

[CONSORCIO AMBIENTAL DOMINICANO, FUNDACION LOMA QUITA ESPUELA,  
& SPATIAL INFORMATICS GROUP]

# Two Worlds – One Bird (2W1B)

Sustainable Financing of Habitat and Biodiversity Conservation in the  
Dominican Republic and United States

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1/20/2014



Abstract: The project will generate carbon offsets through reforestation with native species and improved forest management practices to protect migratory bird habitat in the Dominican Republic and United States.

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## Key information

<b>Project title</b>	Two Worlds – One Bird (2W1B): Sustainable Financing of Habitat and Biodiversity Conservation in the Dominican Republic and United States
<b>Project location (country and region/district)</b>	Loma Quita Espuela and Loma Guaconejo protected areas, Dominican Republic; and Adirondacks, New York
<b>Project coordinator &amp; contact details</b>	Principal Investigator (PI)/Coordinator - Sesar Rodriguez;  sesar_rodriguez@yahoo.com  Co-PI/Coordinator -Charles Kerchner, Ph.D.  <a href="mailto:ckerchner@sig-gis.com">ckerchner@sig-gis.com</a>  Co-PI/Local Coordinator – Altagracia Camilo, Executive Director of the Quita Espuela Foundation.  Acamilo149@hotmail.com
<b>Summary of proposed activities (max 30 words)</b>	The project involves reforestation with native species, agroforestry systems, and improved forest management to protect migratory bird habitat in the Dominican Republic and United States.
<b>Summary of proposed target groups (max 30 words)</b>	The target groups are small-scale landowners, conservation oriented landowners, and strategic properties located adjacent to protected areas in the Dominican Republic and United States.

Heading	<p><b>1 Project objectives and activities</b></p>
Requirements/ guidance	<p>The Two Worlds – One Bird (2W1B) program is an alliance between the private, public and non-profit sectors that have united forces to develop a sustainable business partnership to protect biodiversity and habitat on both ends of the Bicknell’s Thrush (<i>Catharus Bicknelli</i>) migratory spectrum. The Associated Press has identified the project as being one of the most cutting edge eco - business ventures, blending sustainable cacao (“chocolate”) and macademia production with conservation of a global biodiversity hotspot and an endangered rainforest. <a href="http://news.yahoo.com/saving-dominican-forest-elusive-songbird-165741784.html">http://news.yahoo.com/saving-dominican-forest-elusive-songbird-165741784.html</a></p> <p>Bicknell’s Thrush spends their summers nesting in the spruce-fir forest in Northeast U.S. and migrates thousands of miles annually to their “winter” habitat in mountainous forests on the island of Hispaniola, i.e. the Dominican Republic and Haiti. Degradation of habitat on both ends of its migratory range has resulted in ~5% annual population decline.</p> <p>The 2W1B carbon project’s objective is to protect biodiversity and restore Bicknell’s thrush and other migratory bird species habitat in the Dominican Republic and the United States. In addition to conservation benefits, the project will contribute to sustainable development in the area by improving the livelihoods of community members, strengthening local institutions, and building capacity of local leaders in sustainable forest management.</p> <p>The carbon project will create a framework for on-the-ground actions and investment in ecosystem connectivity while having positive socioeconomic benefits by:</p> <ul style="list-style-type: none"> <li>• Reforesting with native species in the Dominican Republic;</li> <li>• Creating additional revenue through sustainable forest management activities;</li> <li>• Developing a biological corridor around and in between the buffer zone of two Scientific Reserves in the Dominican Republic via reforestation efforts;</li> <li>• Creating connectivity via Improved Forest Management (IFM) in The Split Rock Wildway, which is a proposed wildlife corridor between the Split Rock Wild Forest and the Jay Mountain Wilderness Area in the eastern Adirondack Park in Essex County, New York;</li> </ul>

