PHOTOGRAPHS

Front cover: Diver and seal in am Plastair Tunnel (site 56), looking to the south

Inside front:

Top : Village Bay and Dun, looking over the old village street and the army camp

Middle: The Cambir and Hirta seen over Soay sound (from Soay) Stac Dona, Stac Biorach and most of Soay Stac are visble. The galleon site (site 46) is visible in the distance.

Bottom: Am plair and the Soay cliffs from the west; Stac an Armin and Boreray (and Stac Lee) are visible in the distance.

Inside back cover:

Top: Submarine wall, north Soay.

Top right: Underwater photographer negotiating Levenish Tunnel (site109) looking south.

Bottom left: The southern exit of Levenish Tunnel, illustrating the Jamming technique required in the water surges.

Bottom right: Divers under Sgarbhstac Arch (site 143). The photo was taken from a depth of 50m looking directly upwards, and shows the surface on both sides of the arch; the arch is 20m above the camera.

Back cover:

Top: Looking from Boreray to Stac Lee; Sgarbhstac is in the foreground.

Bottom: The gannets of Stac Lee from the west; the scale is given by the inflatable at the bottom right.

BSAC EXPEDITION SCHEME

This scheme was started in 1981. Its objectives can be very simply stated — to provide more adventurous diving for ALL members of the BSAC that wish this.

These objectives are Achieved by providing the technical and equipment support that otherwise may prevent groups from organising adventurous expeditions. There is a substantial pool of equipment available for hire and there is also a growing range of publications planned or available to help potential expedition leaders. A quarterly newsletter is produced and acts as a forum for those interested in expedition diving. Perhaps the most direct activity is the expeditions run by the scheme for the benefit of all members. These are responsibility organised and led, and in the past have visited Iceland, Norway, St Kida and many parts of western Scotland. Ambitious plans exist for 1984.

To join the scheme it is only necessary to fill in a form; there is no charge. You will then receive the newsletter and be informed of forthcoming events and expeditions.

The scheme is organised and run (as a sub—committee of the National Diving Committee) by Gordon Ridley, and regular progress reports are made to the NDC. He is assisted by an Equipment Officer (Mick Greenhaugh, 65 Cudham Lane, Orpington, Kent; telephone 0689 56438 and a newsletter editor (Dr. Eric Thompson, 10 Leyton Close, Runcorn, Cheshire telephone 09285 78288 together with a group of advisors chosen their experience and geographical location.

Further information about the scheme (and application forms) can be obtained from these three people.

PREFACE

This guide was initially written in August 1982 and revised and published April 1983. This second edition has been revised and considerably expanded as a result of information gained in the very favourable conditions experienced by a series cooperating expeditions during July and August 1983.

Thanks are due to all those divers who took part in the five expeditions led by the author to the islands since 1975, and also to all those other divers who contributed information. I also thank Christine Howson, Alistair Skene, Maurice Davidson and Crawford Grier for help with the marine biology. Over many fascinating discussions Dr. Peter Kokelaar and Dr. Graham Durant have kept me on the Straight and narrow, geologically at least. Finally, thanks are due Maurice Davidson for his charming perspective drawings, his diving drive and information, and his challenging and stimulating attitude to exploratory diving.

It would be very helpful if readers would send their comments (critical you wish) about this guide. In particular, information would be very welcome about undived sites (whether identified in this guide or not) and other diving details.
Please send comments and information to the author at the address given on the title page.

INTRODUCTION

Most aspect. St. Kiida are covered by the books listed in Appendix 1. Only the St. Kildan submarine environment is not treated.
After briefly commenting on St. Kilda generally, this booklet attempts, therefore, to examine our own specialist aspect of this unique archipelago.

There was no Saint Kilda. The best theory as to the origin of the name is that it was a transcription error. “Skildlir” is the Old Norse for “shields” which could be used descriptively for the archipelago from a distance. The name may have evolved from “Skildir” to “Skildar” to “St Kilda”.

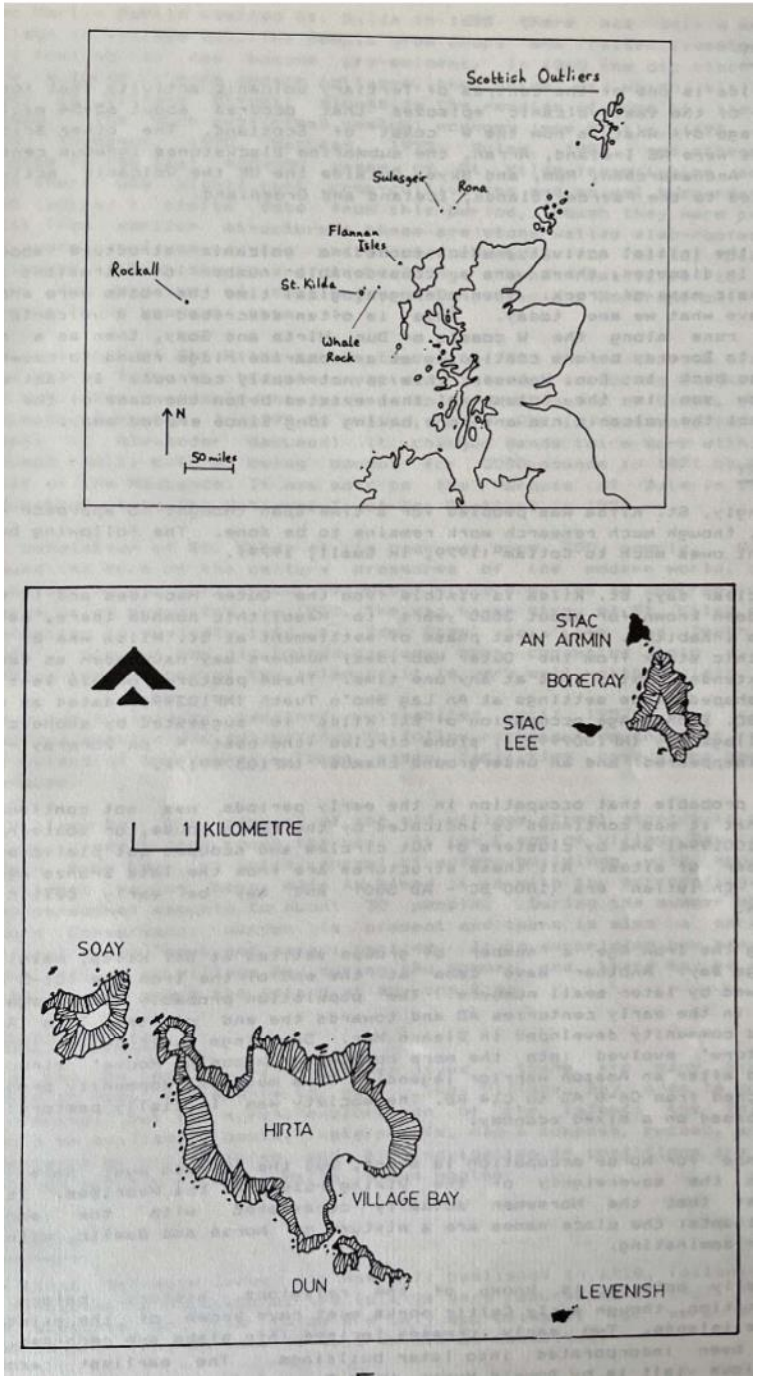
DESCRIPTI0N OF THE ARCHIPELAGO

The St. Kilda group consists of four islands together with a number of sea stacs lying about 100 miles W of the mainland of Scotland and 50 miles beyond the Outer Hebrides. The islands are thought to be the remains of an extinct volcano, which was active about 70 million years ago. The main island of Hirta, which rises to an elevation of 1398 feet (426m), is separated by about 4 miles from the Stac Boreray with its two associated smaller Stacs, Stac Lee (the Blue Stac) and Stac an Armin (the Warrior's Stac). NW of Hirta Lies the island of Soay, separated from Hirta by a narrow channel. The long, narrow island of Dun is almost a continuation of Hirta but is separated from it by a narrow gut. Just over 1 mile ESE of Dun the Stac of Levenish. All of the islands are rocky and precipitous, with Boreray and its Stacs being outstanding.

Quoting from Small and Boyd - Remote islands hold a tremendous fascination for many people and St. Kilda among the most distant of the British Isle holds a greater attraction than most. The stark grandeur the great sea cliffs, the highest in Britain, rising sheer from the ocean, strike awe in the most seasoned traveller. No matter the direction of approach or in what weather, the first contact with St. Kilda is unforgettable!'

Words cannot do justice to the rock scenery and architecture of the St. Kilda group. I consider them the most exciting landforms in the whole Britain. The sea cliffs drop vertically into the water and in places overhang. The cliffs continue on vertically underwater, often to great depths. Virtually the whole of the St. Kilda coastline is cliff-bound and access is only passible from Village Bay at the SE of Hirta.

Name	Height (m)	Area (sq km)	Shoreline (km)	“Rugosity factor”
Hirta	425.8	6.374	19.15	2.14
Soay	377.7	0.988	5.63	1.60
Boreray	383.7	0.765	4.9	1.61
Dun	177.7	0.320	4.67	2.32
Stac an Armin	196.3	0.053	0.97	1.18
Levenish	61.9	0.024	0.51	1.10
Stac Lee	171.9	0.024	0.64	1.10
Soay Stac	61	0.015		
Bradastac	67.4	0.010		
Am plastair	45.7	0.006		
Sgarbhstac	28	0.006		
Mina Stac	63.4	0.005		
Stac Dona	26.5	0.002		
Stac Biorach	73.2	0.002		
NB. Rugosity factor is the ratio the of actual shoreline length the circumference of a perfect circle of the same area as the actual area of the island.				


Scottish Outliers
Sulasgeir
Rona
Flannan Isles
Rockall
St. Kilda
Whale Rock
N
50 miles
STAC AN ARMIN
BORERAY
STAC LEE
1 KILOMETRE
SOAY
HIRTA
VILLAGE BAY
DUN
LEVENISH

GEOLOGY

St. Kilda one of the centres of Tertiary volcanic activity that formed in one of the vast volcanic episodes that occured about 65-54 million years ago off what is now the W coast of Scotland. The other British centres were NE Ireland, Arran, the submarine Blackstones igneous centre, Mul, Ardnamurchan, Rum, and Skye. Outside the UK the volcanic activity extended the Faeroe Islands, Iceland and Greenland.

After the initial activity, which formed a volcanic structure about 4 miles in diameter, there were a considerable number of intrusions into the basic mass of the rock. Then over geological time the rocks were eroded to leave what we see today. This is often described as a volcanic rim which runs along the W coasts of Dun, Hirta and Soay, then as a ring round to Boreray before continuing as a submarine ridge round to Levenish and, so back to Dun. However, this is not really correct. In fact what we now see is the 'plumbing' that existed below the base of the old volcano; the volcanic rim and core having long since eroded away.

HISTORY

Amazingly, St. Kilda was peopled for a time—span thought to approach 4000 years, though much research remains to be done.
The following brief account owes much to Cottam (1979, in Small, 1979).

On a clear day, St. Kilda is visible from the Outer Hebrides and it must have been known for about 3000 years to Mesolithic nomads there, before it was inhabited. The first phase settlement at St. Kilda was by late Neolithic stock from the Outer Hebrides; numbers may have been as few as one extended family unit at any one time. These pastoral people left the boat—shaped stone settings at An Lag Bho'n Tuath (NF103996) dated as ca. 1850 BC. Bronze Age occupation of St. Kilda is suggested by stone cist.
in Village Bay (NF 10099933), stone circles (the best - on Boreray - has disappeared) and an underground chamber (NF10379917) .

It is probable that occupation in the early periods Has not continuous, but that it was continued is indicated by the earth house, or souterrain, at N" 10019941 and by clusters of hut circles and scooped out platforms at a number of sites. All these structures are from the late Bronze Age to early Christian era 1000 BC - AD 500) and may be early Celtic in origin.

During the Iron Age a number of groups settled at St. Kilda, mainly in Village Bay. Another wave came at the end of the Iron Age (C1-3AD), followed by later Small numbers. The population probably first began to swell in the early centuries AD and towards the end of the Iron Age a second community developed in Gleann Mor. Dwelling built on the “horned structure” evolved into the more complex structure 'Amazon's House' structure (named after an Amazon warrior legend). This medieval community probably stretched from C6-B AD to C14 AD. The society was initially pastoral and then based on a mixed economy.

Evidence for Norse occupation is scant, but the islands must have lain within the Sovereignty of the Viking rulers the Hebrides.
It is thought that the Norsemen actually co-existed with the earlier inhabitants; the place names are a mixture of Norse and Gaelic, with the latter dominating.

Virtually nothing is known of the religious history before the Reformation, though early Celtic monks must have known of the existence of the islands. Two early crosses incised into slabs are recorded, but have been incorporated into later buildings.

The earliest recorded religious visit is by Donald Munro, High Dean of the isles, in 1549.

When Martin Martin visited St. Kilda in 1698 there was only a medieval village in Village Bay. The people grew crops and raised livestock, but bird fowling had now become pre—eminent. In 1860 the old black houses were replaced by more modern cottages, the ruins of which stand today in Village street; alongside the remains of some the black houses. The much-publicised seafowl economy (see Martin, 1698, Seton, 1878, Thompson, 1970, MacLean, 1972, Quine, 1982, and others) only relates to the last 400—500 years of St. Kilda inhabitation, and even then there was significant crop—cultivation and animal husbandry. The 1200 approx. cleits date from this period, though they were probably built from earlier Structures; these are stone—walled slab—roofed cells and were used as drying and storage chambers for birds, peat and equipment. Prehistoric and old buildings are not restricted to Hirta. There are remains of dwellings on Dun, Soay and Boreray, but little appears to be known of them.

