Saving Our Special Nature of Montserrat

Newsletter 15, August 2023

Male Montserrat oriole, Montserrat's national bird on red heliconia, Montserrat's national plant. Photo: Dr Mike Pienkowski

Foreword

Welcome to the 15th issue of the newsletter about the current joint programme of work coordinated by Montserrat National Trust and UK Overseas Territories Conservation Forum, in conjunction with the Government of Montserrat and others. The current phase of *Adopt a Home for Wildlife* is now half way through its 3-year duration, as reported previously in *Newsletters 11 (November 2021), 12 (May 2022), 13 (September 2022) and 14 (March 2023)*.

During calendar year 2022 and the first 3 months of 2023, another project was running parallel to it, as announced in *Newsletter* 12. This is *From Blue Iguanas to Blue Vervain – Sharing the colonial histories from the UK Overseas Territories,* launched in Montserrat in July 2022, during a joint programme of work of both projects - to make the whole provide even more for Montserrat than the sum of the parts. The *From Blue Iguanas to Blue Vervain...* project was part of the *Hidden Histories* programme of the UK Research Institute's Natural Environment Research Council (NERC) and Arts and Humanities Research Council (AHRC).

Building on both of these and earlier projects, is the new Dawin-funded project DPLUS192 *Delivering biodiversity and human well-being gains for Montserrat's sustainable development.* This started in April 2023 and lasts for three years. Read about its launch in this issue.

We also continue our start in the previous issue to focus on more of the individual *Wildlife Homes* and *Adopters* who are participating in the *Adopt a Home for Wildlife* project, and introduce some of the new team members. We also report on the horticultural training as part of this project by volunteer Leigh Morris and local personnel, as well as other visits by the UKOTCF team leading the project, as well as by a review team from UK's Biodiversity Challenge Fund (including Darwin Plus), whose funds support the project.

We are very grateful for the many kind and encouraging comments from people welcoming the first fourteen newsletters. We hope that you enjoy this one too. Comments are always welcome.

Please feel free to show or forward these newsletters to others. If anyone sees these and would like to be added to the circulation list, please send your email address to m@pienkowski.org. Earlier issues can be accessed at: https://www.ukotcf.org.uk/newsletters/. For more information on the project, the main contacts are:

Dr Mike Pienkowski & Mrs Catherine Wensink, UK Overseas Territories Conservation Forum: m@pienkowski.org cwensink@ukotcf.org. See also www.ukotcf.org.uk. Mrs Sarita Francis, Montserrat National Trust: mnt@montserratnationaltrust.ms

Two of Montserrat's special species:
Left: Pribby Rondeletia buxifolia, *found only on Montserrat, is a a very dry-resistant little shrub being planted in many Wildlife Homes.*
Photo: Ravo Ratianimarina
Below: Mountain chicken frog Leptodactylus fallax, *found only on Montserrat and Dominica. This one was photographed in the Centre Hills, before the devastation of the population by the introduced chytrid disease. A major experiment is now trying to re-establish the species in Montserrat. Photo: Dr Mike Pienkowski*

Biodiversity and Well-being Toolkit: Sustainable Development addressed as part of new project on Montserrat

The UK Research Institute funded project *Blue Iguana to Blue Vervain* concluded in March (see *SOS Nature of Montserrat* 14: 15-17). With ideas generated during this very productive project, an application was put together with partners and was submitted to UK Government's Darwin Plus (part of their Biodiversity Challenge Funds). The project titled *Delivering biodiversity and human well-being gains for Montserrat's sustainable development* started in April 2023 and lasts for three years. Here we have some pictures from the launch at Montserrat National Trust on 21st June, together with an outline of the project.

Land-use change is one of five main drivers of global biodiversity loss. For many UKOTs, including Montserrat, piecemeal development of land is seen as a major threat to biodiversity. For Montserrat, following the destruction of the largest town in the late 1990s volcanic eruption, development for housing is an ongoing necessity. Successive island-plans have recognised Montserrat's natural resources as important assets in economic growth and sustainability but, to date, there has been limited practical support or detailed guidance on how to integrate biodiversity conservation adequately into built-development practices, although a start was made in UKOTCF-organised projects in 2015-2018. Since 2010 when the last island development plan was published, there has been an explosion of research linking biodiversity with human health and well-being.

Built developments can provide an opportunity for biodiversity to flourish; however, if not encouraged or widely promoted, they can result in localised biodiversity-loss (for example, Pipers Pond infilling in 2014 which destroyed Montserrat's only functioning mangrove habitat), and accidental or deliberate introduction of non-native species that can ultimately become invasive (*e.g.* red fire-ants introduced during construction of the airport post-2008), resulting in negative impacts on biodiversity and ecosystems, human health and the economy.

The project aims to put consideration for the island's biodiversity at the heart of decision-making, planning and built-development. This need was identified by partners on Montserrat, and follows a similar pattern to those needs identified across the UKOTs (particularly documented at the series of UKOTCF-organised conferences 2000-2021). With the Montserrat National Trust leading the project on island, they will ensure that the community has a mechanism to provide input into future planning and developments by: (1) bringing together voices that may not otherwise feed into public consultations; (2) creating a biodiversity and human-well-being toolkit for the community, physical planners and developers; (3) monitoring and evaluating outcomes for biodiversity and human well-being; (4) sharing outcomes with other UKOTs via existing knowledge-sharing networks.

The team will adapt pre-existing tools developed elsewhere, notably the UKCEH's biodiversity toolkit, which was developed in the UK for local housing providers. This will be used as a basis for the toolkit, but expanded and tailored to Montserrat's needs, circumstances, economic challenges and unique biodiversity. It will support developers and the community by providing

Above: MNT Executive Director Mrs Sarita Francis presided at the launch; below: Mrs Delmaude Ryan

Above: Mrs Catherine Wensink; below: Mr Jerome Meade
All photos: Dr Mike Pienkowski

practical ways to support sensitively constructed and landscaped developments in Montserrat's unique environment.

Project activities will extend the use of Montserrat's valued asset, the native plant nursery and its developing on-island herbarium, ultimately to promote and conserve the value of endemic and native wildlife.

The project was officially launched on 21st June with an event at the Montserrat National Trust. It was attended: by HE the Governor, Mrs Sarah Tucker; the Deputy Premier Hon. Samuel Joseph; Chief Physical Planner, Mr Jerome Meade; Tourism Director, Mrs. Ineta Rosetta West-Gerald; MNT Council Members, UKOTCF's Chairman; and representatives from the Youth Parliament and the Montserrat Secondary School.

Mrs Delmaude Ryan gave an engaging introduction to the project, which was live-streamed via Montserrat's ZJB Radio.

UKOTCF's Catherine Wensink introduced the project partners roles and responsibilities and said: "A team, all members with certain technical expertise, has been brought together on Montserrat by the Montserrat National Trust. Over the next few years, you will hear a lot about the toolkit. Today we are here to give a flavour of this work so that you have some idea of what is being discussed when we talk about the 'biodiversity & human well-being toolkit' or just 'toolkit'.

"With this project partners overview you will get a sense of the number of partners involved and what they each will do. The project will stretch as far as it can in terms of involving people from across the island from the start and that is why we welcome you all today.

"If I may, I would like to say a little about each element of the project and who will be leading on it from the team we have assembled. We have never wanted to repeat or redo what others have done. We are mindful that work may have been explored within the lifetime of various endeavours that have gone before, but we acknowledge and build on this work.

