

Since the plan was finished in March 2003 they have organized several projects. They talked the municipality into paying to improve the road to the trailhead. It is now an all weather gravel road with good drainage that should withstand the heavy rains the area gets. They have improved the parking area for the falls including a small stand to charge admission and connect visitors with guides. They have organized rental horses to be available for visitors on busy weekends. Several ladies from the community also sell food to visitors here on busy weekends. They have taken money from admissions and paid for local laborers to do several trail improvement projects for approximately 3 km. of muddy trail from the

parking area to the falls. They have also installed trash cans, several cabanas and several latrines along the trail. They are in the process of constructing a building at the crossroads at the entrance to town to provide visitor information and sell handicrafts. A new Peace Corps volunteer has been assigned to work with Defensores and the Ecotourism Committee in this area to improve ecotourism opportunities and encourage conservation of the area. In short, I feel they have taken a number of positive steps to improve ecotourism opportunities in the area and develop ways the community can benefit from the visitors attracted to their area.



I understand the committee had some rough times several years ago when dissention caused division in the group. This resulted in some members quitting and things have gone smoother since then. During my meeting with the group the discussion was dominated by Bacilio Alonzo Enriquez and I suspect that he does the same most of the time. Still, he seems to be a good leader and communicator and the accomplishments of the group are probably a result of his energy. As in many communities like this there is some suspicion when a group tries to do something new. Some people in the community accuse the committee of just wanting to gain advantages for themselves. The committee is sensitive to this type of criticism and go out of their way to make sure they weren't benefiting from visitors. They perhaps take it too far and end up putting in a lot of time and effort without any compensation for themselves. That is certainly generous of them but could lead to burnout if they are working hard for the community but not getting anything out of it.

As an example, during Easter Week (Semana Santa) this year they had over 600 visitors at the waterfall. The committee charged a small admission (Q15) for visitors that included a guide for the walk to the falls. They provided employment opportunities for at least 34 people during this time – 24 people renting and guiding horses, 6 guides for groups on foot and 4 women selling food. Members of the committee were there each day collecting admission and connecting visitors with other services but they received no salary for this work. They collected over Q9000 during the week. About Q5000 went for salaries to the horse wranglers, guides and cooks. About Q1500 was donated to the community of Chilasco to use however they wanted. The remaining Q2500 was kept by the committee to be used for other projects to improve the area. This seems like an excellent example of how a good ecotourism project should be managed. I feel that members of the committee who are working to make this whole system function should not be afraid to agree on a fair salary for themselves when they are working at a specific job like collecting admissions.

Here are my evaluations of the critical factors for ecotourism opportunities in Chilasco:

- **Visitor Experience** – the primary experience that visitors will get here is a day hike or horseback ride for about 3 km one way through agricultural fields (2 km) and primary cloud forest (1 km.) to reach Chilasco Falls (130 meters) and the Little Falls (about 30 meters). Waterfalls are always interesting for a wide variety of visitors. The fact that this is the highest falls in Central America provides a point of interest and pride particularly for the Guatemalans which make up the vast majority of visitors to the site. A visit to a waterfall tends to be relatively short experience with most visitors focused on getting to the falls, shooting a few pictures, perhaps having a picnic then returning. Some visitors may focus on the sights to be seen along the way especially if there is a guide to teach them something about the forest, the animals or even the agricultural fields along the way. The other attractions in the area are much weaker than Chilasco Falls and at this point would be unlikely to hold enough interest



for visitors to encourage them to stay another day to see them. This is particularly true because there is no lodging available in town. I would rate the attraction for this area to be low to moderate for Guatemalans and low for international visitors. The hike is not easy because of the condition of the trail and the steepness of the terrain. As a result it is most appropriate for visitors in moderate to good condition who have been made aware of the difficulty of the hike so they can come prepared. It is essential that any information on the site make visitors aware of the condition of the trail so they know what to expect. This will increase the likelihood that we are attracting visitors who are interested in the type of experience that the area offers and that visitors will go away satisfied.

