

Feasibility Study Report

SV Muirneag Project

For

The Muineag na Mara Charity
SCIO Registration No. SCO53930



Report Number
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Conducted by

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Executive Summary

- This independent and objective study was conducted by Paul Hailwood a Master Mariner with 7 years experience in command of Sail Training Vessels. He was the Director of a marine consultancy company for 25 years providing independent risk management/assessment advice to the maritime industry.
- Comparisons have been made with similar sized Sail Training organisations and when possible confidential discussions conducted with experienced Sail Training professionals. The published financial accounts of three comparable organisations were used to evaluate the costings proposed by *SV Muirneag* project.
- The design and build phases will need to carefully integrate the required commercial standards whilst maintaining the historic specifications.
- A well defined build schedule has been developed that includes a cost assurance clause to mitigate risk of over budget expenditure. The builders have provided realistic costings based on their significant experience of building historic craft.
- Operational costs have been carefully considered and include both staffing and annual maintenance costs. The level of staffing includes shore based support in addition to the professional crew.
- Operational income projections are based on a number of activities including Sail Training as the primary function. A four year schedule has been developed by the owner's representative. This includes a realistic period for sea going activities and a realistic occupancy rate for berths.
- It is noted the projected annual operational income exceeds the projected annual expenditure.
- A review of the income from the other Sail Training organisations compared with the 4 year average for *SV Muirneag* projected income indicated:
 - *SV Muirneag* has no projected income for donations and legacies. The other organisations obtain a significant proportion of their income from donations and legacies
 - *SV Muirneag* projected income from Charitable Activities (Sail Training) is comparable with the other organisations
 - *SV Muirneag* projected income for Other Trading Activities is significantly higher than for the other organisations
 - *SV Muirneag* has no projected income for Investments. This varies significantly between the other organisations but is a valuable contribution for one of them.
- This report concludes with five significant Findings and Recommendations. The successful implementation of these should assist with ensuring the long term feasibility of *SV Muirneag*.

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List of Abbreviations

ASTO	Association of Sail Training Organisations
MCA	Maritime and Coastguard Agency
SCIO	Scottish Charitable Incorporated Organisation
UNESCO	United Nations Educational, Scientific and Cultural Organisation

1. Feasibility Study Aims

This Feasibility Study is an independent systematic evaluation of the proposed *SV Muirneag* project to determine viability. The Study has assess whether the proposal is practical, financially viable, and achievable.

2. Feasibility Study Objectives

The four objectives of this Study are to evaluate the feasibility of:

- Design and build costs
- Operational costs
- Operational income
- Financial feasibility

3. Methodology

This independent and objective study was conducted by Paul Hailwood a Master Mariner with 7 years experience in command of Sail Training Vessels. He was the Director of a marine consultancy company for 25 years providing independent risk management/assessment advice to the maritime industry. Clients included ship owners, cruise ships, large yachts, Ministry of Defence, Lloyds of London Underwriters and UK Hydrographic Office.

The first stage of this Study was consultation with the primary stakeholders to obtain a comprehensive understanding of the project and the projected costings. This included a review of all current documentation and publications provided by the builder (Tim Loftus) and the owner's representative (Greg Stone).

Comparisons have been made with similar sized Sail Training organisations and when possible confidential discussions conducted with experienced Sail Training professionals. The published financial accounts of three comparable organisations were used to evaluate the costings proposed by *SV Muirneag* project. These accounts are in the public domaine but for data protection reasons they have not been identified in this report.

All assumptions have been clearly stated as such when qualitative evidence was not available.

4. Overview of Project SV Muineag

4.1 Mission - To rebuild and steward the use of the historic 80ft (24m) herring lugger, SV Muirneag preserving a unique piece of Scotland's maritime heritage for future generations to come.

4.2 Vision - Create a new historic Sail Training vessel for Scotland as a vehicle for youth development, community engagement with the marine environment, re-establishing heritage skills and building a link to Scotland's rich seafaring heritage.

4.3 Objective - Create a world class community asset, a fundamental driver for:

- Youth projects and apprenticeships,
- Sail training & Tall ship racing,
- Re-establishing heritage boatbuilding skills
- Citizen marine science via an onboard laboratory
- Communities to engage with the marine environment, Scotland's rich
- Seafaring heritage, and the place of herring fishing in world history.

