



**St Helena
Government**

Landscape & Ecological Mitigation Programme (LEMP)

Annual Report

April 2014 – March 2015

1. Executive Summary

- 1.1. The first full year of the LEMP has been challenged by the need to catch up lost ground on the progression of the construction of the Airport Project, whilst developing an in-house SHG delivery structure. The resulting mechanism for the delivery of the majority of SHG's LEMP responsibilities within the Environmental Statement (ES) has necessitated the formation and recruitment of a staff structure and facilities able to deliver this, including working to make a new tree nursery operational.
- 1.2. The majority of practical works over the year have revolved around project partner responsibilities, such as Basil Read's implementation of specifications, EMD's collection and propagation of seeds and plants, and the development of nursery infrastructure such as the tree nursery at Half Tree Hollow (HTH), see Appendix 1 for key achievements.
- 1.3. The first flora relocation and establishment works have successfully taken place, multiple biological surveys have been completed, and a population of endemic tea plant visited and surveyed.
- 1.4. Detailed plans are now in place, although this is the first step in a larger process, and partnerships have been formed across the private sector and civil society to increase delivery mechanisms.

2. Partnerships

2.1. Environmental Management Division (EMD)

The SLA agreement, signed in January 2014, funded the recruitment of two full time dedicated staff from the 1 April 2014 and the procurement of specialist seed processing and storage equipment, such as a microscope and cold storage refrigeration, from overseas.

Detailed and accurate data is being developed to understand significant pieces of information, such as quantity of seed per gram per species, which will benefit the Island's conservation efforts for years to come.

EMD have provided professional input into the development of the Landscape Detailed Designs (LLD) through workshops (Nov 2014, Feb 2015) and document reviews (see section 2.3 below). Due to contract negotiations with third parties, delays in the development of the designs have been experienced, impacting on partners' ability to fully plan and implement their deliverables.

2.2. St Helena National Trust (SHNT)

In-depth discussions over the practical delivery of plant propagation and rehabilitation activities took place through the first half of the year. Ultimately it was concluded that opportunities would be better explored at a later date. SHNT continues to be engaged in the project providing professional input through regular meetings and a workshop (Nov 2014) on the Landscape Detailed Designs (LDDs).

A flora and invertebrate survey was completed under contract on an area of the North Runway (see section 3.4 Surveys below) prior to the land being permanently lost to construction. The resulting report is publicly available on the SHG website – St Helena Airport Publications: <http://www.sainthelena.gov.sh/airport-publications/>

2.3. AECOM

The UK's Department for International Development (DFID) entered into a three year contract with UK-based consultants AECOM in mid-July 2014 to provide specialist support to the project. AECOM quickly delivered Landscape Outline Designs in conjunction with Air Access Office consultations. These designs were developed through workshops with LEMP stakeholders and an on-island visit by AECOM in November 2014 (see Appendix 2, photograph 2.9) before developing preliminary Landscape Detailed Designs (LDDs) in February 2015.

In addition to the LDDs AECOM also contributed to LEMP specifications to Basil Read, planting plans, initial illustrative drawings for residential areas and the airport terminal forecourt, and technical support.

2.4. Basil Read

The Airport Contractor has worked in partnership with the Air Access Office to provide design drawings, technical data, updates to the Contractor's Construction Programme and general construction information needed to develop the LDDs and plan the works of the LEMP.

Basil Read was then responsible for implementing works as required.

2.5. Community Compost Scheme

A community compost scheme was developed with the arrival of ten JK400 Jora Composters in April 2014 (see Appendix 2, photograph 2.3). The units are specifically designed to take all kitchen waste including cooked foods and raw meat. They are fully sealed and therefore do not attract rats and with the correct management produce usable mature compost within 6-8 weeks. The units were distributed across the Island with local community representatives managing each unit. As with all community based schemes there are challenges with correct use of the units, however the scheme is successfully producing relatively small amounts of mature compost on a regular basis which contributes to the growing medium for plant propagation for the LEMP, and reduces green waste going to the Island's landfill.

3. Delivery

3.1. Staff

After consideration of options an in-house approach was agreed to deliver SHG's varied LEMP responsibilities, through the creation of an organisational structure within the Air Access Office (AAO). A team was established including a specialist Ecologist, two Field Supervisors and four Conservation Workers supported by a part-time horticultural adviser, headed up by the Project Manager (PM). Towards the end of the year it was identified that a Team Leader was needed to manage the Field Teams to enable the LEMP PM to focus on strategic delivery and contract management. Project Support has been provided through the existing AAO staff. See Appendix 3 for the staff organogram.