- o **Transportation** – Once you leave the paved highway between Salama and Coban the road to Chilasco is about 12 km. of dirt and gravel in reasonably good condition. The trailhead to the Falls lies another 2 km beyond town on an all-weather gravel road that is usually suitable for passenger cars. Currently there are several busses per day between Salama and Chilasco. The busses arrive only to the town and do not pass by the trailhead to the falls. If visitors do not have their own vehicle then they must walk from town out to the trailhead. On busy weekends visitors can usually rent horses to traverse 2 km. of the trail to the falls but would still have to walk the final km down a steep trail to the falls. Parking at the trailhead is large enough for about 20 vehicles if they are parked carefully. During the last Semana Santa there were as many as 43 cars parked there at one time. There is some consideration being given to constructing an alternative road to the falls that would reduce the distance visitors have to walk. Such a road would have to go across private property and it is uncertain whether access could be acquired or not. If it is constructed in the future it must be well designed and constructed with materials and drainage that will hold up under the heavy rains that are common here. It is also important that it terminates at a parking area that is large enough to hold up to 50 or 60 cars. An alternative would be to have people park at an appropriate place closer to town and run a minibus periodically out to the trailhead and back.
- o **Lodging** – currently there is no lodging for visitors available in Chilasco. As stated above, most visitors stay only for the day so there is very little demand for lodging. If the town hopes to develop its lesser attractions then lodging would be necessary to allow visitors to stay another day. It is questionable whether the lesser attractions are strong enough to encourage visitors to stay another day so it may be risky to develop a lodging business on the hope that more people would stay overnight. The visitor center that was constructed several years ago was considered for use as lodging for a few visitors. It has a total of 4 rooms along with restrooms and showers. With some modification 2 of the rooms could be used for lodging. This option would require an investment, probably on the part of the Ecotourism Committee, to pay to modify the building and purchase the furniture necessary to accommodate guests. They would also have to pay someone to receive guests and take care of the facility. Given their limited resources this may not be an economically viable option. Another option is to find one or two families in town that have a well constructed house with an extra room that they could rent out to visitors occasionally. This would have the advantage of spreading economic benefits out to more members of the community and require less investment on the part of each family to be able to take advantage of the opportunity. This would require some training for potential lodging providers and perhaps some minimum standards that they must follow to ensure visitor satisfaction. At this time lodging may be a relatively low priority for ecotourism. It may be better to focus on improving the day trip experience and see if there are any requests for lodging. If demand increases then it could make sense to look for ways to meet that demand.
- o **Meals** – as far as I could tell there is no regularly operating restaurant or comedor in Chilasco. At one time a woman either offered or was considering offering meals for visitors out of a room at the visitor center. A group of women gets together to sell food to visitors at the trailhead to the falls on busy weekends. Otherwise there are several stores in town that can sell some basic food items and

drinks to visitors. Even if visitors are only coming for the day they will often spend money on food if they have the opportunity. Lunch is the most common time for them to eat on a trip like this. Given the travel time from the capitol I would guess that many visitors arrive in town about lunchtime and would likely be looking for a place to eat. There are probably others that might be interested in bringing a picnic lunch with them on the hike to the falls.

- o **Guide Services** – several men in town work as guides for visitors to the falls. The price of admission includes the services of a guide. I believe the guides have received some training but I am not sure how much. I did not get an opportunity to meet any of the guides or see them work to be able to evaluate them. My discussions with the committee did not indicate how the guides were selected or whether they are monitored for the quality of their presentations. I believe that one of them attended the guide class we taught in San Jeronimo along with one of the members of the Ecotourism Committee and the new Peace Corps Volunteer assigned to the area. Those resources should be used to help make sure the guides are doing their job properly.
- o **Trail System** – the trail system is challenging. From the trailhead it is about 3 km to the falls. The first 2 km. is up and down through altered landscapes and along agricultural fields. The route is used regularly by the local residents to get to and from their fields and houses both on foot and on horseback. This along with tourist traffic on foot and horseback has resulted in heavy erosion and several very muddy sections on the trail. Some sections are so steep and muddy that it is not safe for visitors to ride horses on them. Trail improvement projects, paid for with money from entrance fees to the falls, were completed in January and February. They consisted of several sections of steps built alongside the steepest and most eroded sections of trails. The work was relatively new so it had not been hit by the heavy rains that will start in a month or two. The steps were reasonably well constructed with comfortable rates of rise and run but very little had been done to install drainage structures on the trail. This is essential to reduce erosion. I spent some time discussing needed improvements with David Lazerwicz, the new Peace Corps Volunteer and Oscar, the park guard for Defensores in this sector. We also left a reference on trail construction and maintenance in Spanish with the Defensores office in San Jeronimo for those two to use as a reference. With those resources I hope he is able to work with the Ecotourism Committee to construct proper drainage along the trail and be sure proper design is included in future projects. There is little hope that the steepest and most eroded sections of the horse trails can be rehabilitated. The last km of the trail descends steeply to the base of the falls. It is not passable by horses, is not used regularly by the locals and is under the cover of the forest which all combine to make it a less eroded and more stable trail despite its steep slope. There are many stairs on this route and they seem to be holding up well.
- o **Security** – at this time there don't appear to be any problems with the security of visitors. Conversations with other tourism providers in the Baja Verapaz indicate that the region has been very safe and not plagued with the security problems that are more common in popular tourist areas. The system is set up to have guides with most groups. This reduces the probability of security problems. If increased marketing is successful in attracting more visitors then security will need to be monitored. If even a small number of security problems occur they must be dealt with as quickly and effectively as possible.