4.4 Sail Training

In operation, SV Muirneag's primary function will be as a Sail Training Vessel:

- Providing life changing opportunities for young people;
- Preserving and promoting at risk traditional seafaring skills;
- Providing new opportunities for experienced crew and seafarers.

4.5 Community Access & Engagement

The vessel's annual program will include frequent and varied opportunities for community and public engagement including:

- Regular day sails and passenger trips;
- Open days while alongside;
- Collaborations with museums, heritage and cultural organisations;
- Representing Scotland, our maritime and seafaring heritage at traditional boat festivals; across northern Europe.

4.6 Citizen Science

SV Muirneag will have a dedicated lab space on board for passengers, trainees and volunteers to contribute to citizen science, through monitoring and recording water quality, sea temperature, mammal and seabird counts and remote beach cleaning.

4.7 Volunteering

Volunteering opportunities will be provided for the sailing and operation of *SV Muirneag*. For young people interested in a career at sea, volunteering is a key step in the transition from sail trainee to paid crew.

As well as the required input from professional contractors, *SV Muirneag* provide opportunities for volunteers to become involved in the ongoing maintenance program, further developing heritage skills.

4.8 Governance

Muirneag na Mara has been established as a Scottish Charitable Incorporated Organisation (SCIO – registration number SC053930) to oversee the build and operation of *SV Muirneag*. The voluntary directors have a collective wealth of experience in the public, private and charitable sectors. This includes a significant track record in partnership working, capital infrastructure project delivery, press and communications, public and community engagement, but also as mariners.

The presence of appropriate accounting, auditing and legal services is in place to provide assurance to partners and sponsors in terms of rigorous governance, and maximum efficiency of all donations.

4.9 Website

<https://www.muirneag.org/>

5. Design and Build Costs

5.1 Heritage Crafts: Reviving Endangered Skills

In 2023, wooden boatbuilding, rope-making, sail-making, and spar crafting were officially added to the UNESCO-recognised Red List of Endangered Crafts. Rebuilding *SV Muirneag* will assist with reviving these skills and become a national showcase of traditional maritime craftsmanship.

It will provide multi-year employment for skilled practitioners and create apprenticeships, potentially sponsored by the Ullapool and Stornoway Port Authorities. The intention is for each port authority to sponsor two apprentices for the build period and cover their employment costs. However until this is confirmed the projected build costs include the apprentices wages.

5.2 Core Skills Learned from building Muirneag in Ullapool

The completed vessel will be a showcase of all the following skills:

- Framing
- Planking
- Decking
- Caulking
- Blacksmithing
- Spar Making
- Blockmaking
- Painting
- Commissioning

5.3 Builder

Following a competitive tendering process, the trustees have selected West Coast Working Boats as principal contractors for the build. They are a collaboration between Johnson & Loftus and Isle Ewe Boat Builders. These yards have experience of working with historic vessels and ability to host apprentices plus public access during the build. *SV Muirneag* will be built at the Johnson & Loftus yard at Corrie, Ullapool.

5.4 Design

SV Muirneag will be built to the blue print and specifications of the original *SV Muirneag* as surveyed by George MacLeod in 1947.

In addition to these historical specifications the following codes and certifications will be required to allow for modern day sail training and commercial operations.

- Operation Standards for Small Commercial Vessels (Sail Training)- MCA
- Class VI Passenger Vessel up to 50 passenger - MCA
- Classification Society Rules - Lloyds

These requirements will need to be carefully integrated with the historical specifications and included in detailed plans and specifications before the build starts and where appropriate approved by the relevant authorities.

5.5 Schedule

The build is planned to take three years. The project will be divided into five key phases, each lasting approximately 6 months.

1. Hull construction 1 - laying of keel, build the backbone, framing and planking
2. Hull construction 2 - bulkheads, deck frame, deck installation
3. Installation of onboard systems - plumbing, electrical, fabrication
4. Interior joinery and fit out - below deck areas
5. Commissioning - fitting mast spars and rigging, vessel commissioning

5.6 Build Projected Costing

The table below shows the projected costing for each build phase (plus a development phase) over the 3 year project period. Additional annual costs for labour, overheads and contingency have been added to provide an annual build cost. The final row is a cumulative total for each year.

The total projected build cost is **£1,849,262**

Cost per phase per year	Year 1	Year 2	Year 3
Development phase	19,079		
Phase 1: Hull - backbone, framing and planking	104,125		
Phase 2: Hull - bulkheads, deck frame and deck		118,958	
Phase 3: Systems		171,030	
Phase 4: Interior Joinery			23,559
Phase 5: Rig and commissioning			135,890
Build Phase cost totals	123,204	289,988	159,449
Labour per year	368,992	368,992	147,597
Overheads per year (inc yard fees and insurance)	72,168	72,168	72,168
Contingency (10%)	-	-	174,537
Total	564,364	731,148	553,751
Cumulative	564,364	1,295,511	1,849,262

5.7 Cost Assurance

Muirneag na Mara SCIO issued an "Invitation to Tender Rebuilding SV Muirneag" dated 16 January 2025. This included the clause "*All prices and rates quoted shall be in GBP, exclusive of VAT, and shall be fixed for work to commence in March 2026*". This cost assurance should ensure there are no additional build costs to be covered from operational income.

6. Operational Costs

6.1 Manpower Costs

The intention is to employ 4 permanent crew, Skipper, Mate, Bosun and Cook. The Safe Manning levels will be compliance with the commercial codes. Consideration has been given to employing the Bosun and Cook on temporary seasonal contracts, however this has not been allowed for in the costings. Volunteer crew will be recruited to cover for the permanent crew leave periods. This should ensure a bank of suitably qualified and experienced crew are available to cover any contingency ensuring Safe Manning is maintained.

Staffing costs have been calculated as £155,000 per annum as detailed in the table below. A review of yachting salaries (August 2025) indicates that these rates are at the higher end of the average pay scales, however much depends on terms and conditions of employment.

Staffing	Cost Pa
Skipper	£55,000
Mate	£30,000
Boson	£26,000
Cook	£24,000
Booking admin pt	£20,000
Total	£155,000

6.2 Maintenance Costs

The operational maintenance costs have been estimated over a 10 year operational period to allow for planned maintenance and manufacturer's servicing recommendations.

Operational maintenance costs have been calculated as £37,400 per annum over 10 years as detail in the table below.

Maintenance	monthly	yearly	5 yearly	10 yearly	
oil/filters	£200				
regular touchups/adhoc fixes	£500				
Paint/ slipping/general repairs		£10,000			
engine rebuilds/shafts out/ masts out repairs			£20,000		

new sails / new generator				£60,000	
life saving/fire fighting equipment			£10,000		
Soft furnishing cleaning/replacement		£1,000			
Rigging repairs			£10,000		
Navigation equipment repairs/replacement		£2,000			
One off major issue/accident repairs			£10,000		
Total Pa	£8,400	£13,000	£10,000	£6,000	
TOTAL Per Year					£37,400

6.3 Overhead Costs

Overhead costs have been estimated on an annual basis to include essential expenditure to maintain operational standards and requirements. These have been detailed in the table below.

Costs General	Cost Pa
Insurance	£20,400
Fuel	£25,000
cooking/heating fuel	£3,000
Harbour dues	taken as free
Promotion/admin	£10,000
Surveys	£4,500
Office costs	taken as free within Harbour building
TOTAL	£62,900

6.4 Operational Cost Summary

The total estimated annual operational cost for the project can be summaries as:

Manpower	£155,000
Maintenance	£ 37,400
Overheads	£ 62,900

Total	£255,300
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7. Operational Income

7.1 Concept

Once operational *“Muirneag will not be a static museum piece, but a living, working ship that contributes to Scotland’s culture, education, environmental and economic life”*. This will be achieved by the following activities:

- Sail Training Voyages (multi days)
- Half day and evening trips
- Guided tours
- Corporate Entertainment
- Accommodation

7.2 Sail Training Voyages (multi days)

Sail Training is the stated primary function offering opportunities for young people from the West Coast of Scotland and further afield. The operational period for sail training will be annually between April and October. The 4 year operational schedule allows for:

- Year 1 - 20 weeks
- Year 2 - 18 weeks
- Year 3 - 15 weeks
- Year 4 - 16 weeks

It is not stated in the financial records how many weeks per annum the comparison organisations dedicated to Sail Training (charitable Activities) but it can be assumed from website information they offer a similar number of weeks within the same operational period.

Although the maximum capacity for *Muirneag* is 12 persons, the assumed occupancy rate for costing is 10 persons. This is a realistic occupancy given the numerous variables for individuals attending the voyages (late cancellations due to illness, travel issues etc.).

Costing has been based on a day fee of £120 for Sail Training voyages. This is similar to the daily fee charged by other organisations however they offer financial assistance and bursaries. This will considerably reduce the fee for individual’s fee making it affordable and accessible to a significant proportion of the young people in the area. For *SV Muirneag* to be successful in attracting these bookings it will be important to be able to offer similar bursary and financial support schemes. The administration burden of managing this should not be underestimated.

The projected operational income is calculated as number weeks x 7 days for 10 persons at £120 per day, this is:

- Year 1 £168,000

- Year 2 £151,200
- Year 3 £126,000
- Year 4 £143,400

7.3 Half day and evening trips

The intention is to provide frequent and varied opportunities for community and public engagement. This will include half day sails in local sheltered waters and sightseeing or heritage trips. These trips will be scheduled for weeks between the Sail Training Voyages and comprise of 6 days per week. As the trip will remain within sheltered waters, at maximum of 25 passengers will be embarked at £45 per person.

Similar single day voyages are offered by the comparison organisations however these tend to be either associated with local schools or offered as introduction or training days.

The projected operational income is calculated as the number of short trips for 25 passengers at £45 per trip, this is:

- Year 1 £67,500
- Year 2 £94,500
- Year 3 £70,875
- Year 4 £67,500

7.4 Guided Tours

The intention is to offer guided tours of the vessel whilst secured alongside, these will be conducted in March and November either side of the operational season. There are no similar activities offered by the comparison organisations. Each tour is expected to last for 30 minutes and cost £10 per person with a maximum of 40 persons per tour. This is an expensive activity compared to other local attractions and will require significant marketing to achieve the projected numbers.

The projected operational income is calculated as the number of guided tours for 40 persons at £10 each, this is:

- Year 1 £16,000
- Year 2 £20,000
- Year 3 £24,000
- Year 4 £24,000

7.5 Corporate Entertainment

This would allow for private parties to hire the vessel for an evening for their own celebration or activities. A maximum of 50 persons would be allowed on board for each evening and the vessel would remain alongside for the event. Similar concepts are offered by the other organisations and have proven to be popular during harbour events or festivals. The organisers would be charged £10 per person, or £500 for the event. Careful consideration needs to be given to the catering and onboard facilities offered during these events. Due to the numbers involved additional staff maybe required for safety and security.

The projected operational income is calculated as:

- Year 1 £5,000
- Year 2 £5,000
- Year 3 £5,000
- Year 4 £5,000

7.6 Accommodation

Accommodation will be offered for 4 weeks in March and 4 weeks in November whilst the vessel is alongside. This will be on a bed and breakfast arrangement and charged at £60 per person for a maximum of 10 people per night. This may prove popular with outdoor enthusiasts looking for affordable accommodation however the time of the year may be off putting.

The marketing and management of the bookings will require significant resources and will need careful consideration.

The projected operational income is calculated as:

- Year 1 £24,000
- Year 2 £24,000
- Year 3 £36,000
- Year 4 £24,000

7.7 Filming

In addition to the above actives, 28 days filming in year 4 has been proposed, generating an income of £28,00.

7.8 Summary Table

	Year 1	Year 2	Year 3	Year 4
Voyages (multi day)	£168,00	£151,200	£126,000	£134,400
Half Day/evening trips	£67,500	£94,500	£70,875	£67,500
Guided tours	£16,000	£20,000	£24,000	£16,000
Entertainment	£5,000	£5,000	£5,000	£5,000
Accommodation	£24,000	£24,000	£36,000	£24,000
Filming	0	0	0	£28,000
Total	£274,000	£288,000	£262,000	£275,000

Average total income per annum over 4 years £274,750

8. Financial Feasibility

8.1 Income Comparison

A review of the income from the other organisations is summarised in the table below and compared with the 4 year average for *SV Muirneag* projected income. This is a simplified review to be used for indicative comparisons only.

	A	B	C	Muirneag
Donations and Legacies	£50,000	£80,000	£575,000	£0
Charitable Activities	£93,000	£150,000	£110,825	£120,000
Other Trading Activities	£78,000	£51,222	£1,445	£155,000
Investment Income	£1	£23,000	£175	£0

This simplified review indicates

- *SV Muirneag* has no projected income for donations and legacies. The other organisations obtain a significant proportion of their income from donations and legacies
- *SV Muirneag* projected income from Charitable Activities (Sail Training) is comparable with the other organisations
- *SV Muirneag* projected income for Other Trading Activities is significantly higher than for the other organisations
- *SV Muirneag* has no projected income for Investments. This varies significantly between the other organisations but is a valuable contribution for one of them.

8.2 Expenditure

The expenditure of the other organisations varies from £120,000 to £335,000 per annum. It is more difficult to obtain a meaningful figure from the annual financial reports as there are numerous variables not detailed. However, the projected operational costs for Muirneag of £255,300 is within the comparable range and it is reasonable to assume this is a realistic figure.

9. Findings and Recommendation

9.1 Governance

The organisation of the project has been well established including skilled and experienced trustees and well defined aims and objectives for both the build and the operation. Embedding the project within the local community is a key objective and will require enthusiasm and support from numerous local organisations.

Recommendation

- Joining ASTO (<https://asto.org.uk/about/>) at this early stage would provide wider experience and knowledge of building then operating a Sail Training vessel. Maintaining a link with ASTO should be included within the governance.

9.2 Build

The build period has been well organised with detailed phase costings. The highly qualified and experienced builder has provided detailed and concise costings that will enable the fundraising organisation to concentrate their efforts. The combination of rebuilding a historic vessel whilst integrating the modern commercial standards will remain a challenge. Ensuring the construction includes the higher standards for accessibility and community inclusiveness will be a further challenge.

Recommendations

- A detailed build specification should be developed to incorporate MCA codes plus best practice for accessibility and inclusiveness. This specification needs to be approved by the relevant organisations before building commences to avoid any expensive retro-fitting once completed.
- The build project will need to be monitored against the approved specification and agreed costs to identify any variations to contract at an early stage. The financial and practical implications of any variations need to be fully understood by the trustees and approved before they commence.
- The funding for the apprentices should be defined and agreed before the build phase commences.

9.3 Operational Costs

The costs of maintenance have been well considered and projected ahead for a 10 year operational period. These costs are within the range noted from the comparison organisations and it is reasonable to assume they are feasible. Manpower has been included in the costings however there is no rationale as to the number of crew, qualifications and amount of shore based support.

Recommendations

- A Safe Manning Risk Assessment following MCA guidance should be conducted to confirm the number of crew and their qualifications required for each of the proposed operational activities.

- The level of shore based support should be similarly assessed. This will include the administration of bookings, charters, local regulations and crew welfare. This role could be far more complex than initially considered and may require an experienced operations manager plus assistant.

9.4 Operational Income

The range and type of operational activities has been carefully considered and should provide a reasonable income. The operational window of April to October for sailing activities is realistic and allows for a 3 month winter refit/maintenance period.

Sail Training is the primary activity although the other commercial activities combined are an equal proportion of schedule. Using an 80% occupancy for Sail Training costings is realistic given these will be individual bookings and therefore susceptible to many variables.

Recommendation

- The ability to offer bursaries or similar financial support is necessary to attract individuals for Sail Training voyages. This is a complex issue and will require significant knowledge and expertise by the person responsible for administering bookings. Liaison is recommended with ASTO to fully understand the scope of bursaries available and the administrative procedures required to complete the process.

9.5 Financial Feasibility

The projected costings and income indicate the project will be self sufficient once operational, as follows:

Operational Costs	£255,300 per annum
Operational Income	£274,750 average per annum over 4 years

Comparison with 3 other organisations show that the income from Sail Training is comparable whilst the income from other activities is significantly higher. The other organisations income also includes significant amounts from donations and legacies; these are not considered in the *Muirneag* income.

Recommendation

- The fundraising initiatives for the build period should be maintained once operational, to provide a sufficient income from donations and legacies. It is recommended this annual fundraising should aim to achieve a similar income to that predicted for other trading activities. This would cover any short fall for income from other training activities if it proves the predicted income was too ambitious.