3.2. Infrastructure & Facilities

Office space has been provided by the AAO in Jamestown as a central base for the LEMP. Two derelict tree nursery facilities, one below Piccolo in Longwood and the other in Half Tree Hollow (HTH) have been secured through leases with SHG's

Agriculture and Natural Resources Division (ANRD) and Buildings Division respectively.

The Piccolo site has been earmarked as a standing out area for hardening off plants and as such has had minimal clearance works carried out on it and an untreated water supply installed. Moving forward the existing crumbling concrete bays will need repairing and rabbit fencing installed.

The HTH site has been developed as the main facility for the propagation of plants for the LEMP and has undergone phase one upscaling works to enable it to be fit for purpose, including upgrading the existing derelict shade house, replacement of roofing of the main building, and the reconnection of utilities and telecommunications to establish an office (see Appendix 2, photographs 2.7 & 2.8). A second phase of works is planned to increase the capacity of the facility by 50% to meet the scale of production required in the LDDs.

3.3. Designs & Specifications

As landscape designs were developed construction activities progressed, resulting in the requirement for LEMP specifications to be issued to the Contractor under three headings: Pre-Construction; Ground Preparation; and Site Rehabilitation. These specifications have covered works such as surface material stripping and stockpiling, relocation of endemic species from the construction footprint, and planting plans.

The preliminary Landscape Detailed Designs (LDDs) more clearly defines the vision of the LEMP and sets out a challenging requirement of approximately 400,000 plants, 8.5 million seeds, and 16km of rabbit proof fencing, across more than 150 hectares. Work is ongoing to ensure these plans can be delivered and are feasible in conjunction with Island resources and capacity.

In addition to planting designs, a location along the new access road has been proposed at Deadwood Plain, for a picnic/interpretation area. Representatives from SHG departments including AAO, ANRD, EMD, Tourism, Roads, Planning, and Elected Members, along with the PMU have agreed the site. Plans will progress to establish a small layby, picnic area, interpretation, and endemic planting as a LEMP legacy site. The location offers 360 degree panoramic vistas of the eastern side of the Island, facilitates access to three Post Box Walks (amenity walking routes), offers links to the Boer War Prisoner of War Camp, and wirebird watching activities.

3.4. Surveys

Three formal surveys have been completed over the year. The first contracted to SHNT, delivered the North Runway Flora & Invertebrate Survey, prior to the loss of the area through construction activities. The remaining two were delivered by the LEMP Ecologist, the first on the VHF Infrastructure Upgrade at the Depot, and the second on the Flora of Fisher's Valley. All three are publicly available on the SHG website – St Helena Airport Publications (<http://www.sainthelena.gov.sh/airport-publications/>). Recommendations covering lichen, flora and invertebrate translocations, invasive species control, and construction activity restrictions, from all three have been carried out, or are scheduled for the year ahead.

Of particular interest, the LEMP Ecologist surveyed and visited a large population of endemic tea plant (*Frankenia portulacifolia*) within Fisher's Valley (see Appendix 2, photograph 2.12). These plants have been GPS recorded, photographed, and seeds collected for propagation purposes. Classified as critically endangered under the IUCN Red List of threatened species, this population will assist in the ongoing Island efforts to safeguard its future survival.

A fourth survey on the Invertebrates of Fisher's Valley, to complement the flora survey, was commissioned and commenced facilitated through SHNT, however formal results have not yet been finalised (See Appendix 2, photograph 2.11).

Several small walkover surveys, organised by Basil Read, have been carried out such as the remote obstacle light (ROL) locations including The Barn (see Appendix 2, photograph 2.10), navigational aids (NavAids), and the permanent electricity supply route.

3.5. Practical Works

The Half Tree Hollow (HTH) Nursery successfully produced in excess of 12,000 plants in its first six months of production, overcoming initial pest challenges and teething problems.

As of the end of the reporting year over 23 million seeds covering 12 species had been processed and are in storage for LEMP purposes at the EMD nursery at Scotland. Just over 3,000 plants have been propagated by EMD staff with almost half being planted out in permanent seed orchards, consolidating and protecting the Island's flora for generations to come.