	<ul style="list-style-type: none"> <li>• Building capacity of local park rangers in the Dominican Republic to monitor and measure forest carbon plots;</li> <li>• Expanding the project to include additional community members in and around the Quita Espuela and Guaconejo Scientific Reserves in the Dominican Republic and the Adirondack State park in New York; and</li> <li>• Verifying the project with Plan Vivo certificates.</li> </ul>
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	<p><b>2 Identify target groups/communities (max 350 words)</b></p>
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	<p>There are two primary target groups. The first target group is rural community members around the Loma Quita Espuela and Loma Guaconejo Scientific Reserves in the Dominican Republic. The second target group is landowners around The Split Rock Wildway in New York. There have been several cultural exchanges between the two target groups.  <a href="http://vtecostudies.blogspot.com/2009/07/visitors-travel-from-afar-to-see.html">http://vtecostudies.blogspot.com/2009/07/visitors-travel-from-afar-to-see.html</a></p> <p>Individuals in Target Group #1 are located in 30 communities in the buffer zone of Quita Espuela and Guaconejo Reserves. The communities differ with respect to socio-economic conditions, ranging from fewer than 10 to as many as 100 households (SODIN, 2002). The primary source of income for families in the area is from: cacao production, cattle ranching, and root crop production from shifting agriculture. The average size parcel for the smallholders and non smallholders in target group #1 is ~5 hectares and 15.5 hectares, respectively.</p> <p>Recruiting smallholders in the Dominican Republic was completed with several community-based workshops held with over 100 landowners in the Quita Espuela and Guaconejo Reserves in the Dominican Republic. Invitations were sent out to community organizations in the buffer zone and meetings were open to the public. The objectives of the workshops were to: (1) explain forest carbon markets to landowners; (2) identify landowners interested in a forest carbon offset project; and (3) evaluate the eligibility of landowners to participate in carbon markets. Several landowners were identified as candidates for the forest carbon project.</p> <p>. Target group #2 will include both smallholders and non smallholders located in the buffer zone of the Adirondack Park in New York. The smallholders will be family forest landowners located within the Split Rock Wildway Project Area within Essex county; New York. Essex county has a population of approximately 39,000 with a median annual income of \$37,596. It is a rural area with approximately one housing unit every 21.9 square mile. The primary family income source is from the wood products industry, agriculture, and manufacturing. The average parcel of family forest holders in eastern New York is 20.5 hectares.</p> <p>The project coordinators will use several criteria for selecting the Plan Vivo smallholder participants in New York. For example, participants must meet the</p>
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	<p>Plan Vivo definition of smallholder – a land holder who manages their property with their family’s labor force. The participants must also be dedicated to sustainable forest management and participation in a transparent, democratic process. Initially, the project coordinators will target forester’s cooperatives and associations in the Project Area. The first non smallholder to enter the Plan Vivo project in New York will be the Eddy Foundation property. An executive agreement will be created between Eddy Foundation and the property manager that outlines project management responsibilities, forest management objectives, and rights to the Plan Vivo certificates.</p>
	<p><b>3 Description of proposed project area</b></p>
	<p>Max 500 words (excluding maps and other figures).</p> <p>In the Dominican Republic, the Loma Guaconejo and Loma Quita Espuela Scientific Reserves form a core of largely intact, but highly threatened forest habitat in the eastern Cordillera Septentrional. The Reserves lie in the municipalities of Maria Trinidad Sanchez and Duarte in the northeast of the Dominican Republic (see Figure 1). Loma Quita Espuela is 15 km northeast of San Francisco de Macoris and Guaconejo is located 20 km west of the city of Nagua. The Reserves’ elevation ranges from 200 – 900 m, with an average rainfall of &gt; 2,000mm per year. These Reserves were designated as conservation areas by the Dominican government in 1990 (Quita Espuela) and 1996 (Guaconejo), because of their recognized ecological values at the local, regional, and global scale. The total area comprised by Quita Espuela and Guaconejo is nearly 250 km<sup>2</sup>, of which approximately 100 km<sup>2</sup> consists of a “government-owned” nucleus.</p> <p>The two Reserves support a high degree of unique and globally significant biodiversity. The moist broadleaf forests of Guaconejo and Quita Espuela that support many endemic flora and fauna have been identified as the most endangered habitat on the island (Latta and Lorenzo 2000). A total of 581 and 639 plant species have been reported in Guaconejo and Quita Espuela, respectively. Both Reserves have been designated as Important Bird Areas (IBAs) by BirdLife International (Perdomo and Arias 2008).</p> <p>The primary threats to forests and biodiversity is slash-and-burn agriculture, grazing, and illegal timber harvesting for charcoal.</p> <p>The Reserves’ buffer zones have &gt;30 local communities that differ with respect to socio-economic conditions, ranging from fewer than 10 households to as many as 100. The Reserves are only 10 km in distance from each other, providing a unique opportunity to create a biological corridor. The majority of landowners are small-scale cacao producers with an average of ~5 hectares and an annual income of US \$3,000. Several community groups within the buffer zone exist, including Mother’s Clubs, agricultural associations, religious groups, and youth groups.</p> <p>In New York, the project area includes the Split Rock Wildway which lies within</p>

