



**St Helena  
Government**

**Landscape & Ecological Mitigation Programme (LEMP)**

**Annual Report**

**April 2015 – March 2016**

## 1. Executive Summary

- 1.1. The second year of the LEMP focussed on renegotiation of LEMP responsibilities, budget and timeline with stakeholders, and managing the consequent increase in resources and staff capacity required by SHG to deliver these responsibilities.
- 1.2. Development of the final Landscape Detailed Designs for the LEMP programme gave greater clarity and detail of the works to be completed throughout the lifetime of the LEMP project.
- 1.3. Significant momentum was gained towards practical reinstatement works as airport construction activities began to conclude and disturbed areas became available for restoration. Other mitigation works continued, in addition to the development of long-term plans to support delivery of LEMP goals (see Appendix 1 for key achievements).

## 2. Partnerships

### 2.1. Environmental Management Division (EMD)

To support EMD in implementing agreed deliverables, LEMP continued to fund two full time members of staff to work on LEMP related activities such as seed collection, sorting and storage, plant propagation and nursery maintenance. A seed aspirator was also funded to facilitate a quicker and more efficient seed sorting process.

LEMP funded supplementary planting of EMD's living gene banks, both to provide a legacy to secure their sustainable future, and to bolster and ensure sufficient sources of seed for LEMP requirements.

A 30% contribution was also made toward a new shade-house, increasing the capacity at the EMD endemic nursery. Approximately 50% of this new space will be utilised for future LEMP propagation requirements.

### 2.2. St Helena National Trust (SHNT)

A contract to propagate and supply 5000 endemic gumwoods (*Commidendrum robustum*) for LEMP restoration works was fulfilled by the end of the financial year. Due to delays in the availability of required planting zones and a severe backlog of plants within the LEMP nurseries LEMP was unable to take possession of the majority of these. SHNT agreed to hold the remainder of these plants in their nursery until they could be planted out by LEMP.

Following a trial production of woodchip mulch material for habitat restoration purposes, a contract was entered into for SHNT to continue with this provision. This material is crucial in water retention and weed suppression within the restoration sites.

A project was agreed and commenced to restore a section of the historic Great Wood Wall, which once attempted to protect the remnant endemic vegetation surviving in Longwood. The wall will be 10m in length, built from local stone and will be positioned along the Weather Station junction on the edge of the Millennium Forest. This project will enhance the identity of site and provide heritage education opportunities.

Discussions are also ongoing to support SHNT in facilitating NVQ Level 2 environmental conservation qualifications for LEMP staff.

### 2.3. AECOM

AECOM issued baseline Landscape Detailed Designs (LDDs) and supporting documentation in May 2015. It was agreed that amendments provided by LEMP throughout the year would be collated by AECOM with an annual LDDs update provided in the first few calendar months of subsequent years. The second update was thus issued in February 2016.

In addition AECOM also contributed support in the delivery of LEMP Specifications to Basil Read, and prepared the first draft of the long-term LEMP management plan, as well as technical support upon request.

### 2.4. Basil Read

A significant milestone was achieved with the first substantial reinstatement planting of samphire (*Suaeda fruticosa*) at the site of the infilled reservoirs at Dry Gut (see Appendix 2, photo 2.1). Unfortunately, major losses were incurred through rabbit grazing; this reinforced the requirement for rabbit exclusion methods to be utilised in order to achieve successful LEMP plantings.

Delays were experienced in the delivery of early LEMP mitigation works for various reasons and this led to a review of how the project should be delivered. SHG, Basil Read, the PMU and DfID agreed a redistribution of the LEMP responsibilities between the Airport Contractor and SHG. A variation order (VO37) to the airport contract was signed on 29 September 2015. This split of responsibilities enabled progress in the successful delivery of LEMP goals and reduced the backlog of plants in LEMP nurseries and subsequent risks of substantial plant losses.