"The main elements of the project together with the project partners was outlined. These are shown in the slide from the presentation." (see below)

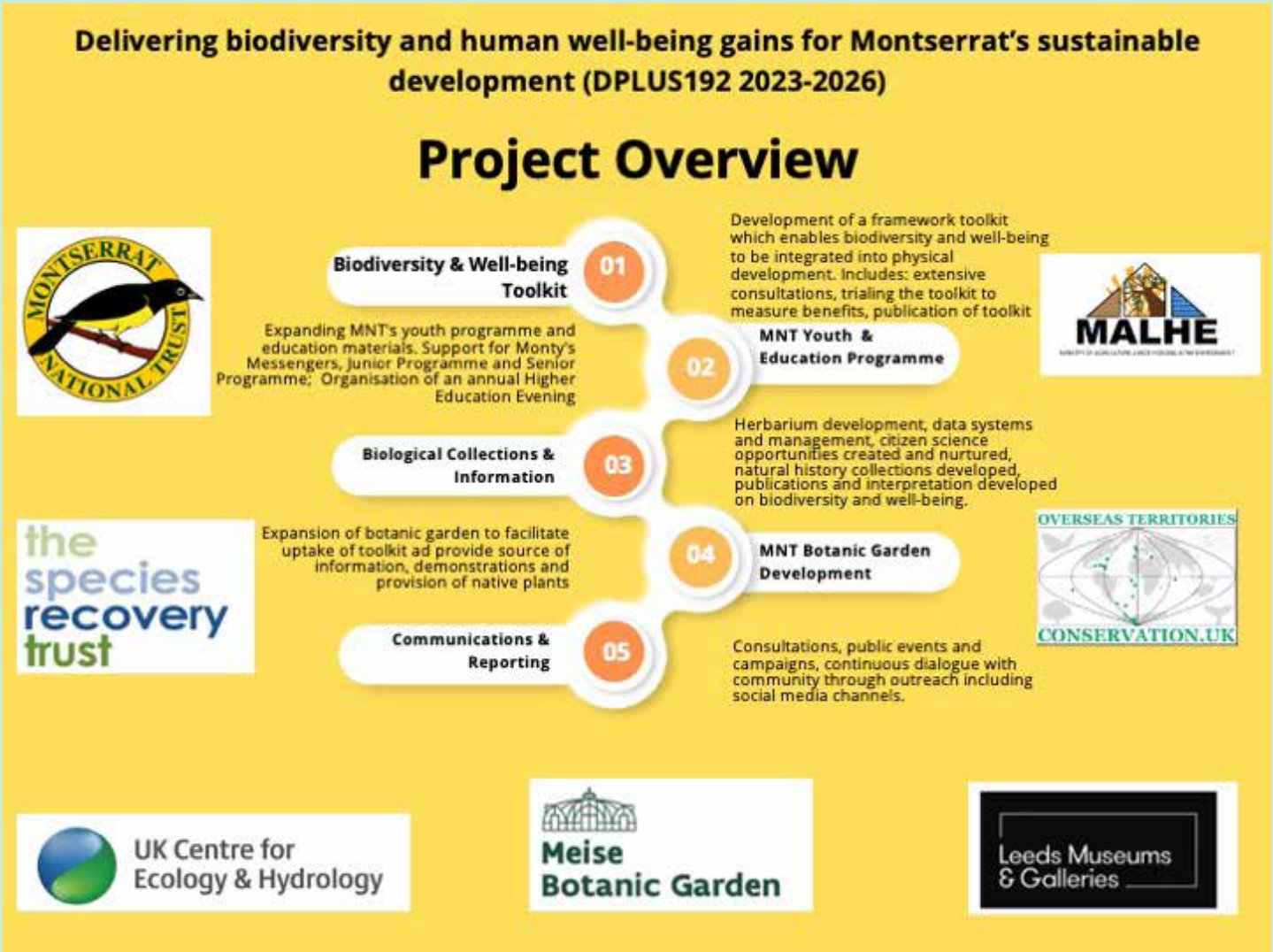
Ms Jodey Peyton, fellow of the UK Centre for Ecology and Hydrology, provided some technical information on the toolkit, developed by UKCEH, and how it could link with sustainable development on Montserrat.

Mr Jerome Meade, Chief Physical Planner, gave assurances that the Planning Unit would be an active partner throughout the project and welcomed the leadership being shown by the Montserrat National Trust and its linkages with the Government of Montserrat.

Highlighting the importance of involving young people in the project, Ms Kadine Cabey, Montserrat National Trust's Junior Conservation Officer, spoke about the challenges facing Montserrat, but how young people could be part of the solutions to protect what is important to them.

In closing, Ms Jo-Diaz Tye, Montserrat National Trust's Conservation Technician gave a vote of thanks to those attending and outlined some of the synergies between the new project and work she and colleagues undertook as part of the *Blue Iguana to Blue Vervain* project.

Further reports on this new project (DPLUS192) will be provided as the project takes shape.



Ms Kadine Cabey *Ms Jo-Diaz Tye*

A widely drawn audience, including on the front row HE Governor Sarah Tucker and Hon Deputy Premier Samuel Joseph, participated in the launch. Photos: Dr Mike Pienkowski

Youth and United Nations Global Alliance

Workshops and meetings are often great sources of information and can generate ideas to overcome challenges. Each year, UKOTCF attends the Inter-Island Environment Meeting (IIEM), a coming together of all bodies concerned with nature conservation in the Crown Dependencies: the Channel Islands (Jersey, Guernsey, Alderney and Sark) and the Isle of Man.

In 2022, a presentation by the Head of Science at Guernsey Ladies College, Dr Karen Marshall, provided some background on the Youth and United Nations Global Alliance (YUNGA). This initiative is being used as tool to enable young people on Guernsey to get more involved with conservation efforts.

Formed in 2009, YUNGA is a partnership between United Nations agencies, civil society organisations and other entities that work with children and young people. It acts as a gateway for children and youth from around the world to participate in the activities and initiatives of the United Nations. YUNGA seeks to empower children and young people to have a greater role in society, raise awareness and become active agents of change. YUNGA aims to engage young people in activities of key environmental and social concern at both national and international levels.

Dr Marshall kindly provided some background materials and information on YUNGA so the team can start to adapt as necessary in order to start to develop YUNGA Montserrat.

YUNGA has developed a series of badges based on the Sustainable Development Goals (https://sdgs.un.org/goals); the seventeen goals to 2030 which are a "shared blueprint for peace and prosperity for people and the planet, now and into the future".

As part of YUNGA, young people complete a series of tasks and challenges earning the badges as they think about how they can change their behaviour in order to protect the planet. On Montserrat, as part of DPLUS192 (biodiversity and well-being toolkit) we will be exploring the possibility of developing a YUNGA badge focusing on biodiversity.

Meet the *Adopters* of *Wildlife Homes* in Montserrat's *Adopt a Home for Wildlife* project – part 2

Ann and Mike Pienkowski of UKOTCF visited Montserrat for the first half of December. Much of the time was spent filming and interviewing *Adopters* on their sites (*Wildlife Homes*) – and, subsequently back in UK, editing to make many published videos. Some of these have now been published online (https://www.ukotcf.org.uk/key-projects/adoptahomeforwildlife/; scroll down to Project Updates) and others will follow. MNT is drawing attention to these in social media.

Adopt a Home for Wildlife is a project which aims to protect Montserrat's unique biodiversity, ecosystems and natural capital through community action. It is being led by the Montserrat National Trust on island and the UK Overseas Territories Conservation Forum, which coordinates support from partners. *Adopters* are those local people or groups who volunteer and are accepted to manage an area of land (*Wildlife Home*) within the project. A network of sites across the island is being established where action takes place to improve conditions for biodiversity and, where possible, opportunities for people to improve livelihoods and well-being are provided. Preliminary ecological surveys of the sites are conducted and with this information a management plan is developed between the *Adopter* and the project partners.

Some of these visits to *Wildlife Homes* and *Adopters* formed a large part of *SOS Nature of Montserrat* 14. Those articles covered Wildlife Homes 06 (Lookout Primary School), 08 (The Couch home on Hibiscus Drive), 12 (Cassava Drive), and 05 (EcoPlay), as well as the work of the native plant nursery at MNT's botanic garden to supply plants for *Wildlife Homes* and others.