Basil Read has been responsible for several key practical activities in the reporting period. This includes stockpiling, and the appropriate storage of, surface material stripped prior to construction activities for rehabilitation purposes upon completion of construction. The shortage of good quality topsoil will impact restoration ability in large areas of the Airport Development Area (ADA) and the LDDs reflects this;

Translocation of endemic flora, babies toes (*Hydrodea cryptantha*), from within the construction footprint to the North West Fill terraces (see Appendix 2, photographs 2.4) was conducted to create a compensatory habitat; as well as endemic lichen (*Dimelaena triseptata*) relocation of both soil crust and stone covered specimens from within the construction footprint to safe stockpile areas for future reapplication post construction (see Appendix 2, photographs 2.1 & 2.2). Topsoil was also applied to the Dry Gut Fill terraces as compensatory habitat;

Restoration of the Upper Dry Gut Reservoirs commenced after decommissioning, including ground preparation and planting of native flora as the first rehabilitation area. These works were brought forward within the construction programme and initial plantings of native samphire (*Suaeda fruticosa*) to aid soil stabilisation within this known seasonal watercourse were lost to rabbit predation. Subsequent plantings protected within rabbit proof fencing proved to be effective and continue to thrive (see Appendix 2, photographs 2.5 & 2.6);

3.6. Challenges

Time

The LEMP officially commenced, after the 2008 Airport Project "pause", approximately two years after construction started. Due to this difference in time, the LEMP has been challenged to "catch up" and mobilise whilst the airport construction moves forward apace. However, it should be fully understood that the vast majority of the LEMP restoration work will not have commenced at the point of the airport opening.

Rabbits

The presence of non-native, highly invasive, rabbits on St Helena presents a real and present risk to any habitat restoration project, including the LEMP. At present, barrier

methods such as rabbit proof fencing are the only practical and effective means of protecting habitat restoration efforts.

3.7. Public Relations/Communications

Monthly highlight reports to all partner stakeholders were initiated from October 2014 to report on progress from monthly partner meetings and increase information exchange across the project

The LEMP has proactively engaged with the Island's press and has regularly featured in both Island newspapers and the AAO Airport Update Newsletter. Further information on this 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>

SHG Elected Members have been kept abreast of the progress of the LEMP through site visits and airport project presentations.

Stakeholder engagement forums for the Airport Project were held quarterly and included an update on LEMP progress. These and other events were held to provide an opportunity to engage with residents who would benefit from future LEMP rehabilitation activities, especially Deadwood and Rupert's Valley.

4. Future Works

- 4.1. The creation of the Landscape Detailed Designs (LDDs) has gone a long way to push the project forward, however there is a great deal to catch up on in the years ahead now that comprehensive plans have been produced.
- 4.2. Many areas however will not be available for restoration until construction has not only been completed, but decommissioning of work sites have been finalised. Priorities are focused on high profile areas including the Airport Terminal Forecourt and the first few kilometres of the Airport Access Road at Prosperous Bay Plain to Bottom Woods.
- 4.3. Significant plans are set to be developed over the year ahead, including propagation and work plans, developing the LEMP into a proactive rather than reactive programme of works.

5. Conclusion

- 5.1. The construction of the airport has progressed at pace and the LEMP has established a delivery structure to meet this. Both pre construction and post demobilisation rehabilitation works have taken place over the year, with successes such as flora relocation and establishment on the ground implemented. Whilst plans have been developed a strong foundation of facilities, staff, and resources has been established to ensure the implementation of the LEMP meets the requirements within the Environmental Statement of the Airport Project. These resources will be consolidated over the coming year as both planning and practical works increase in scale and intensity.

Acronyms

AAO	Air Access Office
ADA	Airport Development Area
AECOM	UK based environmental consultants
ANRD	Agriculture and Natural Resources Division (SHG)
BR	Basil Read
DBO	Design Build Operate (Contract)
DFID	Department for International Development (UK)
EMD	Environmental Management Division (St Helena Government (SHG))
EMP	Environmental Management Plan
ENRD	Environmental & Natural Resources Directorate (SHG)
HTH	Half Tree Hollow
LEMP	Landscape & Ecology Mitigation Programme
LEMP PM	Landscape & Ecology Mitigation Programme Project Manager
LDDs	Landscape Detailed Designs
MOU	Memorandum of Understanding
NGO	Non-Governmental Organisation
OLS	Obstacle Limitation Surface
PMU	Project Management Unit
ROL	Remote Obstacle Light
SEF	Stakeholder Engagement Forum
SHG	St Helena Government
SHNT	St Helena National Trust
SLA	Service Level Agreement
SNCG	Saint Helena Nature Conservation Group (Island NGO)