VO37 transferred the responsibility of reinstatement planting and ongoing maintenance of the planted sites (excluding the airport precinct plantings) from Basil Read to SHG, with Basil Read providing in-kind materials and resources in addition to completing ground preparation works of sites before reinstatement works could begin. Through VO37 Basil Read were able to provide LEMP with three vehicles, including a water bowser (see Appendix 2, photo 2.10), fencing and irrigation materials as well as nursery and vegetation management tools.

### 2.5. DfID

DfID were involved in negotiating the redistribution of LEMP responsibilities. Following this, a revised budget and timeline were agreed with DfID in November 2015.

During the year the DFID Project Manager for St Helena Airport, the Environmental Adviser, and the Deputy Programme Manager, made separate visits to the island. Familiarisation visits were made to LEMP sites and island nurseries, in addition to meetings with project stakeholders.

Work also began on developing and drafting a Logical Framework as a project management tool, and an overarching Project Document for the LEMP. These present the outcome and outputs of the project alongside annual milestones which it will be assessed against, and set out the history, initial challenges faced, and future aspirations of the LEMP.

### 2.6. Other

Two contracts were entered into with private sector individuals to produce plants on behalf of LEMP. One was to produce just over 1600 ornamental plants for use in LEMP reinstatement works adjacent to residential areas, and was successfully completed by the end of the year.

The other contract was to produce 3000 endemic ebonies for use in LEMP plantings, but unfortunately this contract was not delivered due to issues with pests.

The community compost scheme received lower returns than forecast due to issues with overseeing the scheme as a result of staff shortages, and also a lack of uptake by the local community. Work continues to drive this project forwards.

### **3. Delivery**

#### **3.1. Staff**

With LEMP's increased remit and responsibilities following VO37, a significant increase in capacity was required in order to meet project deliverables. As a result there was considerable recruitment throughout the year to increase staff capacity and skill base. Various training courses were provided through local and international facilitators to upskill existing staff members. Ongoing issues with staff recruitment and retention meant that LEMP was not at full staff capacity by the end of the year, however, it was expected that this would be resolved early in the following financial year with the employment of new staff and return of staff from overseas, leading to a stable and cohesive team. See Appendix 3 for the staff organogram.

#### **3.2. Infrastructure & Facilities**

Upscaling works within the shade-house and on a new standing out area (see Appendix 2, photo 2.5) were completed at the HTH nursery site; resulting in an increased propagation capacity of 50%.

The Piccolo nursery was fenced and gated to provide rabbit protection for plants in the final stages of hardening off before being planted in LEMP restoration sites. The lease for this site was also extended for two years.

A propagation tracking database was designed which holds detailed current information on the stage and status of all plant batches within the LEMP nurseries. The database eliminated the need for labour and time intensive manual monthly plant counts.

Due to the increased staff capacity and lack of sufficient space and welfare facilities at the HTH nursery site, LEMP investigated the possibility of establishing a second field base on the eastern side of the island, nearer to the restoration zones.

#### **3.3. Designs & Specifications**

Baseline LDDs were produced in May 2015 and subjected to in-house review and development. Feedback was also sought from LEMP conservation partners. LDDs were updated in February 2016 to include completed works and progress by LEMP to date, in addition to anticipated works over the coming year.

LEMP issued specifications to Basil Read which focussed on ground preparation and rehabilitation of reinstatement sites. Collaborative site visits were ongoing to evaluate successes, issues and amendments prior to sign off.

#### **3.4. Surveys**

Work focused on the development of formal vegetation surveys to monitor the success of LEMP plantings, which is one of the project's key indicators. No formal surveys were carried

out in this year, however several site visits were made to discuss proposed compensatory works in potential relevant areas.

### 3.5. Practical Works

The Half Tree Hollow nursery successfully produced over 45,000 plants throughout 2015-16 which represents a huge success in light of issues with overcrowding (see Appendix 2, photo 2.6) and resulting losses from pests and diseases.

Over 23 million seeds covering 17 species remain in storage by EMD for LEMP purposes with seed collection an ongoing activity through the life of the project. Just under 2,500 plants have been planted out by EMD into permanent seed orchards, safeguarding endemic species for the future.