The ownership of St. Kilda can be traced to 1373 when a charter allowed a Lord of the Isles to transfer various islands, including St. Kilda, to his son. The ownership then passed to the MacDonald' of Sleat, then the MacLeods of Harris. In 1799 St Kilda, with Harris, was sold for 15,000 pounds to Alexander MacLeod; it changed hands twice more within the MacLeod family before being bought for 3000 pounds in 1871 by Norman, Chief the MacLeods. It sold to the Marquis of Bute in 1934; he bequeathed it the National Trust for Scotland in 1956.

The population St. Kilda at its peak some 200 people. However, around the turn of the century pressures of the modern world, coupled with tourism and puritanical religious ministers, led to the remaining 36 people being evacuated in 1930. The sad human story St. Kilda and its evacuation is movingly told by Tom Steel in 'Life and Death St Kilda'. One of the Old houses has now been converted into a museum tracing the history of the islands; it is very well worth a visit.

The group of islands remained uninhabited until 1957 when a radar tracking station was established to follow rockets from the test range on the island of South Uist. These radar facilities have since been much improved.

In Village Bay the remains of the old village street stretch in a great arc of ruined houses round the bay. At the E end of Village Bay lies the modern Army base, an untidy sprawl modern buildings, with apparently no attempt having been made to blend it in with the surroundings. The Army personnel amounts to about 30 people. During the summer months a Nature Conservancy warden is present and there is also a series of National Trust work and safari parties. It is surprising how many small boats call in at Village Bay during the summer, and there may be as many as 100 people about the island at any one time.

LAND EXPLORATION

This can be very rewarding between dives — there are many excellent places to visit and sights to see. The Village Bay area is good for sauntering, but a full exploration of the islands the following should be available: boots, waterproofs, map compass, rucsack, and some experience of hill walking and hill navigation if conditions are poor. Don't go out alone on the hills in bad weather.

MAP NOTES

The first Ordnance survey map was only published in 1928, following work by Mathieson, and Cockburn; the islands were resurveyed in 1967. The maps and sketches in this guide are only approximate; for more accurate positions the appropriate OS maps should be consulted.

1: 25 000 NA00/10 and NF09/19

1: 10 000 NF09NE and NF19NW with inset part of NF19NW
NA00SE and NA10SW
Parts of NA10NW, NE, SW, and SE

PLANTLIFE

The ice sheets of the last ice age did not reach St. Kilda, and thus the islands are a reservoir pre—glacial plants. The soils are essentially acid and peaty, with local deposits of pure peat. In the Village Bay area man has both enriched and impoverished the soil over the centuries.

Essentially the plant community is one of grass moorlands, but these have been modified by high winds, selective grazing (Dun has been ungrazed for at 50 years), lack of burning, salt spray, seabird guano, altitude and temperature. The main plant habitats are valley bottoms, hill slopes, summit plateau and cliff ledges. A detailed vegetation map of Hirta is available though Dun, Soay and Boreray have not yet been systematically surveyed. 132 species of flowering plants have been recorded, together With 164 species of fungi and 194 species of lichen; these 490 species represent nearly 10% of the British total.

WILDLIFE

If the geography St. Kilda is rather special, its wildlife is unique. Two creatures are specific to the island group - the St. Kilda wren (about 100 breeding pairs) and the St. Kilda field mouse (which was probably introduced accidently by the Vikings).
The primitive Soay Sheep Still run wild on Hirta and Soay, where there are about 2000, though there origin is obscure.

Although all these creatures are exciting it is the one million seabirds that contribute to St. Kilda's special atmosphere. Boreray and the stacs hold the world's largest gannetry (St. Kilda 59 000 pairs), and a Visit to the stacs ranks among the world’s finest natural history experiences. (The Birds Rocks colony in the Gulf of St. Laurence, Canada used to hold about 110, 000 pairs, but this was decimated to 4000 pairs by massacres between 1829 and 1894; it had recovered to 13, 000 pairs by 1939. St. Kilda also contains myriads of puffins and other auks (puffin: 300 000 pairs, guillemot 20 000 pairs, black guillemot only 10 pairs, razorbill 1 000 pairs); the moorlands are patrolled by great skuas (about 40 pairs), always ready divebomb the unwary walker.
The fulmar (44 000 pairs) and the kittiwake (12 000 pairs) are also characteristic of the St. Kilda seabirds. St. Kilda is also an important breeding station for the Manx shearwater and large colonies of storm and Leach's petrels; it appears that petrel numbers have been very seriously underestimated in the past.

The gannet, puffin and fulmar have their UK headquarters at St. Kilda. The group holds 37% of the UK population and 25% of the world population of gannets. About 50% of the UK puffins breed at St. Kilda; this is perhaps 2% of the Atlantic Ocean total. Gannets feed on mackerel, herring and codling while puffins eat sand-eels, sprats and whiting; it is estimated that these two bird species consume about 250 tons of fish per day at the height of the breeding season from waters around St. Kilda.

WEATHER

The weather at St. Kilda is much maligned, and is probably no worse than at a number other Scottish islands. However, situated it is, it certainly experiences the full force of anything that is going! It has been described as being 'rapidly changeable and permanently humid'. Fisher described it thus; 'St. Kilda is the home of the clouds; it is a cloudmaker in a part the Atlantic where there is plenty of material to make clouds from. Soay, Hirta and Boreray comb and rake the sky with their rugged fangs, and the weather spills out it. On a fine day they have crowns clouds, blowing away with the wind, and making as they blow. Gusts of dark cloud and showers come out of nothing. When Boreray makes black clouds it looks like a smoking anvil. Lest the wrong impression be given, in 1983 four diving expeditions over five weeks experienced near-idyllic conditions.

The mean July air temperature is 11.8°C (cf. Edinburgh 14.7°C). The sea acts as buffer and the January mean is 5.6°C, (2.7°C higher than Edinburgh).

The mean annual rainfall is about 1385mm, which is lower than many parts of the mainland west coast. Again, the high cliffs will often be cloud—covered by the predominant weather from the W and SW. Mid-April to mid—June are the driest months.

Wind speeds are Force 3 or more for over 85% of the time, and force 5 or more for 30% of the time; gales only have a 2% incidence.

The swell varies considerably; conditions can be flat calm and idyllic in the high summer, but it is not always like this! The full force of huge Atlantic waves breaking far up the great cliffs Of St. Kilda is one of Europe's most spectacular sights.

DIVING EXPLORATIONS

A number of groups have dived at St. Kilda over the years, though very few have managed to dive its more exposed sites. The list below is not comprehensive, and I will be pleased to receive updated information.

1972 0'Reilly, Vallintine party
1975 Ridley and Scotfed Expedition

1978 Gray and RAF party
Capstick, Nutton, Waller and party
Another group
1980 Russell and Edinburgh BSAC party
Fyfe and Kirkintilloch BSAC party
1982 Monteith and Norfed ADG
Russell Edinburgh ESAC party
Day and Aberdeen BSAC party
Kemp Strat40rd ESAC party

1973 Buchanan party
1977 Ridley BSAC party
Capstick, Nutton party
1979 Ridley and BSAC St. Kilda Survey Expedition,
Capstick, Nutton and party

1981 Kirkintilloch BSAC

1983 Ward, Ridley BSAC Hebrides Expedition
Grier, Davidson BSAC West Scotland Expedition
Davidson and SSAC Expedition
Ridley and BSAC West Expedition
RAF party

NOTE ON PERMISSION

It is common courtesy to notify the Army (Commanding Officer, Royal Artillery Range, Hebrides, of Benbecula, Outer Hebrides, PA88 5LN), the National Trust for Scotland (6 Charlotte Square, Edinburgh, EH2 4DU), and the Nature Conservancy (Caledonia House, 63 Academy Street, Inverness, IV1 1BB) that you plan to visit St. Kilda. Permission is not actually needed to dive in the waters from your charter MFV, but it is required to land, and certainly if you would like to camp. There is a set of byelaws to be observed on St. Kilda; these are largely common sense and are very reasonable. A set can be obtained from the NCC or from the warden at St. Kilda.

It is my opinion that, with the growing popularity of St. Kilda as dive spot, it would be worthwhile if we were to press for the area to be made into an underwater nature reserve, before others restrict our activities. We may need to educate the parties concerned into realising that divers are capable of acting responsibly, otherwise I can visualise the possibility that diving access might be curtailed at some time in the future.

BATHYMETRY AND UNDERWATER TERRAIN

The water around the St. Kilda archipelago is about 150m deep. The bank from which the group rises about 8 miles in diameter and has depths of generally about 60—70m, though immediately off the islands it is usually about 40-50m.

The underwater terrain near the islands is mainly rocky Slopes and cliffs dropping very often to as much as 50m underwater, except at Village Bay, Glen Bay, and off the N coast of Hirta. The scenery underwater is exceptional with walls, gullies, boulders and tunnels abounding. The dive sites at St. Kilda represent some of the best and most exciting diving in British waters, due mainly to the rock structures, the clear waters and the rich life.

CHARTS

The following Admiralty charts are relevant:

2524 Island off the NW coast Scotland (includes plans of St. Kilda, Rockall, and the Flannan Isles)
2721 St. Kilda to the Butt of Lewis (St. Kilda, Whale Rock and the Flannan Isles generally)
2 British Isles (general position St. Kilda and Rockall)
C. 6091 Rockall Bank

The soundings on 2524 (the only one of detailed use for St. Kilda) are very sparse and are not too useful. It is extremely fortunate, therefore that the institute of Geological Science have recently carried out a substantial amount of sounding around St, Kilda and they have produced a very useful chart. It has not been published but copies may be obtained from them.

TIDES AND TIDAL STREAMS

High tide occurs at -0030 Ullapool (—0450 Dover), then the SW-going ebb begins; low tide is at +0545 Ullapool (+0125 Dover),
the NE -going flood stream begins. The tidal range is 2.8m at spring tides.

Spring tidal streams run at up to 3 knots around the island group, though these rates are only reached in the channels and around the exposed headlands and stacs. Further offshore, and at more sheltered sites near the shore, the streams are less strong.

The North Atlantic Current sets to the NE with a rate about 1/2 knot.
Strong winds can obviously affect this drift of water.

This information is not totally reliable as little data has been collected.

UNDERWATER CONDITIONS

The entry to the water is straightforward (as it is usually from an MFV, and gravity help wonderfully), but the exit more be more difficult because of the swell and the boat movement. Rough waters at some of the more exposed (and desirable) sites can exacerbate this difficulty.

The water temperature is ameliorated by R he Gulf Stream. It varies from 9.5°C in May to 13°C in August. The water is a little cooler than those nearer the W coast, though this is hardly noticeable.

The underwater visibility can be huge, and this one St. Kilda's attractions. Early in the season the visibility is poorish due to the plankton bloom; what data there is suggests that this can last until June. Visibility then may be as low as 10m! By July and August this can have risen to over 30m horizontally, especially by the stacs and Boreray; visibility of 40m and even 50m has been reported. Later in the season large numbers of Salps can be met in the first 15m, reducing visibility somewhat, though deeper down it is as clear as ever. The winter visibility is unknown as no—one has dived there then! I would expect it to be good on bright days. One of the nice features of the diving is that St. Kilda is washed by blue oceanic water rather than the greener coastal waters that are encountered off the W coast.

MARINE LIFE

This is very profuse, particularly among certain groups. A species list is given in Appendix 2. The following more general notes indicate the more obvious life to be seen.

Mammals: Lots grey seals (which is a rare species except at certain localities in UK waters), which accompany divers at many sites. The population is estimated at about 400, mainly concentrated around Soay Sound and Glen Bay. Dolphins and whales are quite frequently sighted, though so far attempts to actually dive with them have always resulted in failure.

Fish: pelagic fish, by their nature, are not often seen by divers, and with relatively little time spent on true bottoms not too many benthic fish are seen either. In fact, St. Kilda is not really a fish—watcher's paradise though there are small fish in the nooks and crannies; this may be due to the attentions of the seals. The main fish of note are ballan and cuckoo wrasse, lumpsuckers, conger eels, and Pollack; basking sharks are sometimes seen but have not yet been dived With at St. Kilda. Sited
where it is, when based at St. Kilda one would expect to see the occasional large visitor from deeper waters, and in fact a sunfish has been recorded; no large sharks yet been seen!

Crustacean. : The classic species are not seen as often as might be expected, but this is probably because most of the diving is on very steep walls. Lobsters are found in the areas of appropriate boulder bottom, and crawfish are found around Am Plastair; edible crabs are quite common and grow very large. Squat lobsters hide in cracks, and there are both spider and hermit crabs. Norway lobsters occur in the deep water between Hirta and Boreray.

Molluscs: Topshells, limpets and cowries are all common. Octopus are not uncommon; seahares and many species of nudibranchs are very common in the right habitats.

Echinoderms: Sea urchins are common (and grow very large) and sea cucumbers are recorded. Starfish are plentiful with the common, purple, spiny, cushion, sun, feather and brittle stars all being recorded.

Worms: Peacock fan worms are found at the back of the deeper sea caves and serpulid tubeworms are found on many of the rocky surfaces.

Anthozoa: Huge numbers of anemones occur at St. Kilda, and their colonies form quite characteristic areas. Notable are Sagartia, Corynactis (jewel), Metridium (plumose), Actinia (beadlet), and Urticina (dahlia), though others occur. Cup coral is common as is soft coral (Alcyonium).

Other encrusting life: Sponges (especially Myxilla) are very cannon; tunicates (especially Clavelina) abound; hydroids (esp. Tubularia) are well represented, especially in the surge gullies.