In this issue, we look at *Wildlife Homes* 07 and 10 on Lawyers Mountain, 13 at Hibiscus Drive and 06 at Friths.

We plan to return in the next issue, to our most long-standing *Wildlife Homes*. The *Adopt a Home for Wildlife* project arose from an earlier 2-year project in 2016-18. In the first year of that project, we identified what we now call *Wildlife Homes* as an approach to address some of the key challenges and opportunities of conservation in Montserrat. In the second year, we tested this successfully on a small number of pilot sites with our first *Adopters*. Three of those first sites stayed with us during the following three years while we tried to secure funding to employ local project officers, key to continuing. They became *Wildlife Homes* 01 (Garibaldi Hills), 02 (Belham River Mouth) and 03 (Cork Hill) in the continued new phase of the project.

There are a number of videos about these (and a few other pilot sites) from the first phase still available. There are links to these at: https://www.ukotcf.org.uk/key-projects/sos-montserrat/. We shall soon be adding new videos on these sites, but meanwhile enjoy these videos of those who helped get the work started.

Above: at WH01, Tim Orton has been experimenting with the challenges of regenerating tropical dry forest in areas with a huge thickness of ash covering the older rock and soil. In the cleared area, Tim has been trying all sorts of techniques to allow native plants to survive. He has nurtured several young trees, and noticed that some growing very slowly for several years, have suddenly grown (tall young trees on the right of picture). He suspects that their roots have at last reached through the new ash to the old soil below.

Below: Young trees growing in the shade do better. Invasive species can then later be removed after the native saplings are suffficiently well grown in their shade. For example, Tim has killed this invasive tree (in centre of image below) by ring-barking.

Photos: Dr Mike Pienkowski

In June, Darwin Plus, the main current funder of *Adopt a Home for Wildlife*, undertook a mid-project review in order to discover what could be learnt from the project. As well as meetings with project team members, this included also a number of visits to Wildlife Homes and discussions with Adopters. Some images from this visit are on pages 15 and 22, after the articles on individual projects.

Dwayne Hixon looks at migrant shorebirds attracted to the shallow wetland he recreated at Belham River Mouth (now Wildlife Home 02), replacing rare habitat lost by volcanic action and inappropriate human development. From one of the videos noted above. Images: Ann Pienkowski

Wildlife Home 07: Lawyers Mountain (Cherise Aymer)

From beside house, yard area and edge of slope, with view beyond.

The site, approximately 840m^2, is about 80m from the Centre Hills Protected Area boundary. Short grass is found around the edge of the property with some fruit and ornamental trees at the back of the house. Beyond this, there is a layer of forest/ shrub habitat. It is gently sloping, followed by a steep slope at the back of the plot. The site is in the lower montane rain forest (Moist forest). This forest ecosystem coincides with the island's water catchment areas. The area is full of fruit and forest trees, ornamental plants, shrubs and lawn grasses. The soil type is clay with plenty of stones. The site is a habitat for wildlife too, including various insects, iguana, agouti and the endemic Montserrat oriole *Icterus oberi*, which is often seen here.

Cherise is interested in her fruit garden to provide food for her and increase the number of healthy fruits trees (*e.g.* mango, banana, five finger, plumrose, citrus, passion fruit, guava and sugar apple). She is seeking help in grafting of her citrus and mango trees. She also wants help to identify and preserve any native and endemic plants on her plot.

A first step is to understand the ecology of the site through plant and invertebrate surveys of occurrence and abundance. This information will be used to manage the site so that it can be as near to typical tropical forest conditions as possible. This will ensure its resilience to a number of scenarios, *e.g.* further natural disasters, climate-change. One of the most important elements of site surveys will be gaining knowledge about the presence of non-native invasive species. If potentially damaging plant species are found (according to species lists developed by the Montserrat National Trust informed by earlier work), management actions will be undertaken including replacement with native species (propagated at the Montserrat National Trust's botanic garden nursery). Changes on the land will be recorded each year throughout the project.

At this particular site, invasive species within the forest will be targeted for removal and native replacements recommended. Native and endemic species will be encouraged to attract wildlife to her garden.

The site surveys were conducted during June 2022. The insect survey was conducted in the morning and plant survey in the afternoon, looking at plant species in front of the yard, at the back and side of the house.

Overall, 87 plant species were found on this site, with a mix of native, introduced and invasive species. Notably, there are 17 grass species found here. Overall, the ground layer was 64% vegetated with 36% bare ground. Invasive species were found in all vegetation layers. 22% of all species identified were invasive species. In the ground layer, they covered 8% of the vegetated areas, in the shrub layer this was 2% and in the canopy layer this was 3%.

The presence of fruit trees on the site as part of the species composition is noteworthy as some like mango *Mangifera indica* are considered to be invasive (and could be a problem for native invertebrate biodiversity locally). This vegetation at this site has the potential to be used as a demonstration or model of how to use as an important food crop – but control – species which are potentially invasive.

The invertebrate fauna at this site is dominated by scale insects, followed by butterflies and bees and then ants.

The scale insects were recorded on the various fruit trees on the site and feeding on plant sap and secreting honey-dew for ants and sooty mould fungus. Scale insects are plant-feeding bugs that can feed on a range of different plants; most are considered pest species and can spread plant diseases, although some will be native and even endemic (more research is needed on these). This group is thriving on the vegetation on this site.

Butterflies and bees were recorded on fruit trees and flowering plants. Maintaining the varied range of flowering native trees and shrubs will support butterflies, bees and pollinating flies.

Project Officer Elvis Gerald points out the importance of daily inspection for pests under the leaves of fruit trees. Adopters are encouraged to use organic products, such as Neem oil, for pest control.
Photo & those on next page: Ann Pienkowski

Mike Pienkowski and project officers Elvis Gerald and Antwone Sinclair, discuss with adopter Cherise Aymer plans for her Wildlife Home on the steep slopes of Lawyers Mountain.

Other invertebrate fauna groups were low, and some groups likely in rain forest, such as snails and slugs, were not found. Surprisingly there were few spiders, grasshoppers and beetles. The site was well kept, with a well-maintained open lawn. This tidying may be limiting other groups.

This site is obviously heavily dominated by fruit trees and other useful trees to people, and these are the main plants that are supporting these insects. There are obviously a lot of grasses and low growing herbaceous plants plus a few shrubs, many of which are introduced species.

There are some microhabitats missing at the site, including leaf-litter, which may limit some insect groups. It should be noted that the period when the survey was completed was during the dry season, and so dry and hot conditions may not have favoured some groups.

There is an opportunity to control some of the introduced species on the site. For example, there is some dominance by ironweed, *Cyanthilium cinereum*; this is an invasive and is wind-pollinated and may be having some, but probably limited, benefit to the insects. It is advisable to prevent the spread of the seeds of *Cyanthilium cinereum*. This more or less perennial species can be controlled locally, and seed-spreading reduced, by uprooting of the isolated individuals; persistent stands can be slashed with rotary cutters, and possibly targeted spray herbicide treatment could be considered on isolated spots.

There is an opportunity on this site to selectively decrease some of the grasses and introduced herbaceous species, and instead increase the number of native trees and shrubs in key areas - to reflect the adjacent forest. This will provide a buffer zone and better transitional areas to the Centre Hills habitat. This will see the variety of insect groups increase, allowing species from the forest to colonise and increase species diversity amongst many invertebrate groups but also pollinators such as butterflies and bees.

The site-owner, Cherise, is most interested in her fruit-tree garden and wants her mango and citrus trees grafted. She also wants to plant native and endemic trees on her plot and remove any invasive plant species which affect the integrity of her plot. She is most interested in encouraging animal wildlife to her site, by planting vegetation that would attract them. Native plants found on her site are found in low numbers and could be encouraged.