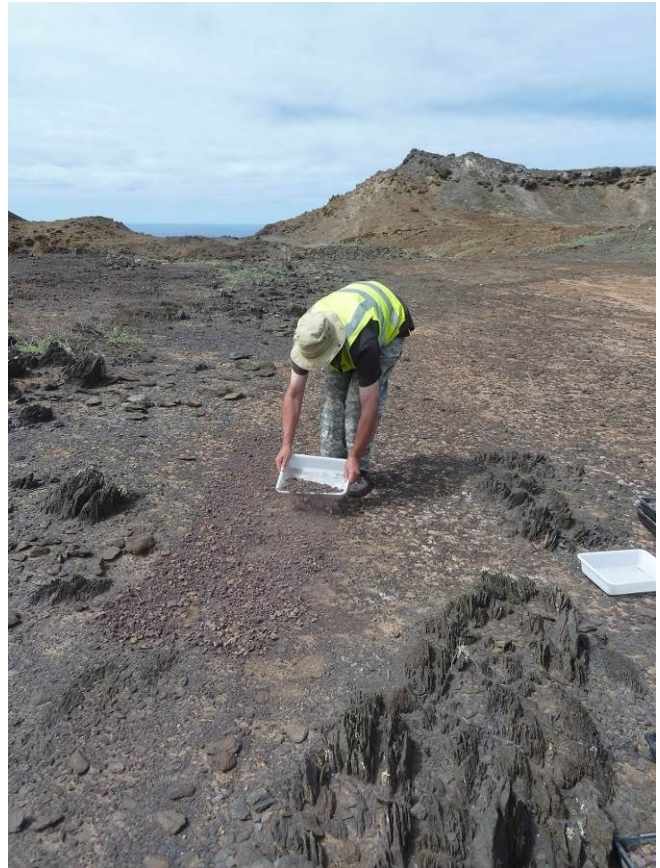
Appendix 1 – Key LEMP achievements: Apr 2014 - Mar 2015

Achievement	Details	Date	Delivered by
Plants grown and seed collected	12,000 plants were grown at Half Tree Hollow nursery 3,000 plants were grown for LEMP at the EMD nursery at Scotland 23 million seeds from 12 species held for LEMP at the EMD nursery at Scotland	April 2014 to March 2015	EMD / LEMP
Compost Scheme	Ten JK400 Jora Composters were purchased to develop a community based composting scheme to produce compost for LEMP nurseries and to reduce green waste going to the Island's landfill. The units were distributed across the Island with local community representatives managing each unit.	April 2014	LEMP
Habitat surveys	Three habitat surveys were carried out: 1) The North Runway Flora & Invertebrate Survey; 2) Formal survey on the VHF Infrastructure Upgrade at the Depot; 3) The Flora of Fisher's Valley.	May 2014 January 2015 January 2015	SHNT LEMP Ecologist LEMP Ecologist
Half Tree Hollow Nursery	The HTH site was developed as the main facility for the propagation of plants for the LEMP this involved upgrading the existing derelict shade house, replacement of roofing of the main building, and the reconnection of utilities and telecommunications to establish an office.	September 2014	LEMP
Translocation of endemic flora	Translocation of endemic flora, babies toes (<i>Hydrodea cryptantha</i>), from within the construction footprint to the North West Fill terraces was conducted	September 2014	Basil Read / EMD / LEMP
King and Queen Scrubwoods	A plot of 33 scrubwoods (<i>Commidendrum rugosum</i>) was planted below King & Queen Rocks to boost numbers in a natural population. Individual tree guards were used and a weekly watering maintenance regime was instated for the first few months.	October 2014	EMD / LEMP
Lichen translocations	Basil Read completed lichen translocation works from North Hill to Dry Gut Fill Eastern Terraces and from the Bencoolen stockpile to Open Channel Green Route.	October to December 2014	Basil Read
LDDs developed	Landscape Detailed Designs are produced by AECOM with input from a range of partners. These initial designs identify the requirement for 400,000 plants, 8.5 million seeds, and 16km of rabbit proof fencing, across more than 150 hectares.	February 2015	AECOM