Drifting life: Aurelia and Cyanea jellyfish are common, as are gooseberries and comb jellies. Long strings of salps are also common at the right the season. By—the-wind—sailors sometimes occur in large shoals.

The habitats for marine life are rather more varied than might at first be imagined. There are bays with both sandy and muddy bottoms; extensive kelp forests, both shallow and deep and horizontal and vertical; there are sheltered rocks, and also the sheltered waters of dead—end caves, some of which are quite deep; there are sheltered areas of deep cliffs and also of deep bedrock seabed; there is also the freshwater spring area off Soay Stac. However, the classic sites (for divers) are the exposed vertical walls, the deep bedrock seafloor areas exposed tidal streams, the incredible submarine shoals, and the exposed Surge gullies and tunnels.

The general shore feature is steep rocks dropping into deep water; this has a characteristic zonation of life as one progresses deeper. There is an extended upper zone of black lichen and dark green seaweed which is often influenced by bird droppings; this is followed by a wide band of dulse and sometimes limpets, and on sheltered shores there are fucoid seaweeds; then there is a deep zone of barnacles. Moving down to the zones that are completely underwater at all times, the first band is the alaria zone composed largely of oarweeds and coralline algae. The kelp zone then usually forms an extensive from 6—30m; it can even be found deeper than 30m, indicating the extent of the water clarity. The kelp forest may be absent at very exposed sites and it is then replaced with the characteristic anemone, tunicate, tubularia, and sponge carpet. Below this zone is an area of soft coral and some cup coral. The deep rocks and seafloor do not have as much life, though the deep shoals are covered with coralline algae; the very deep sites have a brittlestar carpet.

PHOTOGRAPHY

The possibility of rough water makes the Nikonos system a clear favourite. Take close—up equipment for the rich and colourful life on the walls; wide angle lenses allow you make the most of the huge visibility. In fact St. Kilda, with its colours, walls and visibility, is the ideal site in the UK for indulging yourself in “negative—space” photography.

In addition to underwater photography there are superb opportunities for topside photography. In addition to the more normal lenses, very wide angle lenses for the stupendous scenery and longer lenses for the seabirds are particularly useful.

In my opinion, Ektachrome 200 and Kodachrome 64 are the two most useful films, if colour transparencies are your intention.

The Kodachrome is ideal for scenery and for underwater close—ups; Ektachrome 200 can be used for birds and dull days together with general underwater views; on deep, dark dives the Ektachrome can be uprated to 400 or even 8OO ASA with modified processing.

Take ALL the film you think you will need, plus a reserve, and don't omit lots of batteries. Spare parts for everything (especially underwater flash units) is wise precaution when operating at remote sites such as St. Kilda.

DIVING ORGANISATION

There are a number of alternative tactics that can be employed to dive at St. Kilda:

1. Being transported by the Army supply vessels or, more probably, by privately-hired MFV, camping at the Village Bay, and then diving from at least two inflatables. We made several trips to Boreray in this manner in 1979.

2. Hiring an MFV and living aboard, anchored in Village Bay at nights; diving direct from the MFV with inflatable tender(s). This is an excellent method when the weather is favourable.

3. Camping at Village Bay (for comfort) and having an MFV and inflatables permanently available in the Bay. This is the best, if most expensive, way of diving the archipelago if conditions are not ideal.

My opinion is that these are listed in order of increasing preference, given reasonable weather. Method 1 is, however, the only dependable way of guaranteeing a stay at the islands for a longer period of some weeks, and diving when conditions allow. It may not be too easy to gain permission to do this, however.

Bear in mind that any method employing MFVs is subject to the whims of the skipper. The importance of having a steady, unflappable skipper in poorer or borderline conditions cannot be overstressed; more diving opportunities have been lost due to incompetent or over—imaginative skippering than have ever been lost due to bad weather! When listening to shipping forecasts the N of Britain it is nearly always possible to find some detail that could lead to bad weather in the fullness of time; people who are unduly disturbed by such matters should not become charter boat skippers. Most skippers are excellent, but bad experience is on record!
It would be wrong to name skippers, but the excellent track record Jim Kilcullen of North Connel over a period of years is worthy of comment.

DIVE BOATS

There a shortage of good charter vessels for St. Kilda and an increase would be a welcome feature. However, a number of boats and skippers are prepared to work in the St, Kilda area, although not all are as there is easier money to be made closer to home in gentler waters. The following boats have worked St. Kilda recently Charna, Western Diver, Balanus, Kylebhan, Pentland Wave, Pippin, St. Just, and the Deli; regrettably, not all these can be recommended wholeheartedly. I will be pleased to include details others in the next edition of this guide.

SAFETY

The consequences of a diver at St. Kilda are grave. Once lost, all one can hope do is to search dawn—tide or downwind of the divers' last known position and the chances are not good even in reasonable conditions. The chances can be improved by the divers carrying personal flares and a collapsible flag. It is imperative to avoid separation in the first place; the best way to achieve this is use surface marker buoys, dayglow hoods and competent boat handlers/skippers.

When operating a pair inflatables without an MFV back—up it would be very wise to have a VHF radio aboard at least one of the inflatable. A portable VHF set also allows contact be kept with any parties that go off to explore the stacs on foot.

There is a sick bay in the Army camp with two medical orderlies. Help can also be called up by radio, either by the MFV or by the Army radio operators. A helicopter could quickly be summoned to evacuate a casualty in the event of a real emergency.
In fact, because of the Army presence, St. Kilda is not really as remote as it appears from the chart.

There are no recompression facilities, of course. The nearest chambers are at Fort William (0397 3786), Oban (0631 62244), Faslane (0436 4321) and Glasgow (041 339 8822). If airborne, Aberdeen (0224 23423) is also in range. The emergency procedure is to phone HMS Vernon (0705 818888) and ask for the Duty Diving Medical Specialist Or the Duty Lt—Cdr. The ESAC Expeditions Scheme has a sectional, portable, one—man recompression chamber and gas supply, and this is available for expeditions consider it necessary.

It should be emphasised that St. Kilda an oceanic island and it is quite remote, and its waters are clear and rather deep.
Due care should be taken with its diving exploration. Blob buoys, personal flares, dayglow hoods and personal collapsible flags are all recommended. The use of an ABLJ is strongly recommended by the BSAC (and is merely common sense anyway); a drysuit makes for much more comfortable deeper diving, though it is by no means essential for the water temperatures in summer.

DIVING TECHNIQUES

Normal diving techniques obviously still apply at St. Kilda, though there are a number points worth emphasising in view of the extra dangers that are present.

The offshore nature of the area is the main problem; it would be easy to lose a diver and thus appropriate precautions must be taken (see section on safety). The depth and the clear water combine to lure most divers to greater depths than they are perhaps accustomed to, and very great care should be taken with the deep diving, particularly in conditions of heavy swell. The problems of nitrogen, narcosis and decompression are ever—present.

There is an additional danger that is not immediately obvious. The scale and perspective of the cliffs and stacs are huge; if a diver is used to less grand scenery (who isn't) it is easy to enter the water in seas that are too big, because they are dwarfed by the rock scenery.

One the attractions of St. Kilda is its complex underwater rock formations. Exploring the gullies, clefts and tunnels is challenging and rewarding. Watch for the twin dangers of attempting confined tunnels in conditions that are too rough and of entering enclosed areas without the right training and equipment. There are a number of sites included in this guide that exceed what a normally trained, equipped, and experienced amateur sports diver should attempt. Where this is clearly the case it is pointed out in the site descriptions.

A drysuit (particularly the membrane type) makes for much more comfortable deeper diving. The use of an ABLJ with a drysuit
is strongly encouraged. Weighting should be carried out with some care, especially if deeper dives are carried out in a wetsuit.

Cylinder sizes can be varied considerably depending on your intended dive profiles and your personal air consumption. Curiously, deep dives often don't require as much air as you might at first think because of their short bottom time; often a 2000 litre (70 cu ft) cylinder capacity is adequate, though the new 94 Cu ft steel cylinders have much to commend them. On a typical deep dive
15 minutes at 50m with two decompression stops — an estimated air consumption would be about 1700 litres (assuming a surface breathing rate of 15 litres/minute). This, of course, would make no extra allowances any emergencies.

Should one tackle dives involving stage decompression in any case? It is certainly possible to dive virtually all the sites without it being necessary. However, it is most useful to have a little more bottom time on the deeper dives. Usually a surface marker buoy will enable the boat party to follow the decompressing divers, though this will not work in the tunnels and deeper gullies; in this case the “delayed SMB” technique may be indicated. This involves the decompressing divers sending up a long, thin lifting bag with a 10m line attached; the surface party locate and follow this.

A significant addition to safety can be made by slightly decreasing the maximum bottom times on no—stop dives. If at the no—stop time a 5-minute stop at 5m is a wise precaution.

Generally, when operating from inflatables or MFVs it is usual the party to be split into two; each group then dives with its various pairings in the water at the same time. This saves time, yet leaves plenty of people for cover and standby duties.

The use of shotlines on the deeper dives, particularly those offshore, is strongly recommended. Torches may be useful, and a helmet—mounted unit leaves the hands free for cameras etc.

THE DIVE SITES

This guide detail. 185 different sites; 117 of these have been dived (86 by Gordon Ridley and 30 by Maurice Davidson) and 68 remain to be explored. The information is given in brief note form, largely, and may not include all the detail that is available.

Please view the opinions offered as to the quality of the dives in the light of St. Kilda generally; thus a poor dive here is probably comparable to a good dive in say the Clyde area!

It would be mast helpful if information is sent to the author, especially concerning those sites recorded as undived, so that this guide can be updated in due course.

VILLAGE BAY SITES

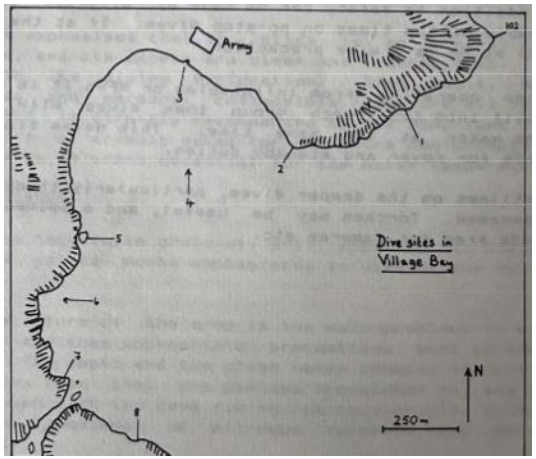
1. Under Glacan Oiseval NF110989
Lots kelp and boulders at 15—25m. There may be a small tunnel running into the cliffs at this Site.

2. Point coll, Village Bay NF1ö6988
A Steep, kelp covered slope to about 30m. The occasional seal Sighting makes this a pleasant dive.

3. Village Bay Pier NF103991
A sand seabed (with initial Weeds) falling ta 8m and then to 14m farther out. A passable night dive, with crabs and flatfish plus a few octopi.

4. Centre of Village Bay NF102987
This is flat and sandy, and gives a poor dive in goad vis! About 10m deep close in shore, and 25m further out. Note that basking sharks have been observed in Village Bay, feeding near the shore. (They have also been observed near Levenish and in Glen Bay.)

5. Rocks to W of Village Bay NF099985
Shallow bedrock covered with kelp. This to sand at 9m,



6. Off Geo Chille Brianan NF098982
Large numbers kelp—covered boulders - these are used by the soldiers for lobstering, but they yield a rather disappointing dive to 15m.

7. Geo Leibli NF098981
A cave the NE 04 Dui n Channel; the natural arch is just boatable at calm high tide, when the water is 2—3m deep a gives a scrambly dive. The site has been used for night dives.

NB. Duin Channel is just navigable to inflatables at high tide in calm conditions.

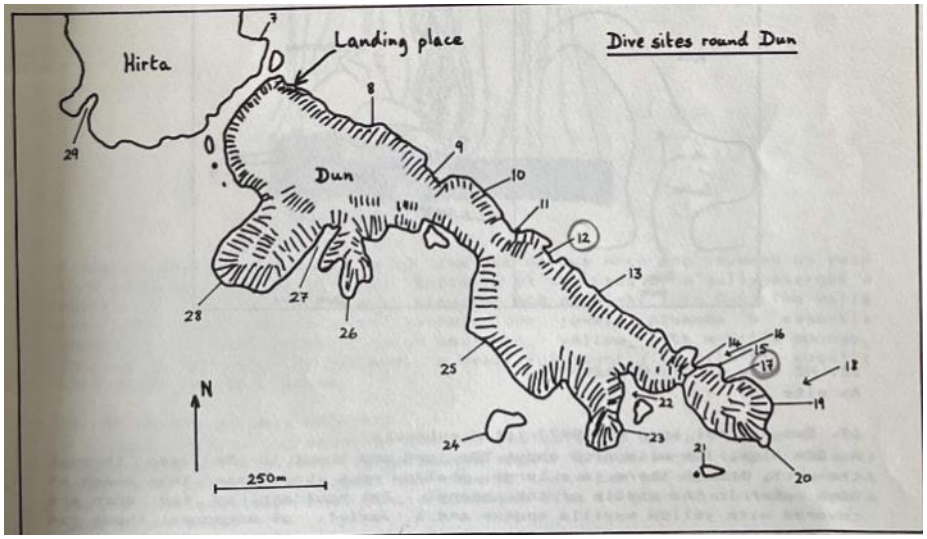
DUN SITES

8. NE face of Dun NF101978
A 20m deep vertical cliff absolutely covered with life; the boulder bottom runs to about 25m. There are overhangs, ramps and little caves. A good dive.