So, the means to this objective are to assist the land owner/ manager:

1. Identify and remove invasive, non-native species in the tropical rain forest and replace with native species that thrive in the conditions, by planting saplings from the MNT nursery. Native species appropriate for planting at this site include:
   - lignum vitae *Gaiacum officinale*
   - Montserrat pribby *Rondeletia baxifolia*
   - pepper cinnamon *Canella winterana*
   - trumpet bush *Tecoma stans*
   - Barbados cherry *Malpighia emarginata*
   - sea grape *Coccoloba uvifera.*
2. Provision of technical knowledge on agriculture and food production.
3. Assistance with grafting to control pests, *e.g.* scale insects
4. Provision of advice to encourage more invertebrate fauna on the site.
5. Provision of native plant species to encourage more invertebrates to the area.
6. Advice on other aspects of managing the land including, for example, creation of leaf-litter piles in the garden area as one important microhabitat for invertebrate groups.

Tropical rain forest consists of fast-growing species (adapted to high rainfall). The challenges here are the small land area, with a steep slope at the back of the house. Finding adequate land space to plant other trees species will be a challenge, as the area is overcrowded with fruit trees. It is desirable to plant a few native trees to encourage wildlife where possible and remove any invasive species. The rich clay soil will be good for saplings to establish without any major issues.

One recommendation is pruning of fruit-trees and planting native and endemic species at the border of the plot, using fertilizers or compost to feed the young plants, with regular watering during the dry season.

Regular field visits will be made to the plot to make sure young native or endemic saplings are growing properly.

Above: Elvis Gerald points out to Cherise the pribby growing wild on the road bank opposite her house. Cuttings from this can be used to create the hedge which Cherise wants between her house and the road. Below: the steep road passes Cherise's House up to Veta's.

Wildlife Home 10: Lawyers Mountain (Veta Nicholas)

Above: the magnificent view, to the sea, from WH10. Pollinators using the natural vegetation at the site boundary benefit Veta's garden. Below left: the steep slope of the yard on which the house is built. Below right: the artificial cliff cut at the Protected Area boundary immediately behind the house. Photos: Dr Mike Pienkowski

Just a few minutes' walk from WH07, to the top of the steep road at the edge of the forest reserve, takes us to WH10, immediately outside the boundary of the Centre Hills Protected Area. The forest is the largest remaining forest area on Montserrat, forming a single, almost continuous block of hill forest in the centre of the island. Several properties border the forest. This site is located near the start of the Oriole Walkway, a popular walking trail. The sloping area is a house spot of 5000 sq ft (about 460m^2). The area is full of vegetable plants, fruit and forest trees, ornamental plants, shrubs and grasses. The soil type is clay with plenty of stones. The site is a habitat for wildlife to including the insects, iguana, agouti, and Montserrat's national bird, the oriole.

Veta is interested in her vegetables, fruit and her moon garden. She would like to plant fruit-trees, including mango, banana, pineapple, citrus, guava and soursop, and would like help in grafting of her citrus and mango trees. She also wants to preserve any native and endemic plants on her plot. Veta is very interested in planting native and endemic plant species to attract wildlife to her garden. The project officers will help her to decide the best plants to grow in her area.

At this particular site, native and endemic species will be encouraged to attract wildlife to her garden. The area below the house has some hedge bushes that attract a wide range of butterfly and moth species. This area should be preserved for these.

The site surveys were conducted during June 2022 with a repeat in November 2022.

Overall, 128 plant species were found on this site, with a mix of native, introduced and invasive species. Survey plots consist of a 5m circular plot (total area included in survey 392.7m^2). Sample points were chosen at random (using QGIS). The vegetation layers were divided into three layers: (1) ground layer; (2) shrub layer (more than 0.5 in height but less than 2.5m in height); or (3) canopy layer (more than 2.5m in height). Overall, the ground layer was 64% vegetated with 36% bare ground. Plants were identified as one of native, introduced, invasive or unknown. Invasive species were found in all vegetation layers. 11% of all species identified were invasive species. In the ground layer, they covered 1% of the vegetated areas, in the shrub layer this was 35% and in the canopy layer this was 2%.

Native plant species found in WH10 survey:

Bidens pilosa	Spanish Needle
Byrsonima spicata	Shoemaker Bark
Cecropia peltata	Trumpeter
Cenchrus echinatus	Buzz Grass
Citharexylum fruicosum	Yellow Fiddle Wood

Veta Nicholas, with Mike Pienkowski and project officers Elvis Gerald and Antwone Sinclair, explains how her passion for fruit trees fits in with increasing the nature value of her very steep garden. She valued the advice of Elvis Gerald, especially with regard to her favourite lime trees, which had previously not been doing too well.
Photos this page: Ann Pienkowski

Citharexylum spinosum	White Fiddle Wood
Commelina elegans	French Weed
Cordia alliodora	Black Manjack
Crotalaria retusa	Shak Shak
Desmodium incanum	Alphabet Plant
Erigron canadensis	Horse Weed
Euphorbia hirta	Asthma Plant
Margaritaria nobilis	Bastard Hogberry
Melicoccus bijugatus	Guinep
Moconia crenato	Tanzy
Mycra splens	White Birch
Myrcianthes fragrans	Black Birch
Pilea microphylla	Artillery Plant
Pimenta racemosa	Bay Leaf
Pityrogramma calomelanos	Silver Fern
Pluchea carolinensis	Cattle Tongue /Congo Tobacco
Rondeletia buxifolia	Pribby
Ruellia tuberosa	Minnie Root
Scleria secans	Razor Grass
Solanum americanum	Guma (Black Night Shade/ Bitter Guama)
Solanum torvum	Turkey Berry
Spigelia anthelmia	Pink Weed
Swietenia mahogoni	West Indian Mahogany
Synedrella nodiflora	Syndrella
Tabebuia pallida	White Cedar
Trema micrantha	Ashwood (Nettle Tree)
Unknown	Siam
Wedelia calycina	Sage
Zanthoxylum monophyllum	Yellow Prickle

Invasive plant species found in WH10 survey:

Carica papaya	Papaya/ Paw Paw
Cyanthillium cinereum	Little Iron Weed
Cymbopogon citratus	Fever Grass
Cyperus rotundus	Nut Grass
Digitaria bicornis	Sprung Grass
Emilia praetermissa	Thistle
Hibiscus tiliaceus	Maho
Megathyrus maximus	Guinea Grass
Psidium guajava	Spice Guava
Tamarindus indica	Tamarind
Tradescantia spathcea	Moses in a Boat

Overall, there are very high levels of ants on the site and, together with the invasion of thistle *Emilia praetermissa,* suggests a disturbed area. A number of pollinators were recorded, including: butterflies, moths and bees, as well as pollinating flies. The presence of termites was recorded during the survey.

Restoration of Dry/Mesic Forest habitat and improved levels of native species, such as: *Begonia obliqua*, Araceae, Lauraceae, *Inga laurina*, *Eugenia* spp. and *Piper* spp., in disturbed areas, will help reduce ant numbers and so improve numbers for other invertebrate groups (as they are predators). As there are good numbers of pollinators on site, endemic/native plants should be encouraged that provide pollen and nectar sources for these species.

The owner is interested in removing invasive and non-native species from her plot. Some invasive species found at the site produce food. Veta will manage them by pruning and removing unwanted suckers. She is very excited to create a moon garden (or a garden enjoyed in the evenings) and having native plants that attract wildlife to her garden. This type of garden is designed to include "white or lightly [coloured] blooms that open at night, plants that release sweet fragrances at night, and/or plant foliage that adds a unique texture, [colour], or shape at night."

Some native species appropriate for planting at this site, where space is available include the same list as for WH07.

The presence of fire-ants and termites on the site is noteworthy. There are 15 species recorded from Montserrat and these are highly destructive species that can be difficult to control. UK agency FERA provides identification and advice. Project Officers will seek advice through these channels.