- **Minimizing Impacts to Resources** – there are already some significant impacts to soil and vegetation along the first 2 km of the trail to the falls both from the trail and the agricultural fields. In addition, the river that feeds the falls is polluted from sewage from town and runoff from farm fields. Most of this is the result of local use but some is added by the traffic of visitors to the area. Efforts to improve drainage and reduce erosion on the trail may reduce some of these problems but most will likely continue. I heard that part of the town is getting a sewer line and possibly a treatment plant which may reduce some of the pollution in the river.



- On the last km of the trail that is within the forest and used mainly by visitors there is much less impact to resources. The trail is relatively stable with little erosion. The committee has installed several trash cans in this portion of the trail with mixed results. Visitors seem to use the cans for their trash but the cans are easily upset by local dogs and the trash is easily spread around. At least the trash remains relatively close to the can so it is easy to clean up. The cans can be retrofitted with something to keep them from tipping and reduce the mess made by animals. It may make sense to have the guides carry trash out with them to reduce the time that animals might have to spread it around. Another option is to encourage visitors to carry their trash out with them.
- **Minimizing Impacts to Local Communities and Culture** – given the lack of lodging and restaurant service in Chilasco visitors tend to come in for the day and interact mainly with the folks providing services to visitors. This minimizes the potential for contact between visitors and reduces the chances for negative impacts to the community. The fact that the vast majority of visitors are Guatemalan also reduces the potential for negative impacts to the community. I heard about some concerns from local residents who use the same trail to get their products into town. They thought that the extra use by visitors on the trail was causing extra damage and making access harder for them. There was some opposition to the committee's work by members of the community. This sounded more attributable to jealousy or resistance to change than legitimate concerns about impacts.
 - **Providing Benefits for Local Residents** – this site gets high marks for this critical point. The Ecotourism Committee has done a good job of involving members of the community in supplementing their income by offering services to visitors. Training from OIT and Defensores assisted the guides and committee to develop these opportunities. The community members that are benefiting from ecotourism include the guides, the cooks, the horse handlers and the horse owners. Their earnings during Semana Santa alone were around Q5000. I was less clear about the earnings of the basket makers in town. There are many folks who make baskets as a side business in town. The quality of the baskets I saw was good. I think they tend to be useful and utilitarian baskets rather than decorative. I heard complaints that the Guatemalans who make up the majority of visitors did not place a high value on utilitarian baskets and were not willing to pay a price equal to the effort they put into making them. Right now there is not a central place where visitors can see and buy baskets so I am unsure how they sell the baskets. The new information building at the entrance to town will also serve as a place to sell baskets but may not resolve the issue of low prices. It may be necessary to search for other ways to market their products that could provide better return. The money that the Ecotourism Committee donates to the community is another direct benefit to local residents. I don't know how the money is being spent but it has the potential to be used for a variety of benefits. I hope the community can come up with a fair process that decides how the money can best be used. Another benefit resulting from ecotourism is the road improvement project supported by the

Municipality. It not only makes it easier for visitors to get to the falls but provides better access for farmers to get their goods to market.

- **Having Ecotourism Contribute to Conservation** – some of the money collected from visitors is used by the committee to improve trails and reduce erosion. The committee also picks up trash in the area. These are positive steps to support conservation but there is probably more that could be done.