9. Seilg Geo NF103978
An undived inlet.

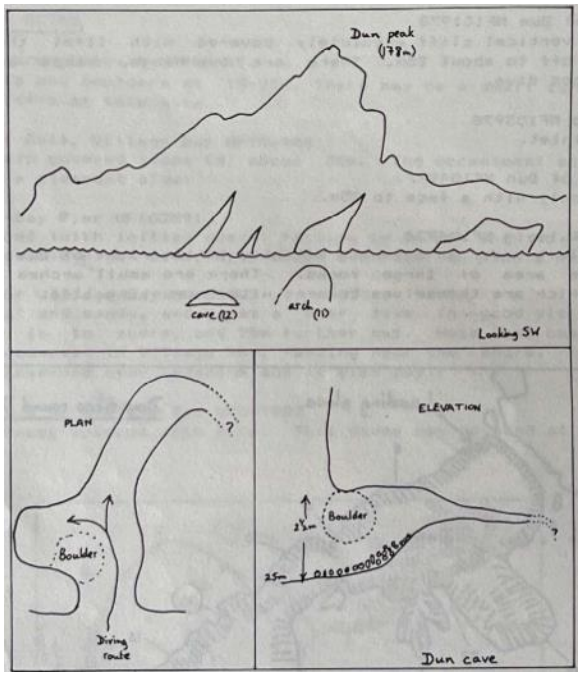
10. NE face of Dun NF104977
As Site B, only with a face to 25m.

11. Geo na Ruideig NF104976
A surface cleft under an overhang situated to the right of Dun peak leads down to an area of large rocks. There are small arches among the boulders, which ae themselves covered with encrusting life.



12. Dun Cave NFIO5975

An unusual and exciting dive to about 25m. The cave starts under an overhang and it is gloomy, then black. It is about 25—30m deep making torches essential; a cave diver's line is a reassurance. The walls are quite bare. About 4m high at first, the cave floor then climbs up a small boulder slope and then runs level until it eventually gets too narrow penetrate further, though the end is clearly insight a few metres away.; by removing cylinders a 4ew more could be gained, but this would serve little purpose and would have an attendant risk. There is some sediment on the cave but this does not stir up too badly. This site is thought to be an old cave cut by wave action in a geological fault at a time when sea level was 25m lower than at present.



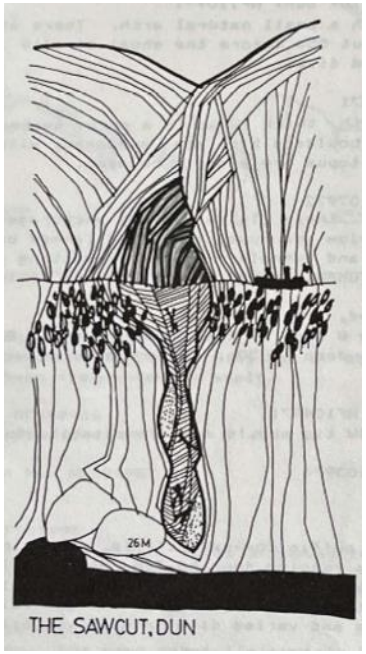
13. NE face Dun NF106975
As site 10.

14. Dun natural arch NF108977 (at N entrance)
A 20m—high, 10m—wide arch about 50m long and about 10—15m deep through the arch, though there is a large, shallow rock just deeper than awash at high water in the middle of the channel. The boulders in the arch are covered with yellow myxilla sponge and a variety anemones; these can be examined while drifting through the channel with the 1/2 knot tide. There is a very confused and broken water surface with any SW swell running; even in good conditions the dive demands careful boat cover.

15. Just E of N entrance to Dun Arch NF109973
The bottom drops to 20m. Swimming from here along the E wall of the tunnel one comes to a small cave, often with a seal in it. Not too interesting a dive.

16. NE of Dun Arch NF109973
The bottom drops to 25m and kelpy boulders, giving a not very inspiring dive.

17. The Sawcut, Na Sgarain, Dun Arch NE 109972



A sheltered site. The cliffs to the NE of Dun Arch are covered by kelp then plumose anemone to 24m. Suddenly at the head of a gully emerges a narrows cut 1—3m wide, 26m deep, shooting 60m straight into Dun. The walls are sheer and coated with technicolour jewel, plumose and sagartia anemones, and soft corals. Large boulders, yellow with myxilla sponge, lead up to 10m at the far end. A beautiful night dive with the moonlit slot above you in 30m Vis!

18. NE of Gob an Duin NF111972
A little out from the edge of Dun the bottom drops sharply to about 40m. Huge boulders the size large houses appear as vertical islands looming up from the seabed; the tops of these con be visited in turn at depths just shallower than 30m. A pleasant dive in good visibility, and a good night dive.

19. Gab an Duin NF110972
A series of boulders and gull covered in jewel anemones and all the other encrusting life. The cliff face directly under the headland has its base at 32m, and it is possible to drift round the point in a tide up to 2 knots while bouncing off fields of soft coral and plumose anemones; shoals of pollack play in the tidal stream. Swimming directly out onto the bay the bottom dropped rapidly away and was covered with more of the huge boulders seen at site 18. The tops of these are covered with jewel anemones and reach up to 36m.

20. Gob na Muce (SE tip Dun) NF110971
An undived headland with a small natural arch. There should be a steep drop running out about 55m before the shoal of site 111.
This site is expected to yield a good dive.

21. Hamelan Rock NF109971
A very exposed site with thick kelp to a rocky seabed at 15m. The very broken cliffs and huge boulders hide many anemones, with lobsters in the crannies. Seals and octopus

are also to be seen.

22. Dun Arch Island NF107972
In very calm weather there is a natural anchorage to the N of the island. Immediately below are huge, bus—sized jammed boulders at about 25m; these form clefts and tunnels — beware of getting jammed as some are over 20m long. These tunnels often contain idling seals.

23. Glumachsgor headland, E side NF107971
This headland forms the W side of the channel running S from Site 22; the smooth vertical walls drop to 30m, and are covered with many species of anemones and sponges.

24. Sgeir Cul an Rubha NF104971
An undived islet; the SW tip should drop immediately to 30m.

25. Under Bioda Mor NF103974
Undived cliffs.

26. An Fhaing NF101975
An exposed site below puffin-covered cliffs and slopes. The angular cliffs have deep cracks running down to 30m and are liberally colonised by a variety anemones. There is a large cave (15m deep and 5m in diameter) in the bay at a depth of 20m; it is full of soft and hard corals. An interesting and varied dive in good visibility.

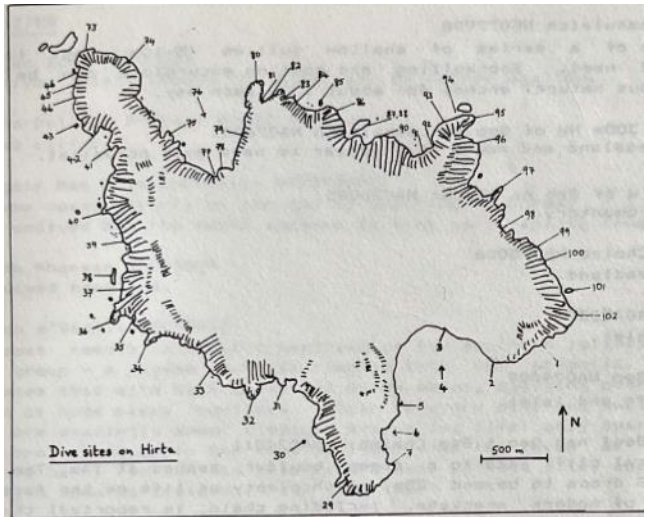
27. An Fhaing Geo NF100975
A Shallow tunnel rises above water as it zigzags 70m into the beautiful, vertically-walled canyon just W of the headland An Fhaing itself. An excellent dive.

28. Cul Cleite NF097975
An undived headland, but it looks promising with recently-charted depths of at least 30m.

SITES ON THE W COAST OF HIRTA

29. Geo Gharran Buidhe NF094978
An undived headland

30. An Torc NF092983
An undived islet.



31. Under Mullach Sgar NF090987
An inflatable can be anchored in the tiny bay in about 25m. The site is a series boulder beds frequented by seals.

32. Rubha Mhuirich NF088986
This is an undived headland.

33. Under Claigeann Mor NF084987
Undived cliffs

34. Gob Chathail NF079990
A series of boulders and steep faces dropping to 25m, covered with all the usual St. Kilda marine life. There was no sign of a rapid drop—off, though an echo sounding showed a cliff running from 18m to 32m.

35. Geo an Eireanach NF078992
A small, undived bay. The name means 'Irishman Cave' and stems from an Irishman who was cast ashore here after his rowing boat was blown out to sea off the Irish coast (while he was rowing to a nearby island make merry with his friends with a keg of whisky); after three days he was rescued by the St. Kildans.

36. Sgeir Mhor NF077992
Shallow gullies suddenly give way to 30m+ drops. The clefts contain peeping Seals.

37. Under Mullach Bi NF077994 (approx)
Drops to 40-50m on to a bedrock seabed. The cliffs are covered with life, including octopus.

38. Islet under Mullach Bi NF077995
undived rocks.

39. Geo na Lashulaich NF077998
This consists of a series of shallow gullies (5-10m deep) full of boulders and weed. Snorkelling and boating excursions can be made through various natural arches about 200m each way.

40. Headland 300m NW Geo na Lashulaich NA076001
An undived headland and rocks that appear to have good potential.

41. Headland W Geo na Stacan NA076005
An undived promontory.

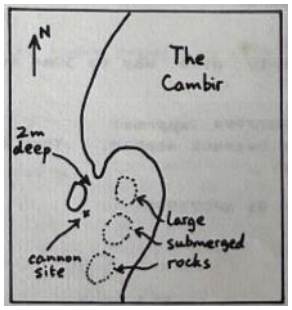
42. Poll a' Choire NA075006
An undived headland.

43. Baghan NA075007
An undived islet.

44. Beul na Geo NA074009
Undived and islet.

45. Between Beul nan Geo and Geo Chaimbir NA074011
Down vertical cliff face to a steep boulder seabed at 14m. The cliff face to the S drops beyond 25m, with plenty of life on the faces. A small amount of modern wreckage, including chain, is reported; this may be part the same wreckage as that site 46.

46. Galleon site in Geo Chaimbir NA075012
There is a legend of a galleon wreck at Mina Stac, but nothing has been found there, even though three expeditions have made brief searches. Supposedly the masts of the galleon brought down a natural arch joining Mina Stac to the Conachair cliffs; the falling rocks sank and buried the galleon, though the crew escaped by scrambling up the masts to the cliffs which they then scaled to safety. However, the legend could almost equally be fitted by Geo Chaimbir, and this was confirmed when a cannon (about 1m long) partly jammed under a very large boulder was found by Eric Warburton in 1977. The cannon irresponsibly lifted in 1978, though this was not discovered until 1979. There have obviously been several wrecks here, and the whole area may be worth a proper survey. The site lies under The Cambir in a small bay facing Soay Stac. A small rock lies at the seaward edge of the inlet; the best way of finding the site is to swim through the tiny gap between this rock and the mainland rocks, then drop down the gully that opens up to the right. This leads to a narrow (2m wide) channel about 15m deep; the cannon was found part way along this channel. Also in this area are several lengths of large chain (with both ordinary links and studded links), and pieces of wooden and metal wreckage lying in about 13m of water. The numerous seals around the inlet use the cave under the overhang at the rear the inlet as a haul—out.



SOAY SITES

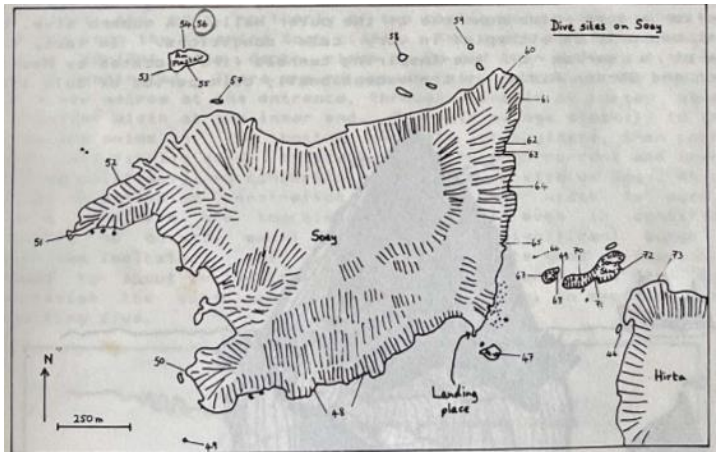
47. stac Dana NA070011
An undived islet, though the water may be rather shallow.

48. Scarpalin and A'Chala NA065009 (approx)
Undived cliffs.

49. Sgeir Mac Righ Lochlainn NAO5930077
The name means “Skerry the Son of the King of Norway” — I wander why? It is undived but the depth appears drop very rapidly from 20m to 50m.

50. Gob Phursan NA060009
An undived headland.

51. Gob a’Ghaill NA055015
The most remote and wild headland of the southern islands of the St. Kilda group — a jagged sawblade ripping into the Atlantic. Black rock dominates this site both above and below water, plunging over 50m on to a seabed of huge black boulders. Open to every wind and swell, the rocks here are amazingly swept clean of encrusting life; only dwarf kelp and soft coral cling on in the crevices, and even the caves at 20m on the N face are bare. In 25m vis this made a dark ominous site, especially when heading N towards Iceland in a 2 knot tide!