The main challenges faced on this site is the topography of the land; the area has slight slopes to steep slopes. The soil in the area is mostly of subsoil and is also very stony; almost all of the top soil has been removed. Lack of land space is also a challenge to plant tree species. Due to the sloping terrain, the area is prone to erosion and possible land slide. A retaining wall is needed at the upper side of the house, as this area is prone to land-slide and rock-fall.

Above: Veta uses raised beds to grow herbs and vegetables, such as basil and egg-plant: one way she overcomes the challenges of a steep site. Below: Cassava, centre of picture, is a traditional Caribbean staple. Cassava bread is made from the tubers, and has to be carefully prepared and cooked to get rid of toxins.

Wildlife Home 13: Hibiscus Drive (Norman Cassell)

Views of parts of the garden and developing well-being facility. Photos: Dr Mike Pienkowski

The site of approximately 4000m^2 is about 160m from the coast on the west coast of Montserrat.

At this particular site, the land owner aims to make improvements/modifications to offer the site as a well-being area, bringing visitors to experience nature and other heritage.

The site is next to forested land owned by the Montserrat National Trust separated by a ghaut. Actions here could be complementary to management by MNT of the adjacent area as a natural forest.

The site surveys were conducted during July and August 2022.

Overall, 123 plant species were found on this site, with a mix of native, introduced and invasive species. The total percentage cover of the sample areas of invasive species was 7% of the ground layer; 29% of the shrub layer and 2% of the canopy.

The invertebrate fauna on site was not very diverse. There were some butterflies present; these will be feeding on nectar-rich plants – possibly garden species. There is a heavy domination of ants, this probably due to domination of invasive grasses.

The is aiming towards restoring dry/mesic forest with medium/large-tree-dominated vegetation >5m tall. Typical taxa include: *Begonia obliqua*, Araceae, Lauraceae, *Inga laurina*, *Eugenia* spp., *Piper* spp.

Mr Cassell aims to work with the Montserrat National Trust in the long term to create an area rich in biodiversity. He aims to make improvements/modifications to offer the site as a well-being area, bringing visitors to experience nature and other heritage. Mr Cassell has a lot of experience in horticulture, but admits that the species seen all around Montserrat are changing. Information about these is of great interest to Mr Cassell and he would like to learn more about them through the project. He has offered advice and support to the owners of the adjacent site (WH08) and will be an important partner in future conservation activities on the land owned by the MNT which sits on the other side of the river bordering his site. The objectives he would like to achieve in collaboration with the project include (but are not limited to):

1. Identify invasive, non-native species, both plants and invertebrates

Norman Cassell, with Mike Pienkowski and project officer Antwone Sinclair, explains his vision for his extensive site in Hibiscus Drive. This site benefits from bordering land owned by the Montserrat National Trust. This and later photos: Ann Pienkowski

The ground under Norman's land consists of ancient pyroclastic flows from pre-historic volcanic eruptions, with many boulders. The boulders give some problems with ground-work and planting but Norman uses them to build retaining walls. Cement is now used to stabilize the walls, following the destruction of the earlier dry-stone walls by Hurricane Maria. Compost cuttings and chicken manure are used to improve the fertility of the soil.

Above: Norman points out some of the huge boulders that he used to make a platform to support his water tanks. His plan here is to develop a wellness-facility for massage treatments and other relaxing activities in the natural and garden environment.
Below: Norman is excavating ponds to help with water control.

2. Review areas to replace with native species, either via the natural seed-bank in the soil or by planting saplings from the MNT nursery.
3. Encourage replacement of invasive grass species with native grass species.
4. Encourage more invertebrate fauna found in this habitat by creation of microhabitats (with advice from project partners).
5. Identify area close to ghaut where one can dig out volcanic ash and replace with native trees such as lignum vitae and birch.
6. Develop ideas and promotion of unique tourist products such as taste and touch, well-being tours (yoga *etc*) education tours, products made with local ingredients but also for children
7. Facilitate development of a zen area for rest and relaxation walks down to coast

Norman does not use herbicides, so there are a wide variety of plants growing on his land. The palm behind Norman's left shoulder was transplanted as a mature tree, and is currently being supported by guy ropes.

Above: The low-growing ginger lilies benefit from shade provided by larger plants. The cuttings from other parts of the garden are used to keep weeds down, and as a mulch.
Below: Young banana plants benefitting from the soil improvement measures Norman is making.
Norman mixes ornamental plants, fruit trees provided by project officer Elvis Gerald, & native vegetation. This variety increases biodiversity.

8. Facilitate opportunities for *Adopter* to be ambassador for project and demonstration garden.
9. Develop future plans to link with area on dry ghaut down to coast with MNT

Restoration of more native flora, especially in the ground and shrub layer, would reduce the ants and increase other invertebrates, resulting in a more balanced ecosystem.

There are a lot invasive grasses and a number of invasive trees. A reduction in the dominating grasses, *e.g.* Guinea grass *Megathyrus maximus* and nut grass *Cyperus rotundus*, would allow more of native ground flora to colonise or via planting, as well as more native trees. This increase in native flora, and reduction in invasive grasses, will greatly increase the invertebrate diversity present on site.

Mature mahogany trees provide welcome shade. In front is a crop of okra. The invasive guinea grass behind will be removed and replaced as the management plan is taken forward.

Wildlife Home 04: Pipers Lot

In parallel with the development and planning of the *Adopt a Home for Wildlife* project, negotiations were in progress for the donaton of parcels of land at Friths (near Salem) to Montserrat National Trust. Shortly after the project started, in late 2021, the Montserrat National Trust became owners of these two parcels of land (see map above) and joined them into the project as a *Wildlife Home.*

The site stretches from the side of the road from Salem down into the Belham River valley, up the hill to near the Montserrat Volcano Observatory This is a rather different Wildlife Home to most of the others. The site will be transformed throughout the project. Montserrat National Trust decided to use the land as a place where members of the community, especially children and young people, as well as visitors, could come and immerse themselves in nature. The Trust envisaged that additional resources would be required to develop and implement the management plan on this site.

It was envisaged that this new piece of land, which the Trust now owns, would become one of several sites managed by the Trust in order to protect the island's biodiversity. Initial surveys in this

Left: MNT Council, Hon Minister Crenston Buffonge, and project team members visit the land donated to MNT by the Piper family, Wildlife Home 04, and walk through the upper part of the site.
Right: near the top of the site, the party inspect an impressive native bamboo bush. Attractive bamboo forest used to cover a large area of the Soufriere Hills but was destroyed when the volcano erupted.
Photos: Dr Mike Pienkowski

joint project of Montserrat National Trust and the UK Overseas Territories Conservation Forum (*Adopt a Home for Wildlife,* DPLUS155) found that the site was in fact relatively close to natural tropical dry forest habitat and that the management of this site would not necessarily hugely benefit from restoration or management to improve its condition. Instead, this area of land could be managed for the islands' young people and for its unique wildlife, several species of which are listed as Vulnerable on the IUCN Red List.

With the help of UKOTCF, the Trust submitted a succesful application to the new Darwin Plus Local Fund (for small short--term funding) with a plan for how resources would be deployed to get the key initial stages of this work done, to complement and fall within the period of the current funding for *Adopt a Home for Wildlife*.

This project will enable the development of a nature trail with an environmental education and emersion area, celebrating Montserrat's unique biodiversity and natural heritage for the benefit of Montserrat's young people and other visitors. A key role for some parts of the area will be biological surveying opportunities for students – for their training and for progressive benefit of the information-base for the site. An on-site farming area will allow for teaching farming techniques and the production of medicinal plants.

The lower area has a clearing related to the water supply, of about 500 metres, which can be used as a trail. It consists of a gentle climb alongside a freshwater stream (or ghaut). The second section of the trail is steep and requires some step or zig-zag trail construction, from near where the lower trail meets the water outflow pipeline, which flows into the ghaut. The Blackwood Allen Trail to the north of the island has a similar construction which was carried out (and maintained) by MNT staff. The third section connects to the upper site.