the Adirondack Park jurisdictional district. The Adirondack Mountains are located in Upper State New York and make a circular geologic feature composed of the Grenville Province, which is a belt of basement rock. Lake Champlain lies four miles to the east of the Eddy Foundation property. Forest cover is primarily northern hardwood overstory consisting of American beech, sugar maple, red maple, red oak, poplar, pignut and shagbark hickory, black cherry and white oak.

The Eddy Foundation property has trained over 15 farmers in organic agricultural production. The Lakeside Waldorf School resides on the property and educates 50 children per year in alternative education. The property has a network of trails managed by Champlain Area Trails System (<http://www.champlainareatrails.com/>) and is open to the public for hiking, recreation, photography and enjoyment free of charge. The property had the first Community Supported Agriculture (CSA) in Essex, New York, which was the catalyst for the largest CSA in the county.

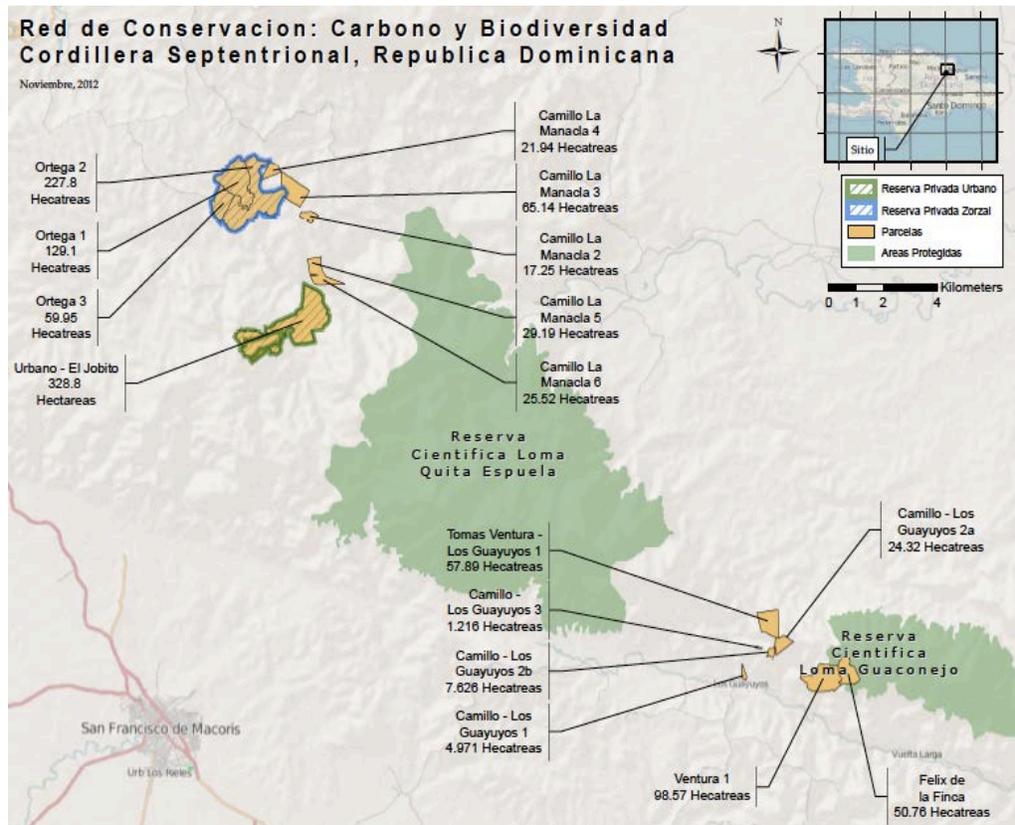


Figure 1. Project area in the Dominican Republic

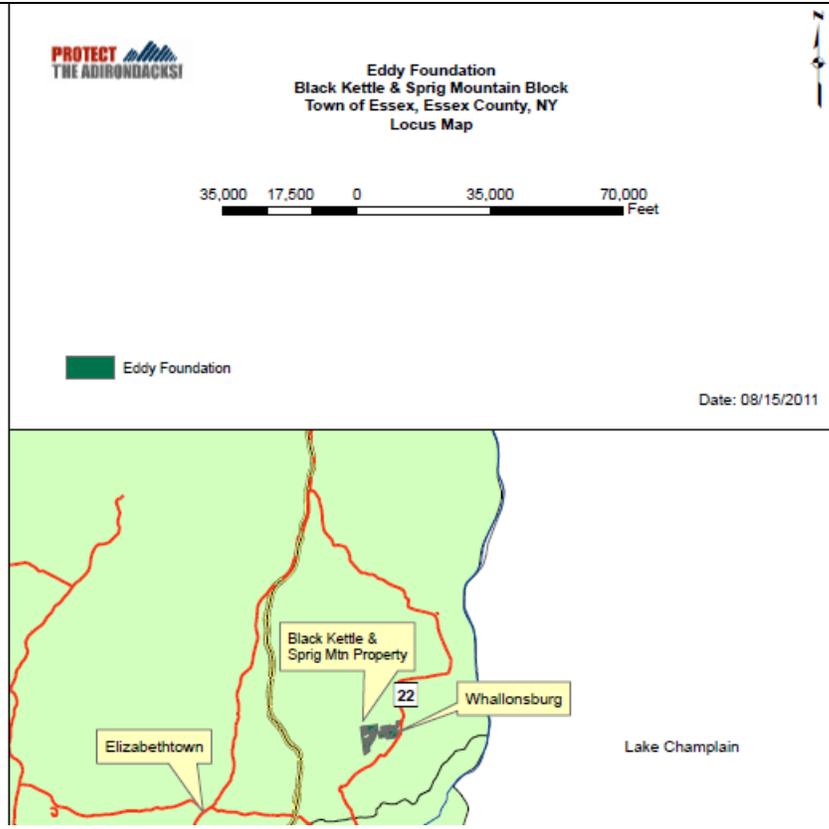


Figure 2. Project area in New York

**4 Ownership of carbon rights and land-tenure (350 words max)**

Recent analysis of the project area in the Dominican Republic indicates 85% of landowners do not have a legal deed to their property. However, this will not prohibit landowners from participating in the Plan Vivo project. Currently, the Dominican government issues cutting permits (i.e. Derecho al Corte) for anyone who plants trees. Therefore, an ad hoc property rights mechanism exists to claim rights to forest carbon stock. The first two Dominican Republic properties enrolled in Plan Vivo are larger than the average properties in the area (>2 hectares) and have a family living on each property. Each producer will hold a long-term contract (minimum of 20 years) with landowners and be issued a Derecho al Corte in the producer's name to serve as an informal method for recognizing property rights. In addition, all Plan Vivos will have a document signed by adjacent landowners and a local community sheriff recognizing the producers' property boundaries. This will avoid any future conflict over land tenure and property boundaries.

This form of ad hoc property rights in the Dominican Republic is common and widely accepted. There is no conflict or instability in the area regarding property rights.. The project will have both non smallholder and smallholder participants,