Recommendations For The Chilasco Area

The main falls and the nearby little falls are the primary attractions here. The crafts associated with basket making are another possible but underdeveloped attraction. Efforts to develop other attractions mentioned in the 2003 study are unlikely to be worth the effort until lodging and restaurants are developed in town. The trail to the falls takes a good part of the day. Without adequate infrastructure to allow visitors to stay overnight it is unlikely they will return for a second day to see these lesser attractions. Even if infrastructure is developed it is possible that the other attractions are not strong enough to encourage visitors to stay another day.

The falls are more attractive for national visitors than they are for international visitors. As a result, marketing efforts at this time should be focused on attracting this group. The record crowds attracted during Semana Santa this year seemed to be drawn as a result of a newspaper article and a television show in Guatemala City that highlighted this area and came out before the holiday. Hopefully they had a positive experience and share news of the area with their friends. Offering an experience that produces high customer satisfaction is the cheapest and most effective marketing tool that Chilasco can use. Because of this fact the Ecotourism Committee and the Peace Corps volunteer working with them should survey their visitors. Such surveys can be done formally with a questionnaire or informally with a personal interview. At the very least they should try to find out where folks are from, how they found out about the area, what attracted them to the area, how they arrived there (personal vehicle or public transport), what they liked about the experience and what they thought could be improved about the experience. The answers to these questions can be used to improve the experience for visitors and help focus marketing efforts for the area.

The website run by Defensores for the Sierra de las Minas should include some basic information about the ecotourism opportunities available here in Spanish and English. Right now I would guess that not many Guatemalans use the internet to plan their vacation trips but the number will undoubtedly grow as the technology becomes more common. It is probably not necessary to develop a specific website for Chilasco but a specific page should be included under ecotourism on the Defensores website so that a search engine can pick it up.

There seems to be a significant number of national visitors (about 21,000 last year) who are visiting the Biotope of the Quetzal which is relatively close to Chilasco. The visitors attracted to the Biotope are likely to be interested in the sort of experience offered at the falls at Chilasco. It would be worthwhile to try to develop a marketing effort that tries to convince folks who are visiting the Biotope to stop at Chilasco. It would be hard to do this in a single day from the capitol so it makes sense to encourage them to use a hotel along the highway to spend the night and visit Chilasco the next day. Such a trip could easily fit in over a weekend. It would probably not be the sort of trip that would generate enough money to encourage a tour operator to package as a tour. Still, it would be easy for visitors to do on their own so that should be the focus of the marketing effort. Let them know the opportunity exists to see 2 interesting natural areas in Baja Verapaz in a weekend trip, give them directions if they want to drive or information on public transport if they don't and tell them about options for lodging and meals. Look for opportunities to bring travel writers in to see the area particularly at the beginning of the dry season and you are likely to get some favorable articles to attract visitors to the area.

The normal travel route for international visitors doesn't often pass through the Verapaces. It takes a strong attraction to lure an international traveler off of their normal route to visit a side destination. I don't think the experience at Chilasco is a strong enough attraction that it would draw international travelers from very far. If they were already in the area or passing through we might be able to attract some to visit the falls. This may be more likely as the highway is improved beyond Coban to connect with Tikal. This could become the most popular route for travelers to use to get from the western highlands down to the Peten. If so then it might be possible to encourage visitors to stop in the area for a day or 2 on their way down to or back from Tikal. To do this, the information would have to be easily available in the guidebooks most commonly used by travelers.

The experience in Chilasco could be broadened to be more interesting for international visitors if additional routes were developed into the Sierra de las Minas. Right now there is a trail developed to Rancho Quemado which is used by those hiking over from Las Cabañas. The cloud forest and wildlife associated with the Biosphere Reserve can be interesting for some ecotourists. The trail to the waterfall passes through mostly altered landscapes. The only primary forest along the way is the last km down to the falls. This is not enough to really attract those who are looking for a significant cloud forest or wildlife experience. The trail into Rancho Quemado was not identified in the 2003 study as a possible attraction to allow ecotourists to visit more extensive tracts of virgin cloud forest. I believe it could be an attraction if the infrastructure was developed in town to allow visitors to stay overnight. By having visitors use the core area of the reserve it could also help to encourage good preservation and management of that area. It could also provide more opportunities for guides to work or horses to be rented.

There is a business opportunity for some folks in town to provide food for visitors. At the least the women should continue to offer food for sale at the trailhead on busy weekends or holidays. The Ecotourism Committee should help ensure that the quality of the food remains high. The opinions of visitors can be sampled through questionnaires or interviews. If enough visitors come it may make sense to try to encourage someone to open a comedor.

The Committee should continue to improve the trails as funding allows. Given the heavy rains in the area a priority should be placed on improving the drainage on the trail.

The tourism study done in 2003 has many good suggestions and can be used as a good guide for future actions. It will be important to prioritize the suggestions so that basic needs are met first then other improvements can follow as time and funding allow. The suggestion to rent horses is a good one but the suggestion to rent bicycles seems impractical given the steepness of the terrain and the condition of the trails. The committee should consider renting rubber boots to visitors until trail conditions are improved. Familiarization tours for tour operators and travel writers are a good idea.

The suggestion for brochures may or may not be useful. I am not familiar with the way that Guatemalans search for tourism information. If brochures are regularly used by that group they could be useful. Brochures are usually expensive to produce, difficult to distribute to appropriate places to connect with potential visitors and often not very effective at attracting visitors. If grant money can be obtained to design and print a brochure it is often difficult to find money to reprint them. A low cost alternative is to design a black and white brochure on a computer, photocopy some examples for a minimal price and see if they are effective at attracting visitors. If they are, a more professional version can be produced. Chilasco has already produced a 4 color brochure. I didn't learn how many were produced, where they were distributed or whether they have been effective. These factors should be evaluated before the brochure is reprinted.

It seems obvious that there are several moderately interesting attractions in Baja and Alta Verapaz between Salama and Coban. These include:

The Biotope of the Quetzal
Peña del Angel
Handicrafts in Rabinal

The Falls at Chilasco
The El Trapiche Museum at San Jeronimo
Candelaria Caves

Individually, these sites are likely to attract fewer visitors than if they were packaged together and marketed as a regional collection of attractions. Based on my discussions with several service providers in the region there appears to be several barriers to achieving this goal. The first is that many of these towns and businesses think of themselves as in competition with each other. They haven't yet come to the realization that they can probably generate more business by cooperating with each other and competing against other regions of the country. The second point is that there isn't a central and reliable place where visitors can call for information or make hotel reservations or book a tour. Everyone is so focused on taking care of their own business that they don't have the time or the inclination to coordinate more regional efforts that could benefit more than just their business. This could be accomplished by the businesses in the region cooperatively funding an information and reservation system though this might be a challenge for them to coordinate. Another option is for a guide service or tour operator to become familiar with the attractions in the region and design trips that tie together the various attractions into marketable packages. It is unlikely that a larger tour company from the capitol would do this. It is more likely that a regional guide centered in Salama, San Jeronimo or Coban would be in a good position to do this type of coordinated effort. The third point is that INGUAT appears to be focused on traditional tourism and well established destinations. Business owners I spoke with said the agency doesn't seem inclined to help develop new destinations or focus much on ecotourism. As a result it is likely that this region will have to develop itself, perhaps with assistance from the municipalities, before they can expect much marketing assistance from INGUAT.

To overcome these obstacles I suggest that AID and Defensores work with the tourism related businesses and Municipalities to put on a regional ecotourism conference. Salama is hosting an Ecotourism Fair in November. This may be a good opportunity to call a regional ecotourism conference. The primary focuses of this conference would be to try to develop a common vision of ecotourism, encourage more cooperation between service providers in the region and develop a strategy to tie the region's attractions together in a way that creates a variety of opportunities for visitors. They should analyze their strengths, weaknesses and opportunities. They should look for ways to improve on shortcomings in their infrastructure and work together to market the region to a variety of potential visitors.

The Guide Course

William Jackson and I were asked to prepare and deliver a basic course for ecotourism guides in the region. This was not an easy task because we found out about it just before we left the U.S. We were well into our trip before we knew how many students we might have and what their level of experience was. We had one day to prepare the course. The course lasted 4 hours which is enough time to lecture on some basic topics but not enough time to give the students a chance to practice what they have learned. The general outline and schedule for the class is shown below.

Introductions – 10 min - everyone

Icebreaker – Count the Squares – 12 min - Arden

Objectives of the Training & Schedule and Norms – 5 min - Bill

Conservation Issues & Problems – 20 min - Arden

Ecotourism – What it is, how it works, how guides fit into the system - 20 min – Arden

Break

What is a Guide? – Basic outline of the work of a guide – 15 min. - Bill

Preparing to be a good Guide – get to know the area and the resources, trip planning – 30 min - Bill

Break?

Visitor Service – how to take care of your clients – Arden

Basic Interpretation – the teaching and interaction that they do – Bill

Resource Protection – how to be sure you minimize impacts to resources – Arden

We had a total of 15 students from a variety of areas including Los Albores, Las Cabañas, San Augustin, Chilasco, and Peña del Angel. To cover that much material in such a short time required a lot of lecture. Many of our students were not accustomed to sitting for long lectures but they did a fairly good job of paying attention and participating. Evaluations filled out by the students at the end of the class indicated their satisfaction with the material we covered but also a desire for more time to cover the topics, handouts on the topics so they could take the material home for future reference, more depth on some topics and possible future training opportunities. In general, we tried to make the best of the situation but it would have been better to have more time to prepare and more time to present the material.

Possible Future DOI Assistance

I feel that Defensores showed a good understanding of the goals of ecotourism and a willingness to work with local communities to include them in the benefits of tourism. I also feel they are actively building their expertise and cooperating with outside resources to ensure proper management of the reserve.

Specialists from the DOI may be able to assist with projects related to these topics:

- Strategic Planning – working with Defensores staff to review existing plans and update as appropriate.
- Guide Training – working with Defensores to design and present more in depth guide training for their staff and their partners from nearby communities with the goal of developing an example that can be repeated by Defensores on their own in the future.
- Resource Monitoring – helping them select critical indicators to monitor for possible impacts from visitors, monitoring strategies to detect changes in the indicators, management strategies to halt or reverse these impacts.
- Marketing – working within a limited budget to develop appropriate marketing information and materials for the attractions in and near the reserve.

Conclusion

Ecotourism has the potential to be an important tool to contribute to conservation of the Sierra de las Minas Biosphere Reserve and assist with community development for surrounding communities. There have been a variety of projects started in this area to try to realize the benefits of ecotourism. The majority of work that I saw was well thought out and on the right track. This suggests that Defensores, OIT and others who have contributed to this effort have the knowledge and skill to be able to do a good job. They may not have the resources to emphasize ecotourism as much as it could be. Other ecotourism groups such as those in Chilasco and Los Albores have the enthusiasm and local contacts but will continue to need periodic support from and coordination with Defensores to make sure their actions are in agreement with the management goals for the reserve. Several of the past studies and reports that offered advice on how to develop and manage ecotourism were well done. Others seemed less appropriate – probably because there wasn't enough communication between the authors and Defensores to ensure that the work was in agreement with basic management goals for the area. I did not get to see an overall management plan for Sierra de las Minas but I get the impression that one was done in 1992. If it hasn't been updated since then it may be due. I feel that it would be important for AID to continue to support Defensores and the conservation of the Sierra de las Minas. The Department of the Interior can assist with those goals as long as the ultimate goal is to help Defensores achieve self reliance in the management of the area.



Appendix 1

Birds seen in the Sierra de las Minas Biosphere Reserve by Arden Anderson on work trip in 2004

San Augustin to Las Cabañas 4/27/04

Turkey Vulture *Cathartes aura*
Black Vulture *Coragyps atratus*
Inca Dove *Columbina inca*
Ruddy Ground-Dove *Columbina talpacoti*
Groove Billed Ani *Crotophaga sulcirostris*
Turquoise-browed Motmot *Eumomota superciliosa*
Green Kingfisher *Chloroceryle americana*
Golden-fronted Woodpecker *Melanerpes aurifrons*
Clay-colored Robin *Turdus grayi*
Rufous Naped Wren *Campylorhynchus rufinucha*
Great-tailed Grackle *Quiscalus mexicanus*
Yellow-backed Oriole *Icterus chrysater*

Las Cabañas sector - 4/27 to 5/1/04

Red-tailed Hawk *Buteo jamaicensis*
Band-tailed Pigeon *Columba fasciata*
White-faced Quail-Dove *Geotrygon albifacies*
Whip-poor-will *Caprimulgus vociferus*
Black Swift *Cypseloides niger*
White-collared Swift *Streptoprocne zonaris*
Amethyst Throated Hummingbird *Lampornis
amethystinus*
Green Throated Mountain Gem *Lampornis
viridipallens*
Garnet-throated Hummingbird *Lamprolaima rhami*
Mountain Trogon *Trogon mexicanus*
Resplendent Quetzal *Pharomachrus mocinno*
Emerald Toucanet *Aulacorhynchus prasinus*
Hairy Woodpecker *Picoides villosus*
Northern Flicker *Colaptes auratus*
Ruddy Foliage-gleaner *Automolus rubiginosus*
Spot-crowned Woodcreeper *Lepidocolaptes affinis*
Black-throated Jay *Cyanolyca pumilo*
Unicolored Jay *Aphelocoma unicolor*
Cliff Swallow *Petrochelidon pyrrhonota*
Northern Rough-winged Swallow *Stelgidopteryx
serripennis*
Barn Swallow *Hirundo rustica*
Gray-breasted Wood-Wren *Henicorhina leucophrys*
Solitaire species -*Myadestes sp.*
Ruddy-capped Nightingale-Thrush *Catharus frantzii*
Black Robin *Turdus infuscatus*
Mountain Robin *Turdus plebejus*
Gray Silky-flycatcher *Ptilogonys cinereus*
Crescent-chested Warbler *Parula superciliosa*
Black-throated Green Warbler *Dendroica virens*
Wilson's Warbler *Wilsonia pusilla*
Pink-headed Warbler *Ergaticus versicolor*
Golden-browed Warbler *Basileuterus belli*
Common Bush-Tanager *Chlorospingus ophthalmicus*

Cinnamon-bellied Flowerpiercer *Diglossa baritula*
Chestnut-capped-Brush-Finch- *Atlapetes
brunneinucha*
Yellow Throated Brush Finch *Atlapetes gutturalis*
Rufous-collared Sparrow *Zonotrichia capensis*
Hooded Grosbeak *Coccothraustes abeillei*

Also Peccary – *Tayassu sp.*
Howler Monkey – *Alouatta sp.*

San Jeronimo and 5/3 and 5/5/04

Turkey Vulture *Cathartes aura*
Black Vulture *Coragyps atratus*
Inca Dove *Columbina inca*
Ruddy Ground-Dove *Columbina talpacoti*
White-collared Swift *Streptoprocne zonaris*
Cinnamon Hummingbird *Amazilia rutila*
Social Flycatcher *Myiozetetes similis*
House Wren *Troglodytes aedon*
Clay-colored Robin *Turdus grayi*
Yellow Warbler *Dendroica petechia*
Common Yellowthroat *Geothlypis trichas*
Great-tailed Grackle *Quiscalus mexicanus*
Yellow-backed Oriole *Icterus chrysater*
Altamira Oriole *Icterus gularis*
Blue Black Grassquit *Volatinia jacarina*
White Collared Seedeater *Sporophila torqueola*

Chilasco – 5/4/04

White-eared Hummingbird *Hylocharis leucotis*
Slender Sheartail *Doricha enicura*
White-collared Swift *Streptoprocne zonaris*
Northern Flicker *Colaptes auratus*
Scaly-throated Foliage-gleaner *Anabacerthia
variegaticeps*
Barn Swallow *Hirundo rustica*
Eastern Bluebird *Sialis sialis*
Brown-backed-Solitaire-*Myadestes occidentalis*
Black Robin *Turdus infuscatus*
Rufous Collared Robin *Turdus rufitorques*
Mountain Robin *Turdus plebejus*
Blue-and-white Mockingbird *Melanotis hypoleucus*
Rufous-browed Peppershrike *Cyclarhis gujanensis*
Black-throated Green Warbler *Dendroica virens*
Common Bush-Tanager *Chlorospingus ophthalmicus*
Cinnamon-bellied Flowerpiercer *Diglossa baritula*
Rusty Sparrow *Aimophila rufescens*
Yellow Throated Brush Finch *Atlapetes gutturalis*
Rufous-collared Sparrow *Zonotrichia capensis*
Hooded Grosbeak *Coccothraustes abeillei*
Great-tailed Grackle *Quiscalus mexicanus*