From the top of the lower part of the site, a route will be created to and through the upper part of the site to near the Montserrat Volcano Observatory, where the trail will link to Montserrat's existing trail network.

The upper site will have basic facilities for camping, to include two toilets, an area to wash up and prepare food, store equipment and small furnishings, and a covered platform where outdoor classroom activities can take place. It is envisaged that the eco-friendly design will use compost toilets, solar panels for electricity and a water tank for rainwater catchment. The design elements will also serve as educational topics for youth in sustainability. A small-scale farm area will be established where young people (age 14+) can partake in supervised group activities, such as farm preparation and techniques to include budding and grafting, planting of medicinal herbs and preservation of these, and contributing to a medicinal plant herbarium which the Trust is developing.

The activities planned will provide opportunities for Montserrat Community College students. There are some clubs for this age-group such as church youth groups, but they do not focus on environment or biodiversity. MNT has a children's group, *Monty's Messengers* (relaunched under *Adopt a Home for Wildlife*, DPLUS155), that caters for children ages 5-11, exposing

them to our biodiversity. The Trust is developing more activities for young persons and with the creation of a nature educational trail involving youths 14+ and the launch of a bird-watchers club, this age-group can now have a place in fostering and preserving our natural heritage and biodiversity. This will also stimulate interest in careers in Science Technology, Engineering and Maths (STEM) subjects on themes including environment, agriculture, climate change and biodiversity.

This project will provide practical opportunities for young people to be involved in creation of a trail, interpretation, biological monitoring and management or a natural area, alongside the future creation of a Youth Forum (see page 4) being explored (*Toolkit* project, DPLUS192, which began in April 2023 – see pages 2-4). They will foster a connection with nature and an understanding of traditional use of land-and natural balance between nature and subsistence, and increase the awareness and knowledge of the biodiversity value of Montserrat's tropical dry forest habitat and associated biodiversity.

Above: Group photo of the visit by MNT Council, the Hon. Minister and project personnel, on the road below the lower part of the site, with the truck that UKOTCF helped MNT purchase (but UKOTCF's logo has faded more than MNT's). Photo: Ann Pienkowski

Below: Along the existing trail through the lower part of the site and climbing gently parallel to the ghaut. Photos: Dr Mike Pienkowski

This project will also create an outdoor facility for overnight camps, outdoor classroom activities for all of Montserrat children and visitors alike. MNT is developing its safeguarding policies and capacity to run these groups in line with international best practice.

The lower trail is located in globally rare, tropical dry forest. As owners, MNT will protect it forever. The lower part has never been developed on and can be used as an example of this habitat type. MNT and partners will demonstrate the importance of this habitat to biodiversity and environmental quality by comparing it with other areas on island. The project will document species found here; many are found only in the Lesser Antilles region. This will add to the knowledge-base and understanding of how tropical dry forest ecosystems work. It will also raise capacity and foster appreciation for this habitat among our youth, wider community and visitors.

Images of visit by Darwin reviewers to project

Above: Darwin reviewers, Victoria Pinion (speaking) and Rachel Beattie (far right) meet some of the students most involved at Wildlife Home 06 (Lookout Primary School) and their Acting Headteacher, with project offiicer Delmaude Ryan, and project leaders Mike Pienkowski (behind camera) and Catherine Wensink. Right: on the playing field.

Below: On Lawyer's Mountain at WH07 (left) with Adopter Cherise Aymer and Project Officer Elvis Gerald beyond the reviewers; and at WH10 (right) with Adopter Veta Nicholas, at her home at the top of the road and adjoining the protected forest.

Bottom left: reviewers discuss with MNT Conservation Officer Chris Sealy outside the nursery with plants available for Adopters or sale.

Bottom right: Reviewers join Delmaude and (out of view) Catherine and Mike on MNT's weekly programme on national radio ZJB.

All photos this page: Dr Mike Pienkowski. *See also page 22.*

Building Horticulture Capacity in Montserrat

Left: the propagation house at the end of Leigh's visit, with one bench covered and full of cuttings.
Right: a rejuvenated mist-propagation bench at MNT. All photos: Leigh Morris and MNT

During May 2023 UKOTCF Council Member and Chief Executive Officer of the Manx Wldlife Trust, Leigh Morris, volunteered to use annual leave to visit Montserrat. The purpose was to help build the horticultural skills of the Montserrat National Trust (MNT).This was specifically to help develop the nursery plant propagation at the MNT botanical garden, to increase local plant production in order to support both the Adopt a Home for Wildlife *project, managed by UKOTCF and part-funded by Darwin Plus grant 155 (pp 1-10) and the* Planning Toolkit *project (DPLUS192, see pp 11-13). In addition, he engaged more widely with the Montserrat Government Departments of Agriculture and Environment, local farmers, secondary school, and public.*

This article is a summary extracted from Leigh's report. The full report can be read at https://www.ukotcf.org.uk/montserrat_ukotcf_report_may2023/.

The plant nursery at MNT had been set up well over 20 years ago, but over the years it has become in need of maintenance and good practices needed to be reinvigorated. Working closely with the MNT team, particularly Chris Sealys and Samantha Paul, we were able to make what I believe are significant improvements to the propagation nursery facilities and techniques. The propagation benches were levelled and power-washed, mist-nozzles cleaned, electric leaf cleaned and put into use, the mist-unit controller explained to the staff, and capillary matting, polythene cover and, above all, shade-netting added to the structure. There is now a clear system for propagation-tray washing and compost-processing, and an agreed role-description drafted for the propagation staff, to ensure good hygiene levels are maintained in the propagation house daily.

I visited five diverse *Adopt a Home for Wildlife* project sites (*"Wildlife Homes"*), and the opportunity exists to hone down the range of different plant species produced by MNT for the project. This was agreed and a Production List for the nursery was formatted, and propagation recording re-instigated.

Chris Sealys had recently been appointed as the MNT Conservation Officer; he has a background in forestry, botany and horticulture in St Lucia. Chris was a great help to the capacity-building on the trip and he will help ensure that the upskilling will sustain after this visit. MNT staff member Samantha Paul showed great potential, and a new role-descriptor was drafted for her. Another staff-member, Mapi, a long-standing staff member, has good local plant knowledge and this needs to be retained.

I delivered two focused propagation workshops, which provided useful sharing of knowledge and skills development. The first, on vegetative propagation, focused on all aspects of taking cuttings, and we set up a trial of pribby cuttings *Rondeletia buxifolia*, with six different rooting media, wounding and hormones all being tested. This was the most impactful capacity-building of my trip, which I believe has left a legacy to enable MNT to produce more plants, under Chris' leadership.

The second workshop, on Grafting & Air Layering, was

Collecting cutting material from the hedge of the endemic pribby in the MNT garden, and then transporting it in sealed bags containing some sprayed water to maintain tugidity of the material, inside a cool-box.

At the propagation workshop: above left: mixing one of the rooting media mixes; above right: filling a module/cell-tray with rooting media; below left: preparation of the pribby cuttings; below right: insertion of the pribby cuttings; bottom left: most of the class who participted in the practical elements of the workshop. Bottom right: at the grafting & air-layering workshop, Hon. Crenston Buffonge, Minister of Agriculture, Housing, Lands & Environment, tries his hand at grafting. [Update from June: the Minister reported to Catherine Wensink and Mike Pienkowski that the plants he grafted were still growing well]

delivered at the Government nursery and was attended by a wide audience, including the Minister of Agrculture, Lands, Housing & Environment. I believe the greatest benefit of this second workshop for MNT is the fostering of even closer working links with the Montserrat Government staff. There is a great opportunity for this collaboration to develop further to benefit the environment.