Reinstatement works began in earnest along the Access Road from the junction near Reggie's Takeaway toward the Millennium Forest. Within the first sites being reinstated (see Appendix 2, photos 2.3 and 2.4), over 700m of rabbit-proof fencing was constructed with an area in excess of 4,000m<sup>2</sup> being irrigated and just over 7,300 plants planted before the end of the financial year.

Landscaping works began at the Terminal Precinct beds (see Appendix 2, photo 2.9), with temporary rabbit-proof fencing installed and over 1,100 plants planted there before the end of March 2016. Also placed within the beds were several large boulders and a large ship's anchor (on long-term loan from the St Helena Heritage Society) as landscape features. Basil Read will take over the maintenance of these beds once initial plantings are completed and LEMP will provide replacement plants as required. Lichen relocation and seeding of endemic flora (see Appendix 2, photos 2.7 and 2.8) also took place on parts of the airfield to promote colonisation on these disturbed areas.

Over 1,000 plants were added to the reinstatement areas at Dry Gut reservoir site by LEMP, as replacements, or in addition to those previously planted by Basil Read.

The LEMP trialled new methods of erosion control (see Appendix 2, photo 2.2) in areas with high velocity water runoff, as well as trialling a sample soil enhancer (<http://www.terracottem.com/>) which combines water retention properties with slow release fertilisers to promote plant establishment and growth. These trials will be monitored over the following months and, if successful, data and information will be shared with partners to enhance existing habitat restoration toolkits on island.

### 3.6. Challenges

#### *Plant losses*

Misalignment between when site preparations were completed and sites handed over, and when LEMP anticipated they would be ready, has led to the loss of plants and delays in the project. Limited space within the LEMP nurseries, exacerbated by the lack of plant movements into the field, led to severe overcrowding; the result was significant plant losses due to die back and pest infestations.

#### *Rabbits*

There were substantial losses from initial plantings due to rabbit grazing (see section 2.4), highlighting the necessity of rabbit exclusion in establishing successful restoration plantings. The LEMP consequently applied for and received planning permission to install rabbit-proof fencing around all reinstatement areas to protect native plantings. While this was essential in establishing successful native plantings, it also represented a high cost in additional labour, time and materials for the LEMP.

*Top soil*

Particular issues that delayed works were a lack of topsoil and/or topsoil of a suitable quality, exacerbated by a lack of appropriate soil testing and storage, and/or inappropriate use of scarce reserves.

### 3.7. Public Relations/Communications

Monthly highlight and progress reports were produced for partner stakeholders.

The wider Airport Project held quarterly Stakeholder Engagement Forums throughout the year; LEMP representatives were present to provide updates on progress and obtain feedback on future restoration plans.

Presentations and site visits were provided to various stakeholders throughout the year, including SHG Elected Members and senior management, promoting LEMP progress and forward plans.

Updates on LEMP progress were also provided through local media, via newspaper articles or features in the AAO Airport Update Newsletter. The LEMP also featured on St Helena's first local TV broadcast for South Atlantic Media Services. Further information can be found through the following links:

- SHG website – St Helena Airport Publications  
<http://www.sainthelena.gov.sh/airport-publications/>
- Saint Helena Independent newspaper  
<http://www.saint.fm/the-independent/>
- Saint Helena Sentinel newspaper  
<http://sams.sh/archives.html>

## 4. Future Works

- 4.1. Priority will remain on reinstatement, maintenance and monitoring of high-profile areas along the Access Road as these sites are handed over from the airport contractor post-construction works. It is anticipated that works will also begin on the LEMP's first major compensatory activities.
- 4.2. Significant work will be completed on forward planning for the project, to include drafting and development of long-term propagation, work and management plans.

## 5. Conclusion

- 5.1. 2015/16 saw considerable changes to the responsibilities and capacity of the LEMP, which responded and developed accordingly. Encouraging progress was made in delivering practical reinstatement works with over 45,000 plants produced of which 10,000 were planted out.
- 5.2. This momentum will be carried into successive years to achieve substantial progress towards LEMP deliverables, which will see more than 300,000 plants grown and planted into rehabilitation sites and approximately 150 hectares of compensatory habitat supported by 2021.
- 5.3. Increasing staffing capacity within the LEMP project provided an opportunity to employ and upskill a number of local people, building capacity within the conservation sector on St Helena.