Appendix 2 – Photographic Review: Apr 2014 - Mar 2015



2.1 *Dimelaena triseptata* lichen relocation – Apr 2014



2.2 Lichen reapplication outside construction footprint



2.3 JK400 community composter units



2.4 North West Fill Terraces endemic flora planting, Aug 2014



2.5 Upper Dry Gut Reservoirs – pre decommissioning, Oct 2014



2.6 Upper Dry Gut Reservoirs – post decommissioning



2.7 Half Tree Hollow Tree Nursery – before works, Sept 2014



2.8 Half Tree Hollow Tree Nursery – after works, Oct 2014



2.9 AECOM Island visit Nov-Dec 2014



2.10 The Barn remote obstacle light (ROL) site walk over, Feb 2015

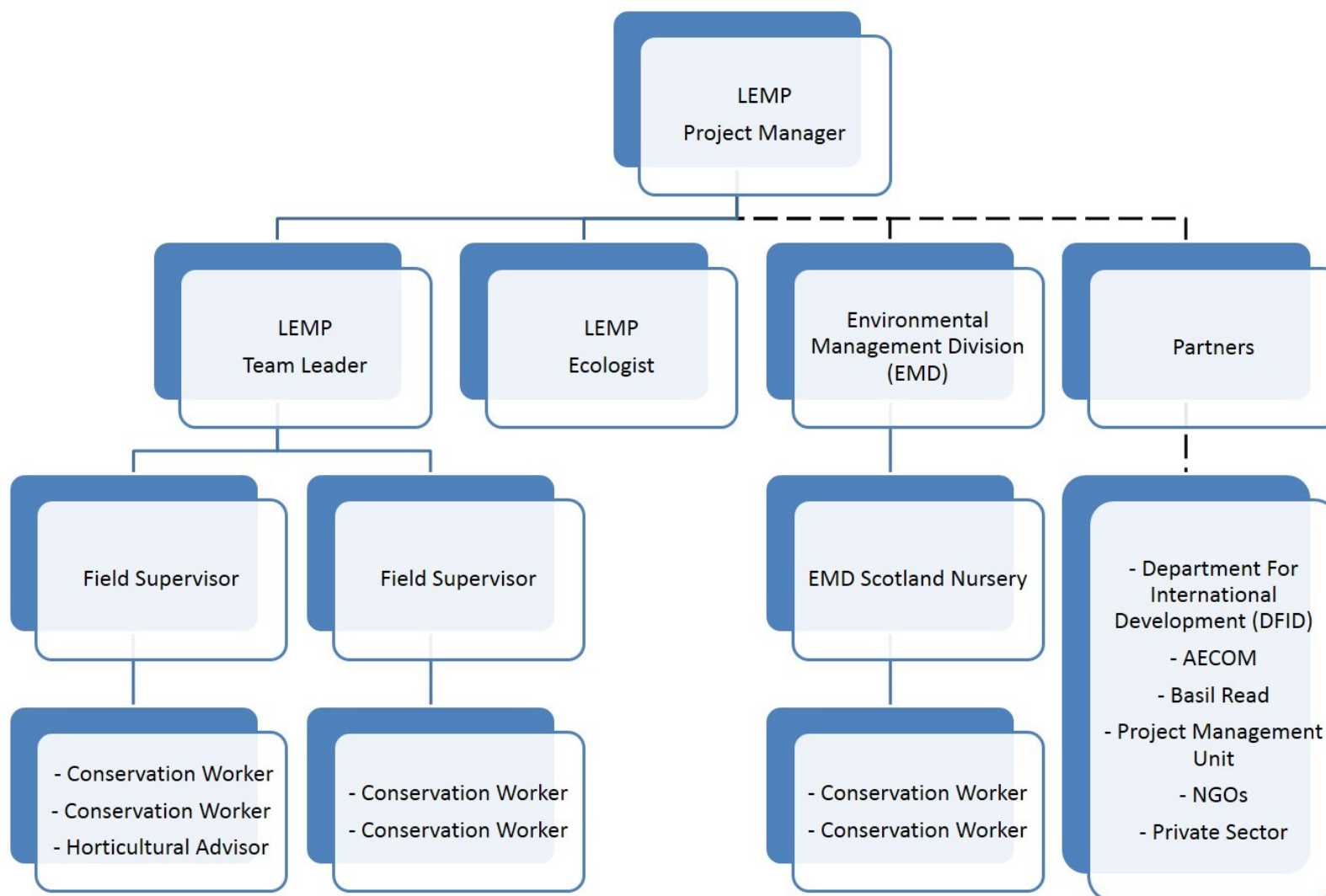


2.11 Malaise invertebrate trap in Fisher's Valley, Feb 2015



2.12 Endemic Tea plant (*Frankenia portulacifolia*) population in Fisher's Valley

Appendix 3 – LEMP Organogram – as of 31 March 2015



Note: Solid lines represent in-house direct line management reporting structure; dotted lines represent partner organisations.