There was wide enthusiasm and invitations to engage with me from several groups during my trip. I visited the two Government nurseries, several farms, met with the Farmers Association, had a tour of the buried city of Plymouth (the volcano and eruptions of 1995-2010 still dominate Montserrat culture), delivered an evening horticulture session for the public, met with the Student Leadership Team at the secondary school (with the aim of setting up links with an Isle of Man school), co-delivered a session for MNT's childrens' club, *Monty's Messengers*, and had four

Delivering classroom-based interactive session to MNT and Ministry staff in MNT meeting room

appearances on local radio talking about my trip.

In wider conservation, I attended a talk on turtle conservation, and joined two boat trips to survey seabirds with Dr Tom Hart, Oxford Brookes University and MALHE (Ministry) staff, and carried out scuba dives to participate in coral reef conservation projects run by Scuba Montserrat.

In addition to nursery and plant production, I made additional recommendations for MNT to:

- Work more closely with MALHE on the *Adopt a Home for Wildlife* project.
- Aim to bring agriculture and environment closer together to benefit food and the environment.
- Develop the MNT agriculture plot as a model farm, potentially with intercropping on show.
- Join Botanic Gardens Conservation International (BGCI).

Overall, as well as building horticultural capacity, and facilitating more joint working and collaboration across the island, I personally had a wonderful time, and gained a broad understanding of Montserrat's conservation issues, which I believe will enhance my usefulness on the UKOTCF Council [*which Leigh recently joined - Editor*].

Reflections

The main aim of my trip was to build horticulture capacity in the MNT, ultimately to increase the production of native plants in the MNT nursery, to plant in *Adopt a Home for Wildlife* project sites. This was carried out in two ways, firstly working with the MNT team to make improvements to the nursery propagation house, and secondly by staff training, both informally to the MNT staff and as part of the two workshops I delivered on vegetative propagation and grafting & air-layering.

A Production List for the nursery is formatted, propagation recording is now a key task for all, and the area for composting and the making of growing media for potting up plants has been tidied and reorganised.

The two workshops I delivered provided useful sharing of knowledge and skills development. The one delivered at MNT focusing on cuttings propagation was the most impactful, as I believe all MNT staff who attended gained a better understanding of the principles of successful propagation, and crucially knowing that small differences at all stages of the propagation process can make a large difference to the success: notably, the importance of bags/water/cool box for cuttings collection, good hygiene at all stages, the need for oxygen in the rooting

I engaged with the Montserrat Farmers Association on a few occasions, including meeting a group of farmers on 23rd May.


Above left: Montserrat farmer harvesting white potatoes, with Project Officer/Dept of Agriculture Advisor Elvis Gerald and MNT Conservation Officer Chris Sealys; above right: upland banana crop, also acting as a shelter-belt for the field vegetables; below left: a home-made pheromone trap for trapping adult weevils in the sweet potato crop; below right: Elvis in one of his farm-plots, with intercropping, mulching and drip irrigation systems.


environment, and the need for good/clean tools.

The grafting workshop was more of a 'look see' and there wasn't such a strong output or legacy for MNT, although the knowledge level has raised, and new techniques were learnt. Grafting is a skill that is better taught to groups of a similar skill/knowledge. So, ideally, I'd have delivered an advanced session for the government staff who already do grafting, alongside an introductory session for others. I believe the greatest benefit of the second workshop for MNT is likely the fostering of even closer working links with the Montserrat Government staff and I see great opportunity in this collaboration developing further. I believe that the MALHE staff enjoyed the two workshops, and their participation was excellent and added much to both sessions.

The lack of appropriate tools and resources hindered both workshops, particularly the grafting workshop as trying to graft without a specialist knife makes an already highly skilled and dexterous task even more challenging. I was delighted that the DoE nursery supervisor Kitty was impressed with my specialist budding knife and UKOTCF is arranging to supply her one of her own. Meanwhile the month after my trip, Catherine Wensink took a left-handed grafting knife to Montserrat for one of Kitty's team. A good relationship builder, and I am certain the knives will be well used.

It was excellent and synchronous that Chris Sealys had commenced his role as Conservation Officer at MNT two weeks before my visit. I immediately got on well with Chris, and he has an excellent plant/botany/horticulture knowledge. We worked well together; he understands plants and people and, through him, I believe that the changes we made to the MNT systems will sustain. Samantha is another great member of the MNT staff, and I believe she has the potential to oversee successfully all the nursery propagation and production. Mapi is close to retirement, but he has a huge amount of local plant knowledge that would be difficult to replace. Perhaps there is a way that his knowledge can be retained, but Samantha is positioned to take day-to-day oversight of the nursery working under Chris. I believe this would work well, especially if another person could work with Samantha.

I was delighted at the overall sense of appreciation I received from several of the people I worked with and trained. The best example being one morning towards the end of my trip when I arrived at MNT. Johnson is one of the two Haitians working in the garden (typically carrying out leaf sweeping and other manual tasks) and he had attended three of my sessions. As I did every morning I arrived and said good morning to the two Haitians sat under a tree in the shade. Johnson gave me the now standard response of 'good morning sir', then as I was walking down the steps he called after me. I turned and he beckoned me to him. He then said in broken English 'the training sessions have been very good, and I want to thank you for your teaching of us. I hope you will come back'. This is without doubt the best praise I could have received from anybody. I was also delighted at the updates I've been receiving since my visit from Chris and Samantha.

In terms of my wider engagement during my trip. Overall, I believe that my schedule was too ambitious, and perhaps I should have simply spent more days working with the MNT

team carrying out propagation and other nursery work. I understand, however, that many people wanted to engage with me and I believe everything I did was to some degree useful to MNT. I found the meetings with farmers very informative, and I was delighted at how some of them positively engaged with me and that they are keen to further develop their skills. I see opportunities for Montserrat food production to increase and further upskilling would certainly assist with that.

The meetings with the Student Leadership Team at Montserrat Secondary School were inspiring and I will certainly aim to foster links for them with schools in the Isle of Man. There is a great opportunity to link young people across other UKOTs and Crown Dependencies and connecting to the Isle of Man will be a good place to start. The public session was a good showcase for MNT, as were the appearances I made on local radio.

I had hoped to see wider conservation (including marine) and the time I spent with Scuba Montserrat on weekends and the two seabird surveys I participated in, were both tremendously interesting and enjoyable. Overall, I believe that in the time I was in Montserrat I gained a broad understanding of the island's conservation issues, which I am confident will enhance my usefulness on the UKOTCF Council.

On the final working day of my trip a de-brief meeting took place at MNT, chaired by Director Sarita Francis, with Delmaude Ryan, Chris and four from MALHE (Stephon, Barry, Ajhermae and Elvis, the last two also being Project Officers in *Adopt a Home for Wildlife*). There was much positivity about my visit from Sarita and others, and Sarita was keen that MNT might twin with Manx Wildlife Trust, which I will suggest to my Board. Chris said he was pleased that the two of us are on the same page, but there is now a need for MNT to avoid complacency and the risk of regressing from progress made. Chris is keen that the two of us continue to work together and I encouraged MNT to loop me in as/when it could be useful, *e.g.* I'd be keen to join on-line meetings with MNT if/when I can.

There was enthusiasm about the interactions between the ministry (MALHE) and MNT during my visit, with one of the MALHE team stating this week was the best example of collaboration he'd seen to date and was keen to see more. MALHE identified the need for more upskilling, both for their staff and farmers. Pesticide use was one area they felt would be useful and I would agree. I have experience of delivering pesticide training and I see benefits to Montserrat both in terms of efficacy of use and health and safety of the operators. Another indicated the desire for more training resources, booklets, etc. and there was a suggestion that the annual MNT flower show could be linked to Garden Tours of the island.

SOS Nature of Montserrat team

In previous *Newsletters*, we introduced many of the local and visiting members of the projects. Here we give brief profiles of some of the new, mainly local, personnel contributing to the work.