**Acronyms**

AAO	Air Access Office (SHG)
AECOM	UK based environmental consultants (contracted LEMP project partner)
BR	Basil Read (Airport Project DBO contractor)
DBO	Design Build Operate (Contract)
DfID	Department for International Development (UK) (project funder)
EMD	Environmental Management Division (SHG)
ENRD	Environmental & Natural Resources Directorate (SHG)
HTH	Half Tree Hollow (Island District)
LEMP	Landscape & Ecology Mitigation Programme
LDDs	Landscape Detailed Designs
NGO	Non-Governmental Organisation
PMU	Project Management Unit
SHG	St Helena Government
SHNT	St Helena National Trust (Island NGO)

**Appendix 1 – Key LEMP achievements: Apr 2015 - Mar 2016**

<b>Achievement</b>	<b>Details</b>	<b>Date</b>	<b>Delivered by</b>
Plants grown and seed collected	45,000 plants were grown at Half Tree Hollow nursery 2,500 plants were grown for LEMP at the EMD nursery at Scotland and planted into seed orchards 23 million seeds from 17 species held for LEMP at the EMD nursery at Scotland	April 2015 to March 2016	EMD / LEMP
Site preparations	Pre-construction and ground preparation works were completed and signed off for eight LEMP specifications, including works on the runway (line of sight batter), the runway terraces, the localiser site and the open channel area	April 2015 to January 2016	Basil Read
Site revegetation	The first major planting activity took place with 4,250 plants added to the dry gut reservoir site	April 2015	Basil Read
Piccolo Nursery	The Piccolo site was developed as a standing out area for hardening off plants. Clearance works were carried out and an untreated water supply installed. Existing crumbling concrete bays were repaired and rabbit fencing installed.	July 2015	LEMP
Half Tree Hollow Nursery	A second phase of development works at the HTH nursery increased the capacity of the facility by 50% to meet the scale of production required in the LDDs	September 2015	LEMP
LEMP rehabilitation plots	LEMP rehabilitation works were completed in seven subplots across four zones (see table below)	April 2015 to March 2016	LEMP

<b>Zone</b>	<b>Subplot</b>	<b>Name of area</b>	<b>Works</b>	<b>Fence length (m)</b>	<b>Area (m<sup>2</sup>)</b>	<b>Irrigated area (m<sup>3</sup>)</b>	<b>No. plants</b>	<b>No. of seeds</b>
9	9.1A, 9.1B, 9.1A/B gully	Bottom woods	Fenced, irrigated and planted	765	4,195	4,195	7,565 from 9 species	NA
11	11.6	Cook's Bridge	Fenced and planted	129	551	NA	100 from 1 species	NA
14	14	Airfield	Trial plots sown with endemic species and monitored	NA	600	NA	NA	180,086 from 9 species
17	17.1, 17.2, 17.3, 17.4	Dry Gut	Fenced, irrigated and planted (supplementary planting only, initial planting done by Basil Read)	602	10,987	10,987	1,864 from 8 species	NA
<b>Total</b>				<b>1,496</b>	<b>16,333</b>	<b>15,182</b>	<b>9,529</b>	<b>180,086</b>



## Appendix 2 – Photographic Review: April 2015 - March 2016



2.1 Dry Gut reinstatement works commence, Apr 15



2.2 Brush barriers erosion control trial, Aug 15



2.3 LEMP Zone 9.1 along access road below Bottom Woods towards Millennium Forest, Sept 15



2.4 Zone 9.1 planting, Jan 16



2.5 HTH Nursery extension works, Oct 15



2.6 Overflow in HTH nursery, Jan 16



2.7 Relocated lichen on 1:7 batter, Jan 16



2.8 Direct sowing on 1:7 batter, Jan 16



2.9 Airport Precinct, roundabout planted bed, Mar 16



2.10 Transferred water bowser, Mar 16



**Appendix 3 – LEMP Organogram: March 2016 (in-house)**