	<p>but at no time will the non smallholder parcel size represent more than a third of the Project Area (per Plan Vivo Standard 2013 requirement). The inclusion of non smallholders is crucial for landscape level ecosystem benefits between and around the Guaconejo and Quita Espuela Reserves. Non smallholder participants will help bring the project to scale, reduce transaction costs, and lower the barriers to entry for smallholders to participate.</p> <p>Properties in the Adirondacks in the United States will have deeds of title. The Eddy Foundation will be the first to be enlisted as a Plan Vivo project in the U.S. and the non-profit Waldorf School will hold the contract (for a minimum of 20 years) for carbon rights with the Eddy Foundation. As owner of the land, Eddy Foundation will have rights to the carbon credits. However, as a prerequisite to participate in Plan Vivo an equitable contract will be created with the land manager that outlines the responsibilities and benefiting sharing from carbon revenue. The contract will be equitable and voluntarily signed by both parties. There is no precedent in the United States that would prevent the Eddy Foundation or other smallholders for contracting with Plan Vivo participants to hold carbon rights on their own land or participate in the voluntary carbon market.</p>
	<p><b>5 Description of applicant organisation(s) and proposed governance structure (max 750 words)</b></p>
	<p><u>Project Coordinator - Fundacion Quita Espuela:</u></p> <p>The proposed governance structure is for the local non-profit, Fundacion Loma Quita Espuela (FLQE), to manage the project, conduct outreach and education, and facilitate all project activities. FLQE is an NGO formed in 1990 and located in the city of San Francisco de Macoris in the Duarte Province, Dominican Republic (<a href="http://www.flqe.org.do/English/1home_english.html">http://www.flqe.org.do/English/1home_english.html</a>). FLQE co-manages the Loma Quita Espuela Reserve with the Secretariat for Environment and Natural Resources. FLQE currently has four main outreach components: 1) Reserve management, monitoring, and policing; 2) community outreach and education; 3) forestry and agroforestry extension; and 4) eco-tourism.</p> <p>FLQE is the ideal institution to facilitate the Plan Vivo initiative for several reasons. First, they have over 25 years of experience working with landowners in the buffer zone of the protected area. Second, they have the institutional capacity to implement project activities, including forestry and community development expertise. FLQE has sufficient personnel to be the Project Coordinator. The staff includes: office manager; forester; financial accountant; park ranger; and Executive Director. Third, FLQE has the legal authority given by the Secretariat of Environment and Natural Resources to manage the Quita Espuela Scientific Reserve. Therefore, they are well positioned to navigate the political avenues</p>

necessary to implement project activities adjacent to protected areas.

Consortio Ambiental Dominicano (CAD) will provide outside technical support and assist FLQE with project activities. These activities include: registration; recording of Plan Vivos; sale agreements; managing project finance; negotiating sales and payment distribution; contracting project validation/verification; and managing project data to report to the Plan Vivo Foundation. The Eddy Foundation land in the Adirondacks will be treated just like Plan Vivos in the Dominican Republic. FLQE will be responsible for facilitating the transactions to Adirondack properties. Having FLQE as the Project Coordinator for both New York and Dominican Republic properties will build institutional capacity for the institution.

FLQE, with assistance from CAD, will complete the social components of Plan Vivo, including continued workshops with communities, helping individuals demonstrate land-tenure, setting up bank accounts, and settling disputes.

FLQE booking and payments will be transparent to all Plan Vivo participants. Participation will be equitable and a steering committee, led by Plan Vivos, will be established to ensure participants have an equal voice in all activities.

External Support Services - Consortio Ambiental Dominicano (CAD):

CAD will also be an important institution involved in project development. CAD is an NGO in Santo Domingo, Dominican Republic and, to date, has written, solicited, and received funds for project activities. In an effort to transfer project ownership to regional and local NGOs in the Project Area, the carbon project will be facilitated directly by FLQE with support by CAD in the initial 2-3 years. Recently, CAD has been involved in the coordination of the new Payments for Environmental law passed by the Dominican Republic Congress. Thus, in the next few years CAD will transition from helping coordinate local project activities to PES and climate change policy development. This will ensure efforts at the national level align with the Plan Vivo project.

Key FLQE personnel:

Ms. Altagracia Camillo has been the the Executive Director of FLQE for six years. She will be responsible for local project coordination, administration, and financial records. She will be the primary local contact with Plan Vivo once the project is verified. She holds a master's in finance and B.A. in business from Universidad Nordestana in the Dominican Republic.