Kadine Cabey

Kadine Cabey has a Master's degree in Integrative Medicine Research. She was a research assistant at the NIH-funded Botanical Dietary Supplements Research Center at Oregon Health and Science University, studying Botanicals Enhancing Neurological and Functional Resilience in Aging (BENFRA). While at BENFRA, she served as a research assistant working on research investigating the use of the herbs *Withania somnifera* (ashwagandha) and *Centella asiatica* (gotu kola) to treat age-associated changes in cognition and sleep.

She is currently serving as Junior Conservation Officer at the Montserrat National Trust. She has particular interest in the *Hidden Histories* project.

Chris Sealys

Virginie Chris Sealys is currently employed as the Conservation Officer at the Montserrat National Trust. The principal duties of this post are: to assist the Trust in the implementation of its 2021-2026 Strategic Plan and specifically its Strategic Objectives on conserving the flora and fauna of Montserrat; help develop the management plans for the key Protected Areas owned by the Trust and utilize the template for future projects. Moreover, to assist in the development of a management plan for the Botanic Garden; enhance the Botanic Gardens site for community engagement on Montserrat's flora and ecosystems and liaise with the Ministry of Agriculture, Lands, Housing, and the Environment (MAHLE) and Department of Environment (DoE) to advise on environmental or agricultural policy, surrounding acquisition of land for protection of key habitats such as wetlands and dry forest areas are some of the pivotal areas of responsibility.

My responsibilities extend to assist in the training of two interns or school-leavers per year in biodiversity conservation skills required for effective management and protection of species and environmental sites on the island. Likewise, to support MNT's organization and administration in the areas of project development and management; identify new suitable funding sources for MNT's programme and projects; support MNT's

community engagement through public awareness and outreach activities with the public through a variety of activities including workshops, press releases, social media interactions and radio interviews meetings, and other media activities.

I was previously employed as a Forestry Officer in charge of the Forestry Nursery, National Herbarium, Flora invasive species management within the Forest and Lands Resources Division. Ministry of Agriculture Fisheries, Food Security and Rural Development of St Lucia. It was a privilege to oversee such an activity as this is the only Herbarium on the island. I have also worked on the Assessment of Biological Diversity Capital Project (2004-2005) as well as the Forest Demarcation and Biophysical Resource Inventory Project conducted by the Forestry Department of St. Lucia. I am also trained in the collection, pressing, mounting and labeling of plant specimens. This increased my passion for nature conservation, especially that of flora and fauna.

Core Skills include: environment management; botany (herbarium management); plant nursery specialist; use of participatory techniques; mentor training and facilitation; invasives species management (flora); forest trail establishment; mangroves management; youth activist; languages: (English, French Creole); international coastal clean-up coordinator. I participated in 6 months training at EarthCorps on Environmental Restoration, Community Building and Leadership in Seattle, Washington, USA.

Some of my achievements are:

- Plant inventories: 750 specimens were collected, of which 250 were first listings for St Lucia.
- Establishment of a GIS and database of rare and unlisted plant species.
- Part of a team collecting plants in the field and processing plants in the herbarium that resulted in the production of St Lucia's current plant list. This information was compiled into an online database at: www.saintlucianplants.com.
- Involved in the floral assessment which also focused on the Piton Management Area of three endemic plants species 2006: used the framework of the indicators and targets of the Global Strategy on Plant Conservation (GSPC) to facilitate the programme of work of the Global Plant Taxonomy Initiative. The propagation and *ex situ* conservation of these three species in a nursery, the implementation of a monitoring program for the *ex situ* plants
- Part of the team doing the assessments for the national inventory of timber and biodiversity: National Forest Demarcation and Biophysical Resource Inventory Project Caribbean: St. Lucia Special Framework of Assistance (SFA) 2003/SLU/) in 2009.
- Planned and coordinated activities to eradicate and increase the awareness of one invasive species: *Coccinea grandis* in St. Lucia, which also included conducting public surveys, data entry, training in plant identification to survey team etc. Website to this publication: http://www.malff.com/images/stories/forestry/Coccinia_grandis%5B1%5D.pdf.
- Facilitated research on sustainable production on Non-timber Forest Products: Lansan *Protium attentuatum* and Latanye *Coccothrinax barbadensis*.

Education and Training:

- Introductory Course on Protection and Conservation of Cultural Heritage (present)
- Undergraduate of Environmental Studies from Saint Mary's University, Nova Scotia, Canada (2020)
- Graduate Certificate: Durrell Endangered Species Management from the University of Kent, United Kingdom, 2020.
- Urban Environmental Management Course – Japan 2018 Knowledge Co-Creation Program (KCCP) (Young Leaders)
- Certificate of completion – Royal Botanical Garden, Kew, London 2014: Applied Taxonomy Course
- Diploma in Conservation from Ashworth College, United States of American 2011-2013
- Certificate Of Completion: Environmental Restoration, Community Building and Leadership form Earth Corps, United States of America 2012
- Urban Environmental Management Course for Young Leaders, Japan 2018
- Counter Wildlife Crime Course 2019
- Building Capacity for the Rapid Response and Long-Term Management of Citrus Greening Disease (Huanglongbing) in Saint Lucia, 2019
- Facilitation and communication skills for conservation, 2020
- Effective Conservation Project Planning and Management, 2020
- Graduate Certificate in Endangered Species Management, 2020
- Basic Training in Forest Management, 2020.

I enjoy meeting people, hiking, nature, listening to music, as well as reading, which helps me relax and improve my communication skills. With the skills that I have acquired over the years, I have found deep interest and passion in floral research.

Fay Needham

I was born in Durban, South Africa and spent my schooling years in Johannesburg. I graduated from the University of the Witwatersrand with a Bachelors degree in Accounting, BCom, (Acc). I have over 24 years experience working as a Business Analyst implementing finance and ERP Software, mainly in the UK, but also Europe, Middle East and South Africa.

I moved to Montserrat in 2019 with the intention of being semi-retired and quickly joined various community activities and volunteering for 2 NGO organisations, Montserrat National Trust and Montserrat Children's Society. I have held the position of Treasurer for the Montserrat Children's Society for 3 years. I started volunteering at the Montserrat National Trust in 2019 in the Archive department cataloguing their extensive collection of historic documents. In 2023 I began working for the Trust implementing a new accounting system and later joining the team as Head of Finance.

My husband and I enjoy living in our island home, in a community that has welcomed us with open arms and contributing as much as we can to Montserrat. Our favourite activity is enjoying the view with a sunset cocktail.

Samantha Paul

Samantha Paul works in the Propagation Unit of the Montserrat National Trust. She has had an interest in plants since childhood and has worked professionally with plants for over 10 years. Samantha has a great appreciation for her position at the Montserrat National Trust which has provided her with the opportunity to improve her knowledge of and skills working with plants.

The team on the trail below the Heliconia stems, leaves and flowers, with (below) both colours of Heliconia *flowers.*

A walk along the Dry Waterfall Trail

To help our Darwin review team (see page 15) get a feel for Montserrat's glorious natural forests during their June visit, Delmaude Ryan led a walk along the Dry Waterfall Trail early on the Sunday morning, together with other *Adopt a Home for Wildlife* team members. It was an excellent date for appearances of the national *Heliconia* flowers, in both their red and yellow forms. We also had good views of the national bird, Montserrat's unique oriole, as well as other animals, a couple of which are pictured here.

Huge snail beside the track. All photos: Dr Mike Pienkowski

A newly fledged forest thrush stands beside the trail. As we waited, it flew safely up to a nearby tree.

The current phase of *Adopt a Home for Wildlife* project (DPLUS155 *Securing Montserrat's threatened endemic species and natural capital through community-action*) and the project *Delivering biodiversity and human well-being gains for Montserrat's sustainable development* (DPLUS192) is currently resourced by the following organisations:

Partners in earlier phases of the Saving Our Special Nature of Montserrat programme included some of those at the top of page 1, plus: