

Table 1: Population and Growth Rates of the Autonomous Region of Bougainville (ARoB) by Districts, National Statistics Office, 2012.

	Growth Rate	2000 Census	2011 Census	2015 Projected	2020 Projected
ARoB (Total)	2.68%	175,160	234,280	263,722	310,632
North Bougainville (Subtotal)	2.75%	73,091	98,458	111,583	132,414
Tinputz District	3.92%	9,767	14,908	17,399	21,117
Kunua District	3.80%	9,089	13,700	16,236	20,425
Selau/Suir District	3.96%	9,446	14,477	16,967	20,758
Buka District	2.34%	36,676	47,285	52,867	61,946
Nissan District	0.31%	5,725	5,923	6,011	6,134
Attols District	-0.89%	2,388	2,165	2,102	2,035
Central Bougainville (Subtotal)	3.70%	40,444	60,311	70,502	87,956
Wakunai District	4.32%	10,023	15,960	20,075	28,147
Kieta District	2.60%	18,530	24,586	27,645	32,353
Panguna District	3.93%	11,891	19,765	22,782	27,457
South Bougainville (Subtotal)	1.86%	61,625	75,511	81,637	90,263
Buin District	2.32%	26,469	34,074	37,368	41,950
Siwai District	1.16%	13,724	15,582	16,368	17,449
Bana District	1.91%	17,442	21,479	23,375	25,144
Torokina District	0.84%	3,990	4,376	4,525	4,720

Potential Positive and Negative Impacts

The people of Wakunai have a strong interest in conservation of the environment, and many recognize the damage that has been caused through human action for decades. They are seeking the information with which they can be better stewards of the environment, stay connected with their culture, and live in harmony with the forest.

Positive Impacts

We are collaborating with Rotokas Ecotourism Group (RET) who has established a business model for working with the clans of Wakunai. An “entry” fee to the area is distributed to the clans with customary land where an expedition would occur. Further, income for the community is paid to guides and porters who have received trainings from RET. Fresh fruits and vegetables will be purchased from the villages. Although villagers in each of the priority areas live traditionally by subsistence farming, hunting, and using forest resources, people need income typically for medical and school expenses, as well as manufactured materials such as clothes, fuel, soap, and batteries. Sources of income in remote villages are very limited (mainly selling items in local markets).

Our initiative will include a series of awareness trainings for communities, with more specialized capacity building trainings for RET's guides, as well as for teachers and their students in the primary schools of Ruruvu, Togarao, and Sisivi. While our work will focus on bat conservation, our trainings will cover conservation of the environment and include how communities may live in harmony with the environment. We will provide materials (e.g. posters and booklets) to communities and schools, including photo-identification booklets to the guides to use on their treks and to help locate important bat resources.

We will work with the communities (villages and hamlets) to use information from our initiative to develop and implement effective strategies to protect and restore forests, cave systems, and other components of the environment that have been damaged. This outcome can benefit entire communities through provision of clean water, native foods, medicinal plants, and building materials for Ruruvu, Togarao, and Sisivi. Healthy forest systems will contribute to healthy populations of terrestrial game animals upon which the communities depend, while also contributing to RET's sustainable ecotourism model. There will likely be a negative impact from reduced hunting of bats (see below) as part of our conservation initiative.

The cultural heritage of the Wakunai people is built upon a tradition of living in harmony with the environment, including stories about bats and people. From our consultations in Ruruvu, Togarao, and Sisivi, there is great knowledge that most often resides with the elders in the clans, and this knowledge is being lost in the younger generations. Our work to engage the Wakunai people in bat conservation will help them reconnect with and strengthen their heritage as communities reconnect with the environment and how the Wakunai people once lived. The Cultural Exchange Centers that Rotokas Ecotourism Group is building in Sisivi, and eventually in Laruma and Govukogari, will be important places for the heritage of the Wakunai people to be renewed and shared.

Negative Impacts

In consultation with the Wakunai people and RET, who are of Wakunai, we believe there are four primary potential negative impacts of a sustainable bat conservation initiative in the area. As our presence in Wakunai is at the request of and acceptance by the clans, and our approach is being developed with RET, the communities, and the clan chiefs, we believe we will be able to proactively address each potential negative impact as an integral part of our sustainable conservation initiative.

Limitations of Protein in the Diet: Many families do not appear to have protein on a regular basis. It is unclear from the consultations to date, but hunting of bats as a source of protein is a significant issue. Large flying fox camps have been driven away from communities, and there appears to be reduced numbers of bats in the caves. While some level of hunting is likely sustainable, we do believe we will need to work with the communities to limit the hunting of bats. In a protein-deficient community, this puts additional pressures on other wildlife in the forests and streams (e.g. opossums and fish) or increases the need for money to supplement their diet with purchased food or animals like chickens and pigs. We will work with the communities to understand the scope of the issue and develop viable solutions with them even as we advance a bat conservation message. Two potential areas discussed with RET to date that

have come from their first-hand knowledge in the communities are help with fish farms and enhanced animal husbandry, especially with chickens.

Deforestation: Deforestation from family gardens and firewood collection is expanding and continues to degrade the forests and the streams from landslides. The extent of the deforestation within the Kunua Plains and Mt. Balbi KBA is not known at this time, and given the trend in people moving from the primary villages of Ruruvu, Togarao, and Sisivi into small family-unit hamlets the risks to the KBA are growing. There is also a growing trend of clearing small patches of native rainforest to plant cash crops like potatoes and peanuts. To protect critical roosting and foraging habitats for bats we anticipate the need to work with the communities to better manage where the forest clearing occurs and its extent, as well as maintaining soil productivity through enhanced gardening practices (e.g. mulching and erosion control). RET and the communities are aware of this need, and through their awareness programs, they have already launched some small-scale mulching practices and tree-planting; there are already at least two native tree nurseries in Sisivi and Govukogari.

Direct Conflict from Competition for Food and Cash Crops: The communities do recognize that fruit bats routinely eat many of the foods used by the villages, as well as some of the cash crops like the young fruits of coconuts, thus diminishing the copra production. Even with this recognition by the communities, there did not appear to be strong animosity towards the bats for this competition, based on the meetings that we held. The greatest concern was centered on the loss of bats as a source of protein. Through our discussions with RET, we believe a balanced, comprehensive, strong, and proactive awareness program will mitigate any negative impacts on this front, especially as it will be combined with initiatives for alternative protein sources for the communities, as well as reforestation to improve the health of the forests.

Engaging Communities: A final potential negative impact that emerged from our awareness activities with the communities and in discussion with RET was the possibility of creating resentment among the villages, hamlets, and clans if there was an over-emphasis and partnership with one community, clan, or person. If payment and employment of local guides is not handled very carefully, disagreements could be a problem. As we are partnering with RET and they have developed a model through consultation with the communities, we anticipate this will be a minimal issue. In general terms, the model includes an entry fee to the area that is shared among the clans where a trek or expedition would occur. Trained packers would be employed from one village or hamlet to the next, and new packers would then help with the next stage of the trek or expedition. While this is a little more complicated and logistically challenging, it will actually promote greater engagement with our conservation initiative.

Free Prior and Informed Consent: Consultations with Affected Communities

We are very fortunate to have connected with RET as they have a comprehensive vision for conservation, communities, and culture through their ecotourism enterprise. They conducted over 50 awareness trainings prior to the four that they helped conduct with us from February 9-12, 2015. It was the strong foundation for conservation that they helped re-awaken within the villages and clans that facilitated a very successful set of consultations when we were present and helped us obtain a Free Prior and Informed Consent (FPIC).

Our awareness trainings included the Council of Elders, clan chiefs, teachers, school children, and community members. Although the Council of Elders and the clan chiefs were all men, we explicitly invited the full community and had women and children represented. All of our discussions included a presentation (attached for reference) in English by Dave Waldien, Sr. Director for Global Conservation, Bat Conservation International. Junias Repiriri, Rotokas Ecotourism translated in Tok Pisin, the national language of the Autonomous Region of Bougainville, and in Rotokas, the local language. We also had a representative from the Bougainville Bureau for the Environment present and expressing their support for this initiative.

In all of our meetings, we did the following:

- introduced Bat Conservation International,
- explained how bats are connected to the environment, and
- explained how people can live in harmony with bats in healthy forest environments.
- We used case studies from our work in the Philippines as possible ideas of what an initiative in Bougainville could look like.

Clan chiefs, teachers (women leaders in the communities), and others present at the meetings were encouraged to express their concerns, ask questions, and share their views. It was during these meetings that the strong interest in the environment of the Wakunai people became obvious, and there was consistently strong interest and support for the initiative. The success of our awareness with the communities truly reflects the work of RET with the clans.

Below is a summary of our consultations with the Rotokas People. We have attached notes of each consultation for reference and lists of 137 clan chiefs and individuals that in the community that signed the MOA (representing the FPIC) endorsing our project with the Rotokas People (Note: BCI, ABG, and VSA signed each, but were removed from the summary number of 137).

Attendance and participation was greater at all of the consultations than is represented by those signing the MOA as teachers, school children, and most community members showed up to observe and participate. While we encouraged people to express their ideas and concerns they may have had, we did not pressure them to participate or to sign the MOA/FPIC).

February 9, 2015: We held our first awareness training with the Council of Elders in Wakunai as their permission was required before discussing the initiative with the communities. Our project ideas received broad support and generated extensive discussion. See attached photos documenting the consultation; 16 chiefs and community leaders signed the MOA/FPIC.

I really appreciate BCI coming here because it is not just about conserving our environment but this is also related to preserving our culture because our environment is such an important part of our culture. BCI can help us fight ignorance in relation to the ecosystem and help preserve our environment at the same time. It would be good if you could help with training at our schools and for our teachers to help spread the conservation message. We are stewards of the environment and our lands and our chiefs need to take responsibility for this, but

to do this they need training, they need to understand their roles and responsibilities. - Jacob Rerevate (Council of Elders Member, Ruruvu)

February 10, 2015: We held our second awareness training in Ruruvu, which is approximately 20km inland from Wakunai. Access was by a vehicle, although many of the locals walk this road. There was broad support with extensive discussions. See attached photos documenting the consultation; 57 chiefs and community leaders signed the MOA/FPIC.

Before the forest and bush was very good, there were a lot of trees and we also had a lot of good protein from the bush, there were owl's and bats that helped sustain the people. In the past our ancestors told us not to kill certain species of bats and birds. This has all changed now, we are careless and many young people walk around with catapults killing bats and birds for no reason. What is our vision for the future? We want the bush in the way it was in past. We are happy that BCI is here to tell us about conservation - Immah Raririo (Elementary teacher, Ruruvu)

February 11, 2015: We held our third awareness training in Togaraoa, which is approximately 3km from Ruruvu. Our access was by an hour-long hike, although there is regular vehicle access. There was broad support with extensive discussions. See attached photos documenting the consultation; 33 chiefs and community leaders signed the MOA/FPIC.

When I see a bat I want to kill it and eat it. But this isn't conservation, we haven't been conservationists. Now this consultation has opened our minds and now we realize the important part bats play in our ecosystem. We understand now that bats just aren't there to steal our bananas, pawpaws and other fruits, they also play an important part in our ecosystem. So I am happy to hear this presentation, but we, the people here don't know how to conserve the environment or bats, we need to be presented with a plan. - Judah Ruetea (Church worker, Togarao)

February 12, 2015: We held our fourth awareness training in Sisivi, which is approximately 8km from Ruruvu. Access is only by a trek, which includes a river crossing and at least a two-hour trek into the bush; there is no vehicle access. There was broad support with extensive discussions. See attached photos documenting the consultation; 22 chiefs and community leaders signed the MOA/FPIC.

In the 1970's the bush and forest was in better condition. Then there was a bigger focus on earning income and we started planting cocoa and coconut, so we had to cut down the bush to plant these cash crops. In the past the flying foxes were everywhere, they were all around us, at this time the forest was good and everything was good. But many changes have taken place; we have planted cocoa and coconut which altered our environment. In the past we would see all the bats coming in the afternoon, around 3-4pm in the afternoon. This has changed now. My vision is that we should rediscover bats and we should rejuvenate our forest and wildlife populations. At the moment our grandchildren don't see these particular bats that you (Dave) have talked about. It is important

that our future generations have a healthy environment - Titus Blossom (Rotokas Village Assembly Chairman)

Chiefs of the four major clans, as well as the sub-clans present at each of the awareness trainings endorsed our initiative and signed a general Memorandum of Agreement (attached for reference). Attendance sheets were passed around, and most of the adults present signed them (attached for reference).

RET will now incorporate our collaborative initiative into their awareness trainings with communities and villages on the west side of the Kunua Plains and Mt. Balbi KBA, which will be the first step for expanding our initial initiative on the south and east sides of the KBA.

Women were well represented during our consultations and they participated to a degree they felt comfortable in the process. To gain a better sense if our proposal was understood and accepted by the broader community, specifically women, we asked the three women on our team that had lived and worked with the Rotokas People in the past to informally discuss our initiative with teachers and other women leaders in each community. Through these informal discussions, we understood better the extent of the food security issue and were able to incorporate their ideas into our presentation and our discussions. Going forward, we will ensure that we meet separately with women groups to ensure their ideas are fully represented in our work with the Rotokas People.

Measures to Avoid Adverse Impacts and Provide Culturally Appropriate Benefits

The Wakunai people have expressed a strong interest and commitment to living in harmony with the environment, and they recognize that bats are an important component of a healthy ecosystem. The Rotokas culture, which includes people of Wakunai, Torokina and Kunua, encompasses the Kunua Plains and Mt. Balbi KBA. These communities are essential to ensuring the KBA remains an intact ecosystem.

We will develop explicit strategies with RET and the people of Wakunai to proactively address each of the four potential negative impacts that we outlined above. These will likely include at least the following:

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negative impacts on this front, especially as it will be combined with initiatives for alternative protein sources for the communities, as well as reforestation to improve the health of the forests.

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Our collaboration with RET and our desire to proactively include representatives from the villages in all aspects of our initiative will help reawaken the indigenous knowledge about bats in the Rotokas culture, and it will help the communities return to the ways in which they used to live in harmony with the environment. The Cultural Exchange Centers that RET is establishing in the communities will be places where the communities, our external team members, and other visitors to the area can learn and share this information. Our approach of working closely with RET and including the Wakunai people will provide great transparency and help to avoid misunderstandings and conflict.

Monitoring for Community Opinion

Within the Rotokas culture of the Wakunai people, individuals may agree during a consultation and afterwards may change their minds after the chiefs of the clans have had time to discuss further. We will work closely with RET to listen for changes in interest and concerns, and we will be positioned to proactively resolve concerns before they become significant issues.

On our expeditions to the field and for our work with the communities, we will use community forums and questionnaires to monitor local opinion, positive and negative outcomes of the initiative, and solicit ideas for enhancing the effectiveness of our efforts. Consultation at community forums will be held at the beginning and end of each field survey period at each community. These will be combined with question and answer sessions. For the benefit of more reserved people in a forum, strength of opinions will be measured by a ballot for a set of core statements. This will involve placing an object in one box to indicate “strongly agree,” alternatively in another box for “somewhat agree,” and another for “disagree.” Statements will be developed in consultation with RET and clan chiefs and may include: “A bat conservation initiative that works with the Wakunai people will benefit the environment and the people;” “The Wakunai people can be leaders in bat conservation and help bring a balance to communities living in harmony with the environment;” “Bat conservation is important to the Wakunai people;” and “Bat Conservation International has approached this initiative with respect for the Wakunai people and the Rotokas culture.”

Grievance Mechanisms

We discussed this explicitly in our awareness trainings and included a clause in the MOA that we will respect and honor the grievance process of working with the chiefs where any grievances are registered. Further, if a grievance cannot be resolved with the clan chiefs, then it would be brought to the Council of Elders for resolution. People will be encouraged to register

any grievances: 1) Directly at community forums, or 2) Through a third party contact with RET, or 3) Via a comments / grievance book that will be left with community chairman to be filled in between trips. Any grievances raised will be communicated to the CEPF Secretariat and the Regional Implementation Team at IUCN within 14 days, together with a plan for remedial action (if any required).