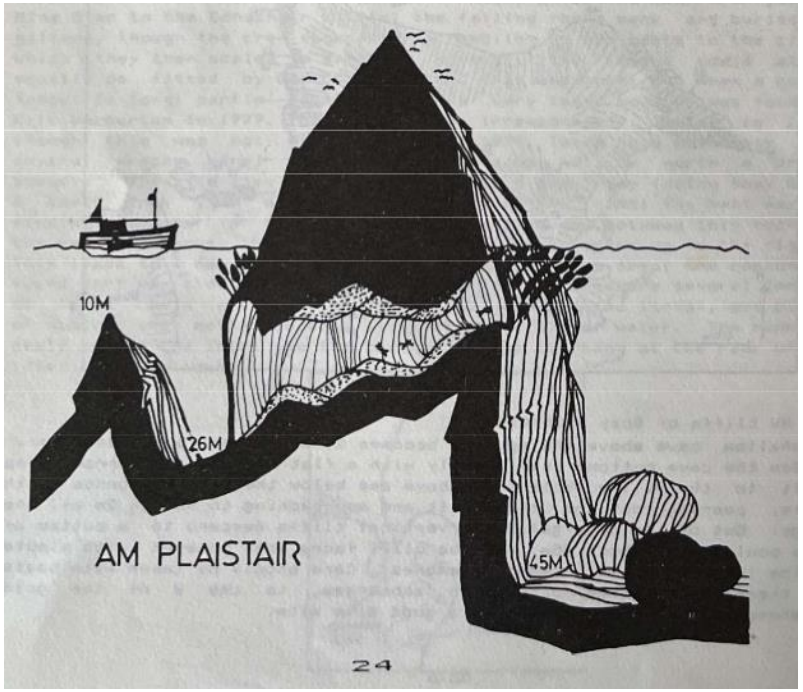
52. NW cliffs Soay NA057016
A shallow cave above the surface becomes a large open cave underwater. At 26m the cave bottoms into a gully with a flat ledge and a narrow, deep cleft to the W. The whole area above and below the water abounds with seals, peering out of the cleft and approaching to within 2m of the ledge. Out of the cave/gully the vertical cliffs descend to a bottom of the huge boulders at about 45m. All the cliff faces are covered with minute marine life, especially jewel anemones. Care should be taken boats as there is a large rock which submerges, to the W of the grid reference. This itself may give a good dive site.

53. Am Plastair, SW tip NA058020
Am Plastair is a very exposed islet composed of a black, 45m high fang of rock, isolated below Soay's towering cliffs. Its SW end gives a super dive down very steep, life—encrusted cliffs to about 45m, with a bottom of huge boulders running across the 200m wide gap to Soay. A recommended Site.

54. Am Plastair, N face NA059021
The N face is an undulating cliff to 28m with 15m high boulders and rocks just off the wall. These create endless caves and crannies all encrusted with colour and shellfish.

55. Am Plastair, S face NA059020
This face drops to 45m and gives a very colourful dive. Further W there are jagged teeth rising from 30m to 10m, with narrow ravines between full of saithe. Crawfish, lobster and nudibranchs were everywhere, hiding amongst their yellow and orange background.

56. Am Plastair Tunnel NA059021-NA059020
The tunnel is an angled gash that cuts right through the island, completely underwater. The N entrance is 24m high and 15m wide, narrowing to 8m by 4m wide just below the surface on the S face. The whole 40m tunnel is most impressive and, where it not for the tunnels in Levenish and Sgarbhstac, it would have to be described in superlative terms. Its walls are lined with myxilla sponge and jewel anemones and it provides a most sensational site for carrying out stage decompression stops after a deep dive down one of the outer walls. A Superb dive, but one that can only be attempted in very calm conditions. In fact, this was one of a series of awe—inspiring tunnels first located by Maurice Davidson and Gordon Ridley in the exceptionally calm period 04 July 1983.



57. Creagan NA061018
Lying inshore of Am Plastair, Creagan is an undived skerry at the foot of wild, forbidding cliffs.

58. Outer Rock, NE Soay NA066021
The N face of this rock in a steep wall to the seabed at 45m. There are no special features, but lots the normal life to see. It would be very spectacular dive were it not the fact it is at St. Kilda!

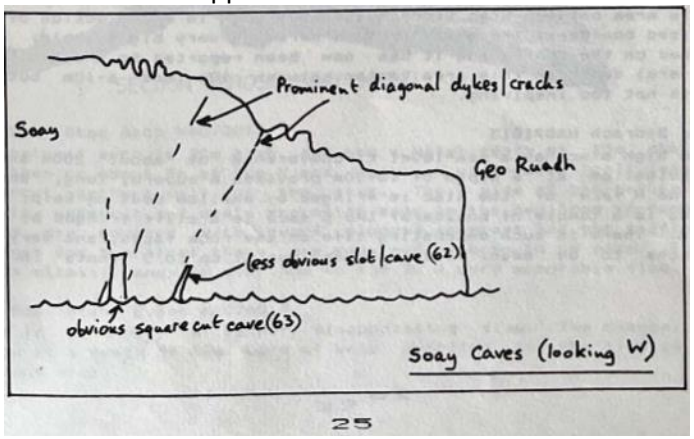
59. Skerries NE of Soay NA067019-NA069021
It would appear that the several rocks and skerries along this part of the Soay coast are the remnants of the top of a wall that reaches down to 45m. They are apparently undived.

60. Geo Ruadh NA070020
The NE headland of Soay drops into about 30m deep. The seabed consists of complicated contortions of bedrock and large boulders which are all covered with the normal encrusting life and which hide many lobsters. The small rock faces are coated with soft coral and anemones. This corner attracts a lot of swell.

61. E face Soay NA0710i9
Very similar to the previous site, though not quite so exposed.

62. Thompson's Cave, E Soay NA07000178
The first and more northerly of two challenging narrow caves running directly into the towering Soay cliffs. The depth at the entrance to the cave is 10—12m; this depth rises

to 2m and then falls a little as the cave is penetrated. There are no known air spaces. The width varied from a metres at the entrance, through a couple of surgey 'squeezes', to shoulder Width the inner end. The cave swings steadily to the left (S) as one swims in. The bottom consists of boulders, then cobble and pebble, and finally sand, indicating no through—current and therefore, and disappointly, no connection with the N side of Soay. At the far end, at an estimated penetration of 110m, the width is such that a diver's shoulders are touching both walls; even in conditions of virtually no outside swell there was a very significant surge and a return was indicated. The visibility was quite good at first but soon dropped to about 1m due to stirred bottom sediments; at the farthest penetration the visibility was less than 30cm. An exciting but very committing dive.



63. Kokelaar's Cave, E Soay NA06990174
A few metres S of site 62 there is a 5m wide and 5m high cave entrance with a water depth of 12m. This cave penetrates the cliffs for about 80—100m before the water surface meets the roof and before it really narrows down a real channel. The cave then penetrates at least a further 100m, probably much further. As we felt our way in we followed the left which in places was undercut. The visibility was very poor and often the right was not visible; the depth rose to 2m and then fell steadily to below 4m. The cave appeared to run on for some distance from our farthest penetration and it not impossible that it penetrates right through Soay, which is about 250m wide at the cave sites. At our deepest point we could not find the right wall by locating our fins on the left wall and stretching out the length of our bodies for the opposite wall. There quite a surge of water running to and fro in the cave, and it was necessary to hold on to the boulders on the bottom to avoid being bounced around. From our farthest penetration it took 7 minutes steady finning to reach the cave entrance. An extremely committing and rather frightening dive.
NB. These two caves were discovered and examined by Eric Thompson and Pete Kokelaar on August 4th, 1983. They were more I y penetrated by Kokelaar and Thompson, together with Andrew Hothersall, Phil Kelly and Gordon Ridley four days later. The full exploration of both caves almost certainly exceeds what normally—trained and equipped sports divers should attempt; cave diving techniques are much more appropriate. Communication between buddy divers is very difficult. In other than very calm conditions it would be impossible to enter these caves with any sort of safety.

64. Glamisgeo NA070016
An undived indentation in the cliffs.

65. Mol Shoay, E Soay NA070014
A black dyke runs down the cliff face and can be clearly observed from The Cambir. A tiny inflatable anchoring spot gives access to steep cliffs with a long narrow cleft with seals swimming to and fro. Watch for the surge of water in this gully — use the "whole body jam" technique to work this surge. A fascinating dive, though with some dangers in a moderate swell. The cleft has not been fully explored by divers, though possibly by seals!

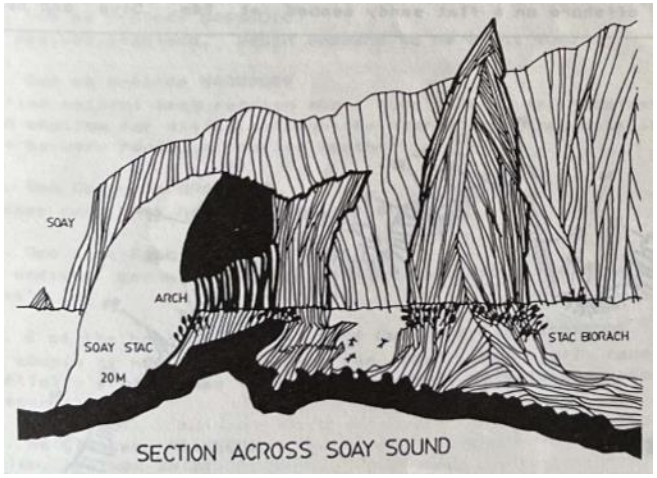
66. Rock awash to the NW of Stac Biorach NA071014
The whole area between Stac Biorach and this rock is collection of huge house sized boulders; the awash rock is merely a very big example. It is not marked on the charts and it has now been reported to the Admiralty. The general depth in this area varies between 18m and 6-10m but diving is not too inspiring.

67. Stac Biorach NA071013
This 73m high Stac has a sea-level of about 200m and its circumnavigation at a depth of 10-20m provides a superb, long, shallow dive. The N face of the stac is fringed by shallow beds of kelp, while the W end is a tumble of boulders; the S face is a cliff fringed by large boulders. There is much encrusting life on the rock faces, and very many nudibranchs to be seen. Tidal streams run at up to 3 knots in Soay Sound.

68. Stac Biorach Tunnel NA072013
This Lies at the E end of the stac where a large flake of rock butts on to the main stac. The tunnel is 20m long and 4—5m wide.
Its floor is at 12m and it is 6m high. When enter the tunnel, the green—blue of the far end can be clearly seen. The surge from swell and tide can cause a very unpleasant pressure effect on the ears. In rough weather this tunnel acts as a blow—hole.

69. Stac Biorach-Soay Stac channel NA072013
The channel between Stac Biorach and Soay Stac is narrow and about 18m deep with a good wall on Stac Biorach. On a flat calm day at slack water there is vertical upwelling of warm fresh water about 20m in diameter. The edges of this zone are a fuzzy zone of diffusion between the fresh and salt water. In this bubble the life abruptly changes from multicoloured anemones thick fields pink and white tubularia. These hydroids provide a rich feeding ground for nudibranches, and 15 different species were recorded here.

70. Soay Stac, N NA073013
Soay Stac provides a superb dive, though tidal streams can run at up to 3 knots. The N face consists of vertical and undercut cliffs descending to 30m. The walls are carpeted with oranges, browns, greens, purples and reds, making it an underwater photographer's paradise.



71. Saoy Stac Arch NA073013
The natural arch is 20m high, and has a water depth of 15m shelving to 8m, then about 5m at the N end, where an, underwater “col” leads to the undercut northern wall of the stac. The E side of the natural arch is heavily undercut and are often seen in the cauldron so—formed. The walls are covered with dwarf plumose anemones and the seafloor

with sponges and hydroids; there are many nudibranchs be seen. The seabed falls steadily away to over 30m to the S. A very memorable dive.

72. Soay Stac, E end NA074014
This is strangely a rather disappointing dive. The channel is swept clean at a depth of 32m. Lots of kelp swirling in the tide is the most obvious sight.

SITES ON THE N & E COASTS OF HIRTA

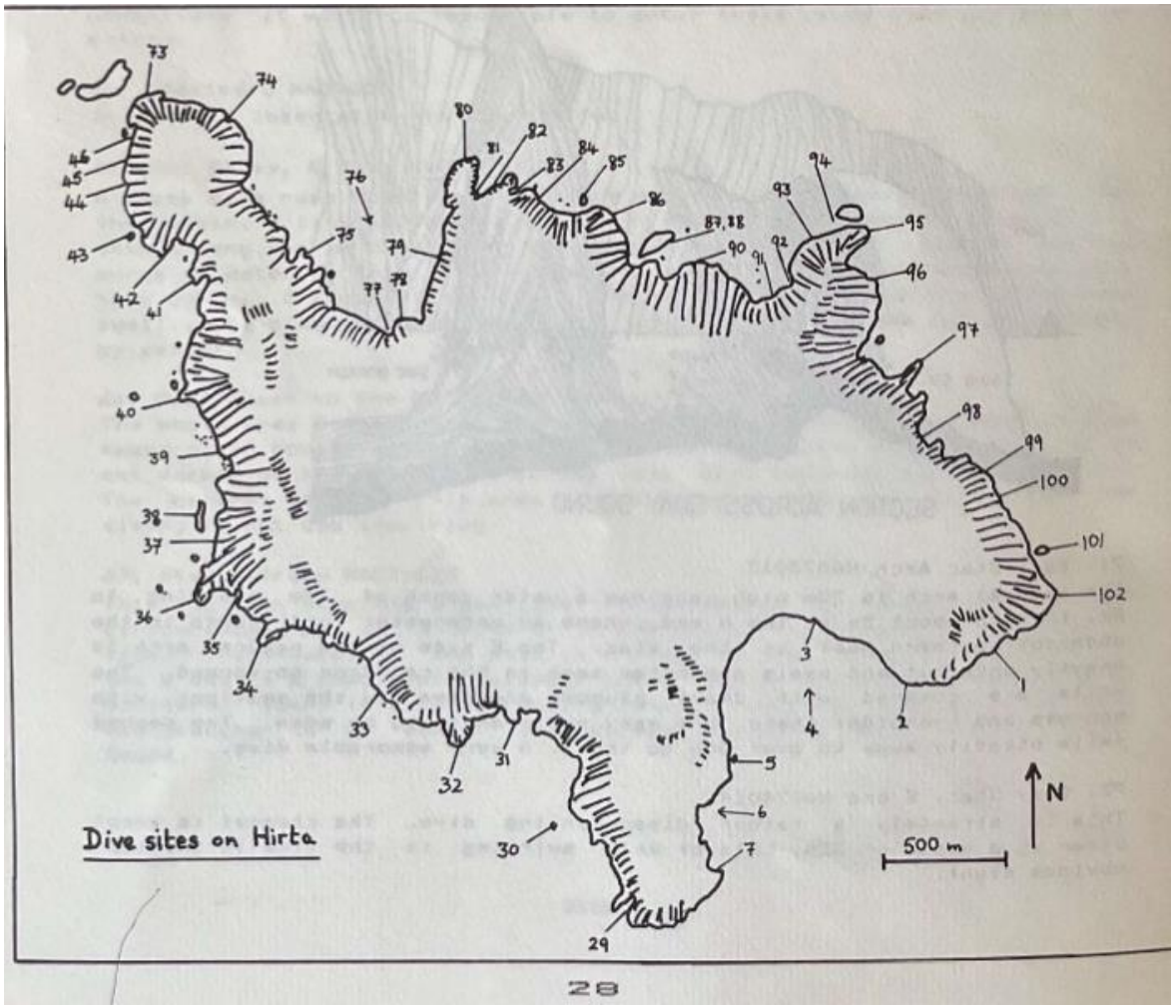
73. N end of the Cambir NA075013
It is possible to drift dive through the channel between Hirta and Soay, keeping to the Hirta side, and finishing near Geo Chalum McMhuirich. There is a boulder seabed at 18m at the bottom of the channel, and the Hirta cliffs can be followed to the NE (on the right tide); suddenly one is swept into a picturesque area of boulder and cliff face which is completely covered with soft coral.

74. Geo Sgeir Chaise NA078012
A sloping boulder and gully seabed with kelp to 18m, leading to a level bedrock seafloor at 33m. Heading S there is no change in the underwater topography. The visibility improves with depth.

75. Glen Bay, W side NA083005
A boulder seabed at 25m with lots of kelp. A poor dive by St. Kilda standards.

76. Glen Bay NA085007
Depths fall to about 40m on to a muddy bottom in places.

77. Wreck of a trawler, Geo Chruadalian, Glen Bay NA085003
The Gaelic name “Geo Chruadalian” means “Hardship Cave”! Anchor your inflatable just offshore on a flat sandy seabed at 24m. Dive and head towards the shore. Wreckage first appears at about 17m, though the main wreckage is a little shallower. The boiler and parts of the engine, together with many other bits and pieces, still remain. Towards the shore from the wreck site there are two gullies running almost parallel to each other; one is little over 1m wide. Both have sandy bottoms and are about 12m deep. Seals abound.



78. Leacan an Eitheir NA085004
The flat rocks provide a boat landing place (in calm weather) and are a favourite seal haul-out. This is an ideal site to watch seals underwater; we had 14 in view at one time! All the way from Geo Chruadalian to Geo nan Ron (Seals Cave) the bottom is a series of gullies, boulders and bedrock outcrops with maximum depths of 10-15m. It is possible to "lurk" in these "potholes" and get very close indeed to the seals. We have never been molested, but we have always been very careful never to "corner" a seal in a gully.

79. Glen Bay, E wall NA087006
This provides an excellent dive down a vertical cliff to 20m; this runs for 400m in either direction. It must be the UK headquarters of the jewel anemone, because these are everywhere. At the base of the cliff are boulders under which lobsters hide. Slightly further out from the face are a parallel series of kelp-covered rock ridges, so you must go right up to the wall in the inflatable before diving if you wish to dive the face itself.

80. Gob na h-Airde NA088010
An undived headland. Depth appear to be about 20m.

81. Geo na h-Airde NA088009
A fine natural arch running about 100m through the headland. Depths look too shallow for diving, though the snorkelling should be interesting. It can be very rough in heavier weather.

82. Geo Oscar NA089009
A deep cave that has not been explored.

83. Geo an t-Samh NA091009
An undived bay with a large cave at the back. The name means “Bad Smell Cave”!

84. E of the headland to the E of Geo ant-Samh NA092008
A couple of high-angle dykes run down the cliff face. These have partially eroded away and may very well have formed underwater slots or fissures.

85. Na Cleitean NA103008
A low, undived islet.

86. Cliffs NW of Bradastac NA094007
Steep undived cliffs, but probably quite shallow.

87. Bradastac, N Hirta NA097006
The cliffs of Conachair appear to be eroding faster than the debris can be dissipated by the tidal streams and wave action; consequently the material accumulates. Thus it appears that the whole N face of St. Kilda has shallow depths and rather disappointing diving. This certainly applies at Bradastac, where the bottom is thick weed at 10m.

88. Wreckage of a Beaufighter aircraft
In 1942 this aircraft (LX798) crashed into the Conachair cliffs; only a propeller remains at the impact site, the rest having trickled down the cliffs where some may have reached the sea. We were unable to locate it when diving round Bradastac.

89. Cliffs S of Bradastac NA097005
These fall to a cave and overhanging cleft and are unexplored.

90. Cliffs ESE of Bradastac NA098005
There are two undived caves under these cliffs.

91. Geo na Mol NA101004
Another undived cave which appears small and narrow. 80m W there is a second cave which is wide and low.

92. Rubha nan Plaidean, N Hirta NA102006
A sheltered site under Conachair’s 400m cliffs. The cliff drops to 30m with lots of colourful life but no jewel anemones. The seabed is bare, fresh boulder debris the cliffs above.

93. Cliffs SW of Mina Stac NA103007
A sheer underwater cliff to 27m. Lots of life, though probably not as rich as at the slightly more exposed sites.

94. Mina Stac NA10400e
The supposed galleon site, but nothing has ever been found (see site 46). The S side of the stac drops vertically to 25m and a bare, bouldery bottom. At the narrowest part the channel there is a boulder barricade ascending to 16m and the descending to 20m to the E. The N of the 62m stac falls vertically into 30m of water, and the walls and seafloor are liberally veneered with a film of sedentary life. The walls act as a playground for clouds of saithe with grey seals gashing tunnels through them. An excellent dive site in superb visibility (40m reported)

95. Leac Mhina Stac NA105007
An undived headland. There is often quite a wave surge here.

96. Rubha Ard Uachdarachd NAI05005
Bus—sized boulders have accumulated here under Conachair's E face. Depths to 15m and a thick weedy bottom. Seals play in the nooks and crannies.

97. Stac a' Langa NA107002
An undived headland; depths of perhaps 20m.

98. Geo a' Bhroige NF107998
A low cave with seals at the end.

99. Rubha Ghill 10997
Steep undived cliffs with caves.

100. Geo na Muirbhuaile NF111076
A deep cleft about 10m wide and 30m deep underwater with bold, bare walls. This penetrates several tens metres, and there are seals at the end. There is need for torches and Dutch courage! A surprisingly good dive for the NE coast.

101. Sgeir nan Sgarbh NF112993
A poorish dive to the S of the islet to about 25m. A bouldery seabed with lobsters in the crevices.

102. Rubha an Uisge NF113992
The undived eastern headland of Hirta; depths nay approach 30m.

LEVENISH SITES

103. Levenish, N face NF134967
A rough seabed to 26m over gullies and cauldrons full of anemones. A very rough wall, 24m deep, runs along this face with huge boulders and lumpy rocks just up to 10m just offshore. Caves, overhangs and gullies abound. The rocks are covered with sedentary
life and seals cruise around you; 23 lobsters were counted on one dive!

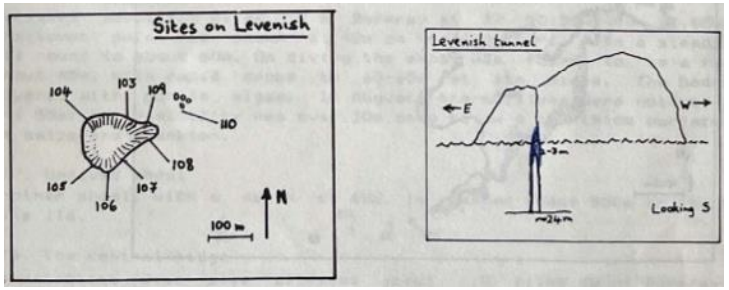
104. Levenish, NW corner NF133967
An undived point of the stac that should provide a great dive.

105. Levenish, SW face NF133966
A vertical cliff face down to a seabed of large boulders and gullies at 33m. An interesting dive with Shoals pelagic fish. There is a report of very strange water movements - whichever direction you attempt to go in including up and down) you appear to be heading into a current!

106. Levenish, S face NF13339656
A very exposed with a vertical face to 40m; this is rather bare due to wave action, though some kelp and plumose anemones shelter
in the crevices.

107. Levenish, SE face NF134966
A superb slope leads down to a dramatic seabed of bedrock and huge boulders. The enormous visibility allows almost a panoramic view the canyons and gullies; these are covered with a great amount encrusting life.

108. Levenish, NE face NF13459668
This drops initially to huge boulders at about 25m, then gullies and canyons lead down to about 35m. This is yet another excellent dive with all the normal life.



109. Levenish Tunnel NF13439669-NF13449666
This tunnel was discovered in 1983 by Maurice Davidson; it gives one the most exhilarating dives at St. Kilda. It is possible see a geological fault near to the E end the NE face of Levenish; dive here and follow to face in and down to 24m. A narrow slot can be entered and followed about 60m right through Levenish. This cleft is 1m wide, at most, and reaches to within 2-3m of the surface. Even in very calm conditions there is a significant surge running through the tunnel and a 'knees and elbows' jamming technique should be used; in rougher conditions the tunnel cannot be entered in safety. The exit on the SE face of Levenish is via a small cauldron at about 8m and tends to be an ejection rather than an exit! The walls of the tunnel are lined with sponges and anemones, and numbers of curious seals flash into life glide effortlessly to and fro. A dive that provides never-

to-be-forgotten experience; to paraphrase Maurice Davidson: “The feeling of entering a huge, elongated letter box, glistening in all shades of jewel anemones and with seals playing all round, yet claustrophobic in 40m vis, is something else.”

119. The west shoal
Yet another incredible rock shoal is located 2580m from the NE corner of Mina Stac on a bearing of 007.5 T at 57 50.97N 08 33. 60W. The IGS survey shows a shoal with peaks at 42m, 47m, and 53m, with depths around falling to 66m. The 42m' shoal proved to be very impress and covered in large amounts of purple algae; the top of the shoal was a series of hummocks and a depth of 40m was located. To the NW the bottom dropped away very steeply and canyon was observed; to the SE the bottom dropped away fairly steeply. The shoal composed of gabbro (like Boreray).

120. Gannet dive
Descend to 10m in mid—water anywhere about 1 mile S of Boreray, wearing a black suit and ABLJ. Have the Surface party throw fish heads etc. in the area of your bubbles. Gannets will skim the water Surface and will be quite visible from below; they may plunge dive, particularly if you are able to use plenty of fish.
NB. There are no other shoals with a minimum depth of less than 50m shown on the IGS survey, except those associated with shore features. However, the IGS survey carried out with an echo sounder from a small MFV, so undetected shoal" may exist. Note also that the cartography on the IGS survey may not be quite as precise as that of the Admiralty or the Ordnance Survey; however, it is the best survey currently available.

BORERAY SITES

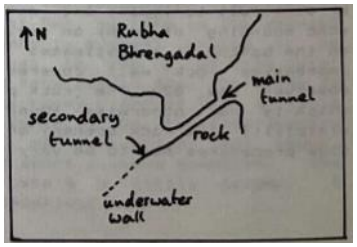
121. Gab Scapanish NA155044
A metres below the surface there is a black cleft in the kelp. This is 2m wide and leads directly to a seabed of solid bedrock in all manner of shapes at 35m. Seals swim to and fro in the flake cleft and add to the atmosphere of the dive.

122. Laimhail NA156044
Down cliffs to 35m on to a bottom of large rocks and gullies with seals in evidence.

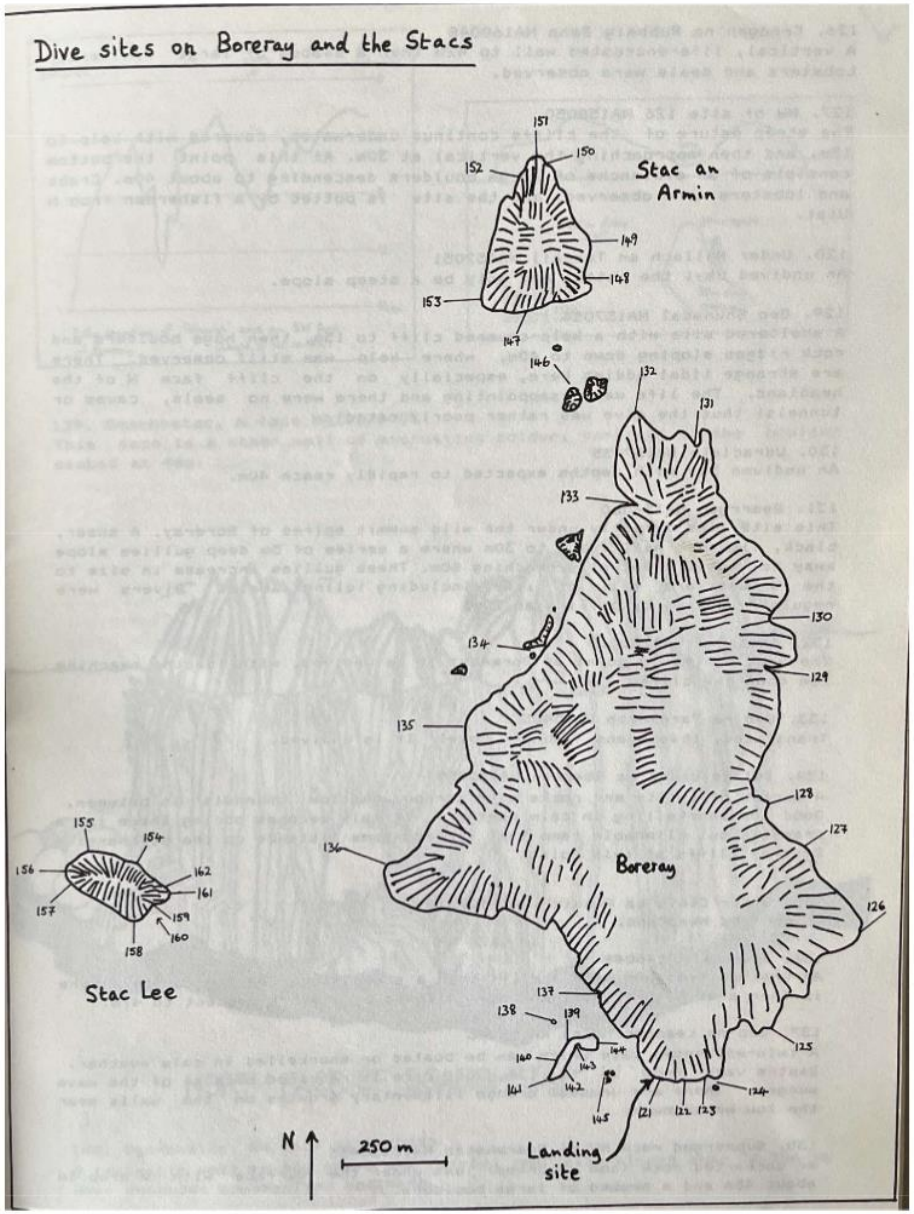
123. Just W of Rubha Bhrengadal NA156044
A “slot” gully running into the cliffs from a flat sandy bottom at 34m; it has not been fully explored.

124. Rubha Bhrer,gadal NA15650443
A rock projects just S the tip of the headland. Dive just W of this to a rather uninteresting seabed at 25m, and fin E to meet a vertical wall, then follow this N to locate another exciting tunnel. This is about 2m wide and 50m long; its deepest point is 25m and the roof at 10m. It is coated with the normal life and appears to have a resident seal that reported to have bitten a diver's fin. The vertical wall to the S of the main tunnel has secondary tunnel with a depth of 32m at its roof; it is about 20m long, and has the shape of a diagonal slot 3m by 2m.

125. Creagan Fharspeig NA158045
An undived small headland.


N
Rubha Bhrengadal
main tunnel
secondary tunnel
rock
underwater wall

Dive Sites on Boreray and the Stacs



126. Creagan na Rubhaig Bana NA160048
A vertical, life—encrusted wall to 42m then a seabed of large boulders. Lobsters and seals were observed.

127. NW of 126 NA158050
The steep nature of the cliffs continue underwater, covered With kelp to 15m, and then approaching the vertical at 30m. At this point the bottom consists of an avalanche of large boulders descending to about 40m. Crabs and lobsters were observed, and the site is potted by a fisherman from N Uist.

128. Under Mullach an Tuamail NA157051
An undived bay; the bottom may only be a steep slope.

129. Geo Shunadal NA157054

A Sheltered Site with a kelp—covered cliff to 15m, then huge boulders and rock ridges sloping to 40m, where kelp was still observed. There are strange tidal eddies here, especially on the cliff face N of the headland. The life was disappointing and there were no seals, caves or tunnels; thus the dive rather poorly rated!

130. Udraclete NA157055
An undived bay with depths expected to rapidly reach 40m.

131. Gearrgeo NA156060
This site lies directly under the wild summit spires of Boreray. A sheer, black, fissured wall drops to 30m where a series of 5m deep gullies slope away to the E eventually reaching 60m. These gullies increase in size to the W and are full of life, including idling seals. Divers were regularly buzzed by puffins at 20m!

132. An t-sail NA155060
The most northerly point of Boreray; it is undived, with depths reaching 20m down the cliffs.

133. Gea na Tarnanach NA154058
Translated, this means “Thunder Cave” It is undived.

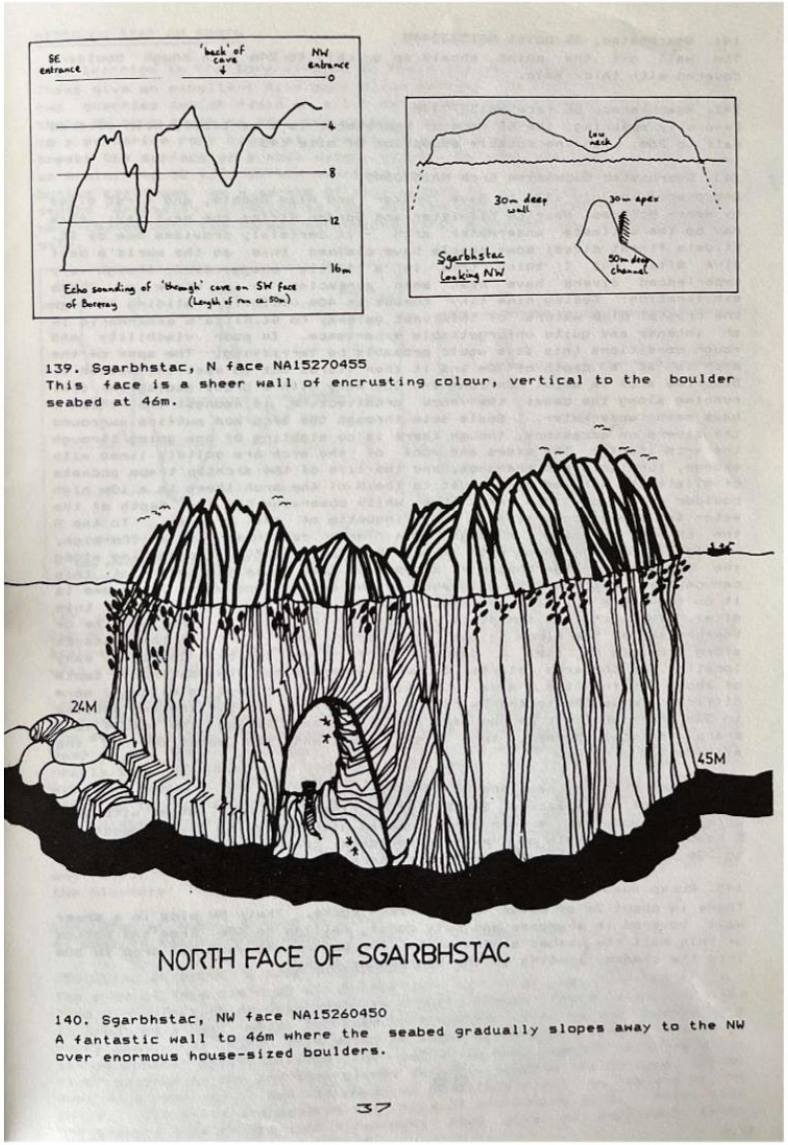
134. Islets under Na Roachan NA152055
A series of islets and rocks with narrow, shallow channels in between. Good for snorkelling in calm weather. If this becomes boring there is a dramatic but climbable ramp that threads some distance up the overhanging Boreray cliffs at this point.

135. Under Clais na Runaich NA150053
An undived headland.

136. Clesgor NA148049
An undived headland with a cliff then a steep slope leading to 45m. There is then a 4m high submarine ridge followed by a short descent to 47m.

137. Geo na Leachan Moire NA153046
A twin—entranced cave which can be boated or snorkelled in calm weather. Depths vary from 2m to 13m, but care is required because of the wave surge. There are unusual orange filamentary growths on the walls near the water mark.

138. Submersed rock NW of Sgarbhstac NA15250455
An uncharted rock (now reported) just under the surface with a drop to about 45m and a seabed of large boulders.



139. Sgarbhstac, N face NA15270455

This face is a sheer wall of encrusting colour, vertical to the boulder seabed at 46m.

140. Sgarbhstac, NW face NA15260450

A fantastic wall to 46m where the seabed gradually slopes away to the NW over enormous house-sized boulders.

141. Sgarbhstac, SW point NA15230445

The wall off the point shoals up quickly 24m with rough boulders covered with thick kelp.

142. Sgarbhstac, SE face NA15270445

Generally speaking, the SE face of Sgarbhstac is a vertical, kelp—covered wall to 26m, with the notable exception of site 143!

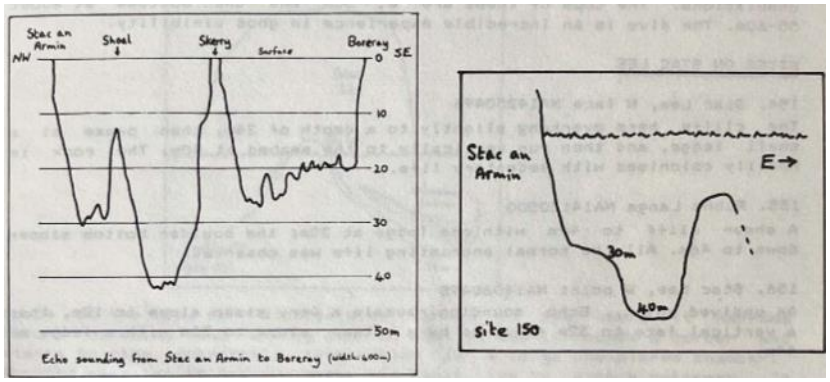
143. Sgarbhstac Submarine Arch NA15300452
Discovered in July 1977 by Dave Shuker and Alan Robbie, and first dived by Henry McInnes, Maurice Kilmister and Gordon Ridley the next day, this may be the ultimate underwater arch - it certainly provides one of St. Kilda's finest dives; some people have claimed this as the world's best dive site, but I think this is a little exaggerated, though very experienced divers have been seen surfacing in a state some exhilaration! Seeing nine tiny humans in 40m visibility gliding through the crystal blue waters of this vast gateway ta St. Kilda's underworld is an intense and quite unforgettable experience. In poor visibility and rough conditions this dive would probably be terrifying. The apex of the arch is at a depth 30m and it then flares out to meet the seabed at 50m; the arch is about 30m long and 20m wide with a broad geological dyke running along the base; the rock architecture is amongst the finest i have seen underwater. Seals swim through the arch and puffins surround the divers on occasions, though there is sighting one going through the arch itself! The sides and roof of the arch are solidly lined with sponge, tubularia and anemones, and the life of the archtop traps pockets glistening exhaled air. Just to the N of the arch there is a 10m high boulder which one can sit atop while observing the full depth of the water and divers cavorting in the silhouette of the archway. To the S of the channel the running through the arch continues as a 20m—high, vertically walled canyon with a bottom depth of 50m. Approaching along the SE face of Sgarbhstac at a depth of 30m, it is the edge this canyon that betrays the existence of the archway and which leads one to it on turning N (this is the best approach on the first dive at this site). The arch lies immediately below the low notch in the outline of Sgarbhstac, at the elbow in the stac about one third of the distance along from its NE tip; a descent here gives the best chance of easy location, as the arch starts to overhang and slope inward from a depth of about 10m from the S side. Location the N side is more slightly more difficult; dive 15m to the SW of the notch in the skyline and descend to 33m, turn NE (left as you face the cliff) and follow the cliff to a sharp vertical corner, turn right (SE) and fin about 20m to the silhouetted archway.

144. Sgarbhstac, NE headland NA15340450
The E end of the N face of Sgarbhstac is clean rock wall dotted with soft corals and sponges. A deep crack, packed with colourful life, rounds the E headland at of 24m. Huge boulders, coated with colour, shoal up to 20m in the NE channel. Seals, lobsters and fish shoals can be seen.

145. Rocks awash SE of Sgarbhstac NA15370444
There is about 2m of water over these rocks. Their NW side is a sheer wall, covered in anemones and soft coral, falling to 40m. From the bottom of this wall the seabed slopes up to 30m before the vertical drop to 50m into the channel leading to the Sgarbhstac Arch.

SITES ON STAC AN ARMIN

146. Skerries in the Boreray-Stac an Armin channel NA153061
These give an excellent dive over clean bedrock in huge visibility. The two skerries (which reach an altitude of 27m) have a
wall dropping to their NW to a depth of 44m; the bottom then climbs up a very steep slope to a submarine rock ridge at a depth of about 5-15m. This rock ridge just breaks the surface as a rock awash, midway between the skerries and Stac an Armin. The SE side of the skerries fall in a wall to 27m, then the bottom continues as a series of rock ridges to the N tip Boreray with depths gradually climbing ta 20m. All the bedrock slopes and faces are well—coated with the normal encrusting life expected at a very exposed site.