Mr. Ramon Belen: Mr. Belen is the agricultural extension officer for FLQE. He

	<p>has over 8 years of experience spearheading forestry and agricultural projects with landowners in the buffer zone of the Quita Espuela Reserve. He is charged with sourcing trees, designing the planting systems, and coordinating reforestation efforts for the carbon project. Mr. Belen will be the technical coordinator for the Plan Vivo project. He holds a B.A. in agriculture from Universidad Autónoma de Santo Domingo, Dominican Republic. Key CAD personnel:</p> <p>Mr. Sesar Rodríguez has been the project manager since the 2W1B project inception. Currently, he is the Director of Consorcio Ambiental Dominicano (CAD), a non-profit organization in the Dominican Republic that is leading the 2W1B project. Mr. Rodríguez is responsible for the overall project management, including submitting reports, managing the budget and ensuring tasks are completed in a timely fashion. In addition to the administrative responsibilities, he will lead the policy initiative to establish procedures for incorporating PES schemes within the national environmental framework.</p> <p>Dr. Charles Kerchner is a forest economist responsible for project implementation and administration with Mr. Rodríguez. He is also responsible for completing reports and soliciting funds to support project activities. Dr. Kerchner is a Senior Scientist at Spatial Informatics Group (SIG) where he leads the development of over 6 million credits being verified under the Verified Carbon Standard, Climate Action Reserve, and California’s Air Resources Board. He received a B.A. from Lafayette, a M.S. in forest economics and Ph.D. in forestry and forest economics from the University of Vermont.</p>
	<p><b>6 Community-led design plan submitted (300 words max)</b></p>
	<p>The 2W1B project has held several community outreach workshops from 2009 – 2013 to explain carbon offset projects, payments for environmental services, and addressed equity concerns with community members. The current plan is to conduct workshops with all Plan Vivo participants twice a year to address project related issues and enroll interested landowners.</p> <p>Forestry consultants BARCA from Costa Rica have developed the following native species planting design that will be adapted to various landowners at a planting density of 1,111 trees/ha:</p> <ul style="list-style-type: none"> <li>• <b>Grupo 1. Especies de crecimiento rápido:</b> <ul style="list-style-type: none"> <li>• o <i>Simarouba glauca</i> (Juan Primero)</li> <li>• o <i>Inga vera</i> (Guama)</li> <li>• o <i>Cedrela odorata</i> (Cedro)</li> <li>• o <i>Coloubrina arborescens</i> (Corazón de Paloma)</li> </ul> </li> <li>• <b>Grupo 2. Especies de crecimiento lento o intermedio:</b> <ul style="list-style-type: none"> <li>• o <i>Calophyllum calaba</i> (Maria)</li> </ul> </li> </ul>

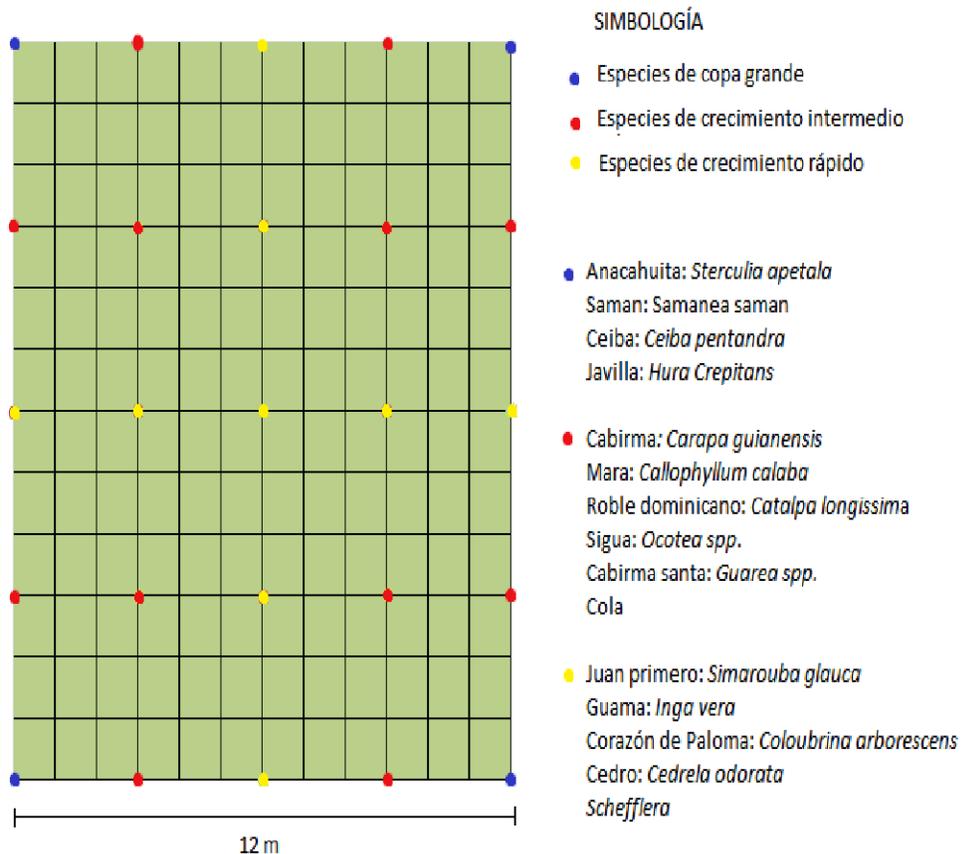
- o *Catalpa longissima* (Roble Dominicano)
- o *Ocotea spp.* (Sigua)
- o *Guarea spp.* (Cabima santa)
- **Grupo 3. Especies de copa grande:**
  - o *Sterculia apetala* (Anacahuita)
  - o *Ceiba pentandra* (Ceiba)
  - o *Samanea saman* (Saman)
  - o *Hura crepitans* (Javilla)

**Grupo 1 de especies de crecimiento rápido representan 400 árboles por hectárea (un 36%).**

**Grupo 2 de especies de crecimiento lento representan 533 arb./ha. (un 48%).**

**Grupo 3 de especies de copa grande representan 178 arb/ha. (16%).**

The other reforestation efforts will take place in cacao and coffee parcels to promote shade grown, diversified crop production system. In New York, the activity will include an Improved Forest Management (IFM) type project that encourages sustainable yield among other factors.



	<p><b>7 Additionality Analysis Provided (300 words max)</b></p>
	<p>The project is not legislatively required in the Dominican Republic or New York. The Dominican Republic has a reforestation program. However, the majority of species planted are non-native and some are invasive species impacting native flora and fauna. Reforestation data from communities around the Project Area indicates that &gt;90% of species planted from 2008 -2012 were non-native. Non-native species grow faster and are more economically viable than slower growing native species. Thus, there is a financial barrier to planting native species for sustainable forest management, biodiversity benefits, and migratory bird habitat recuperation.</p> <p>Three elements of the proposed project make it unique and more expensive than the common practice of reforestation with non-native species: (1) planting on strategic properties to recuperate habitat for Bicknell’s thrush and other migratory bird habitat; (2) planting two to three species of complementary shade tolerance in polycultures rather than monocultures; (3) planting as part of agroforestry system that would otherwise not of been economically viable, and (4) extending cutting rotations beyond typical 10-15 year length by at least 5 years.</p> <p>Points 2 and 3 above area also technical barriers. There is a lack of knowledge and experience in the Dominican Republic in planting a system with a diversified horizontal and vertical structure to protect biodiversity and migratory bird habitat. Further, there is limited technical knowledge in planting timber species as part of an agroforestry system within cacao or coffee.</p> <p>In New York, there are no financial incentives to reduce harvesting frequency and have greater basal area retention post-harvest. Therefore, the New York Improved Forest Management project can also demonstrate financial additionality. The technical barrier does not apply to the New York Plan Vivos.</p> <p>It is important to note the Plan Vivo participants’ properties are located adjacent to national protected areas, but have no protected status and is private property without encumbrances or specific conservation requirements.</p> <p>The sources of funding identified in section 9 show indication of a financial barrier.</p>
	<p><b>8 Compliance with regulations and notification of relevant bodies</b></p>
	<p>The 2W1B project is one of the three national pilot PES projects highlighted by Ministerio de Medio Ambiente y Recurses Naturales.. The Ministry of Environment and Natural Resources is aware of the forest carbon project and actively participates in monthly project meetings.</p>

	The project will comply with all relevant national and international regulations.
	<b>9 Sources of start-up funding identified</b>
	The project has several sources of start-up funds. The sources of start-up funds support forest carbon technical specifications. It also helps fund bird monitoring, management plans, institutional capacity building, outreach and education, and other technical support. Donors include: 1. US Fish and Wildlife –Neotropical Migratory Bird Conservation Act; 2. Global Environmental Facility (GEF); and 3.Critical Ecosystem Partnership Fund (CEPF).