147. Stac an Armin, S face NA152063
The N Side of the submerged ridge mentioned in site 146 then falls to 31m before meeting the S wall of Stac an Armin. The rock walls are dotted with colourful life.

148. Am Biran NA153063
A stunning dive to be fully attempted only in totally calm conditions. A 30m deep wall drops to seabed strewn with house—sized boulders. At the base of the cliff a 3m—long channel leads to a 15m by 3m slot angled up nearly the whole height the wall; the walls of this slot are lined with cup corals and orange encrusting life. One can Surface in an air space at the top the slot; this connects to a narrow blowhole. There is a hidden danger at this site in that in any sort swell at all there is a periodic pressurising of the water due to the surge of the waves; this causes a pressure pulse on a diver's ears which can be frightening
and disorientating. Even in very calm seas the spray Shoots 6m out of the blowhole!

149. Stac an Armin, E face NA153064
An undived wall; depths appear to 4 all at least 40m.

150. Stac an Armin, E face NA15230650
The site is in a cleft an the E face of the stac just S the N tip. This cleft carries on underwater as a rocky ridge. There is a cliff face to 30m then a rocky shelf followed by a further cliff to the bottom of a rocky gully at 40m. This gully is about 5—10m wide. There is a large jammed boulder which divides the gully in two. Beyond this the gully floor ascends to 36m and then climbs abruptly towards the surface, though even on a calm day it was too rough to penetrate right to the end of the gully. The walls are covered with lots of encrusting life. Note that the seaward side of the rock ridge must also give an excellent dive, though this has not been explored.

151. Stac an Armin, N point NA152066
This is the most northerly point of the St. Kilda archipelago. It is a kelp slope to 9m, then a 50 degree rock slope 20m. This apparently carries on to beyond 40m. The site has strong wave action and large shoals of pollack can be observed.

152. Stac an Armin, N point NA151065
Undived with depths OF perhaps 40m.

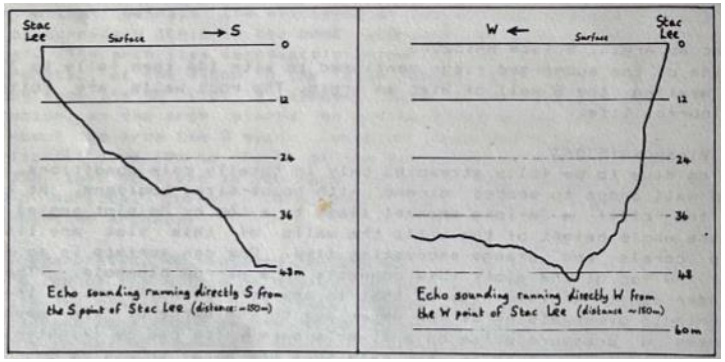
153. Rubha Bhriste NA151064
Just N of the SW corner of Stac an Armin the walls drop vertically to 50m in huge visibility. The seabed is solid bedrock with built—in solid rock undulations. The tops of these are at 50m and the bottoms at about 55—60m. The dive is an incredible experience in good visibility.

SITES ON STAC LEE

154. Stac Lee, N face NA14250496
The cliffs here overhang slightly to a depth of 24m, then pause at a small ledge, and then run vertically to the seabed at 40m. The rock is heavily colonised with sedentary life.

155. Rubha Langa NA14130500
A sheer cliff to 40m with one ledge at 30m; the boulder bottom slopes down to 46m. All the normal encrusting life observed.

156. Stac Lee, W point NA4060495
An undived point. Echo sounding reveals a very Steep slope to 18m, then a vertical face to 32m followed by a steep slope to 50m with a ledge at 44m.

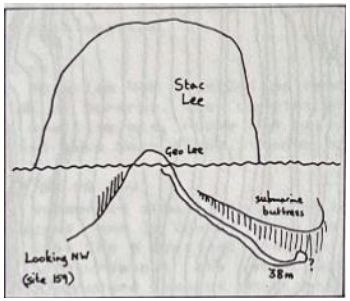


157. Stac Lee, SE of the W point NA14090490
This is one the “big” dives with a cliff dropping to 30m to a ledge a few metres wide and then a further vertical cliff to 50m.
Hovering on the lip of the l can only be likened to sitting on the edge of an airy mountain ledge; in the normally excellent visibility it is possible to see from the surface a depth of 50m; divers on the bottom appear antlike and several separate sets of exhalations can be counted streaming towards the surface. The seabed consists of bedrock strewn with huge boulders, though there is not a great deal of life other than soft coral. Tidal Streams run at up to 3 knots at this fantastic site.

158. Stac Lee, S point NA14230483
This site has not been dived; echo sounding a steady s lope to 31m, then a ledge, followed by a rather steeper slope to 47m.

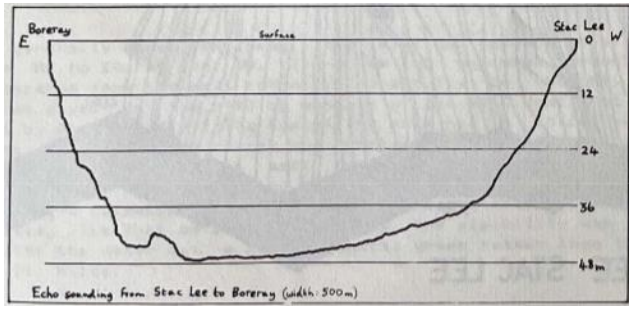
159. Geo Lee NA14280487
This is yet another of St. Kilda’s sites with impressive rock architecture. Fin into the cave and descend the E wall to an inclined seabed. Where the seabed meets the cliff face there is a fault—line gully. This has formed a cleft that has eroded in a variable manner to leave a series of entrances, gullies, tunnels and caverns. At the back of the cleft is a continuous tunnel running from a large spherical chamber (about 8m in diameter), with a floor depth of 12m and an air space at the top, down a quite wide channel to 28m where it narrows before widening and running down to 38m; at 38m it rounds a corner and starts to rise, apparently terminating in a large unexplored chamber. Running

parallel to a 10m and above the fault line is a rock buttress. In the tunnel seals drift ahead of the exploring diver and lobsters peer out from under colour-crammed cliffs and cracks. This is a tremendous dive, but even in calm conditions there is quite a surge in the channel; it should not be entered in rougher conditions.

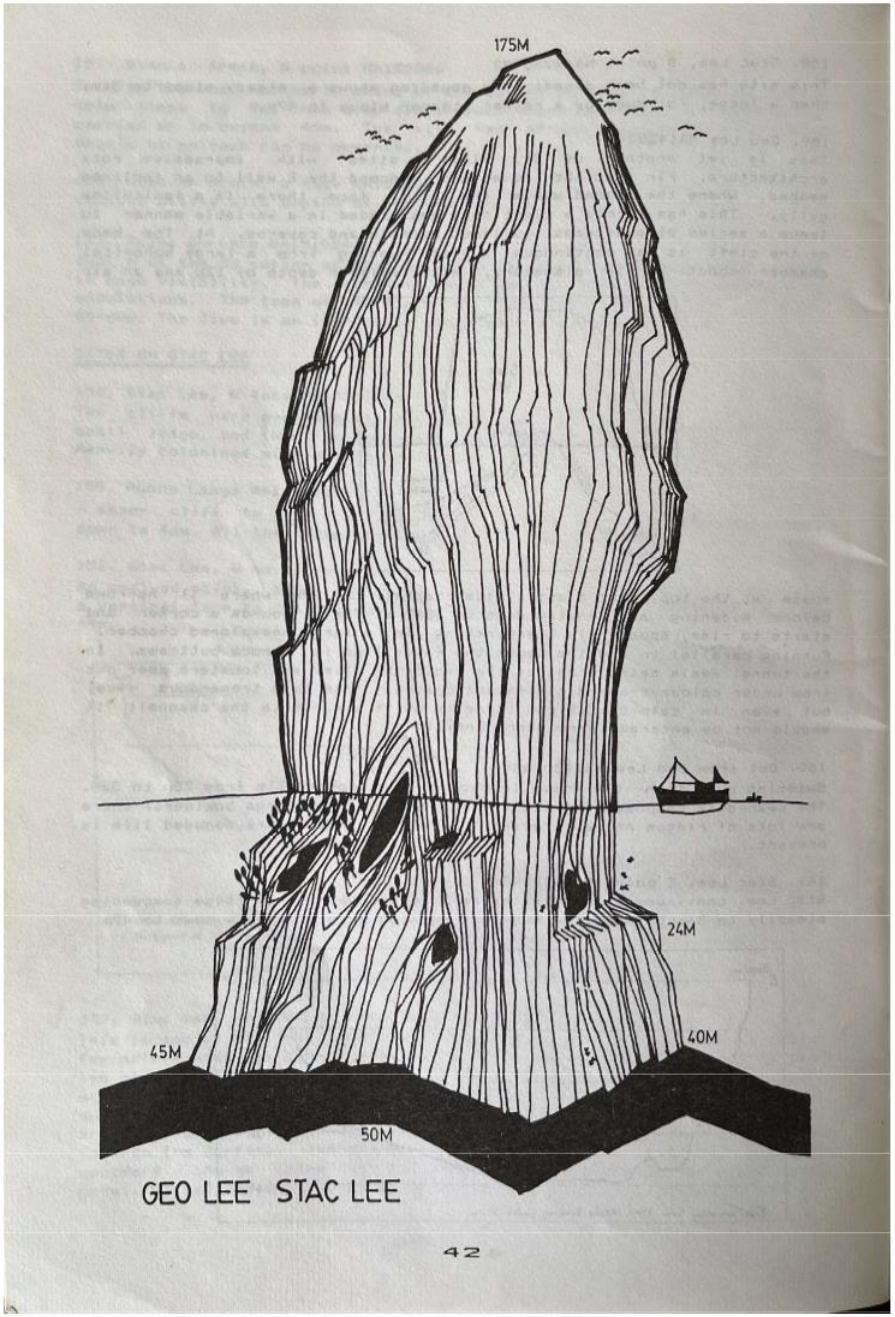


160. Out from Geo Lee NA14300484
Swimming out from the cave in Geo the depth falls from 25m to 36m. The seabed composed of contorted bedrock with large boulders; there are lots of ridges and buttresses to explore. A somewhat denuded life is present.

161. Stac Lee, E point NA14320489
Stac Lee continues on underwater as a kelp—covered rock ridge descending steadily to 36m to meet the seafloor running more gradually down to 47m.



GEO LEE STAC LEE



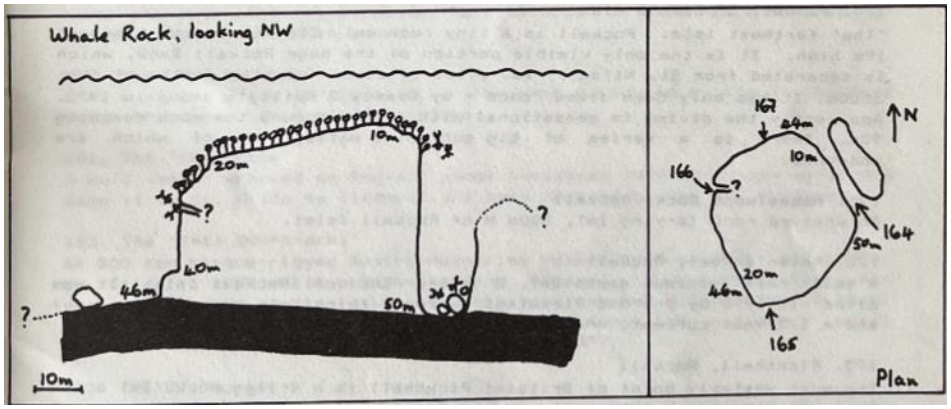
162. Stac Lee, E corner NA14320490
This dive probably the grandest rock wall in British waters. It is difficult to find words to express its scale; in fact, when confronted with the truly superb, superlatives are inadequate and seem almost an injustice. Simply stated, the wall is a gentle overhang from the surface to the seafloor 50m below. Its surface is completely filmed with a riot of browns and yellows, oranges and reds, and blues and greens. Exhaled air slowly trickles to the surface glistening through this biological barrier. Even in a long diving career this is a dive to cherish.

OTHER SITES 'NEAR' TO ST. KILDA

Essentially, these are sites that can be (and in many cases have been) tackled as day—trips from St. Kilda, especially on longer expeditions with a spell of good weather.

163. Flannan Isles
These lie about 20 miles WNW from Gallan Head in the Outer Hebrides and about 38 miles NE Boreray. They consist of a series of seven islands and a number of small islets, rocks and reefs; they lie on a shallow bank about 30m deep and have been dived, though not extensively.

Whale Rock 57 54.5N 08 06W
Whale Rock is a submerged Shoal lying 18 miles ENE of St. Kilda. It has been recently buoyed and is therefore quite easy find with an MFV. It about 250m S Of the N cardinal buoy and can generally be located from the disturbances; the Shallowest point is charted as 5m. It appears to be a 50m-square lump of rock projecting from the seabed, which is generally about 60m deep; the flat top appears to slope from 10m at the NE to 20m at the SW.



There is an enormous detached rock mass separated from the main formation by a gully to the NE. Whale rock was first dived on 9.8.1983 by members of the BSAC West Scotland Expedition led by Gordon Ridley. The top of the rock had a thick kelp forest; the rest the rock surfaces and particularly the vertical walls were heavily colonised with soft coral and anemones. Nine species of nudibranchs were collected (see Appendix 3). The rock samples we collected disappointingly but not unexpectedly proved to be Lewisian gneiss, like that on Lewis and Harris. The visibility was about 15m at depth; the water was a normal coastal green rather than the oceanic blue of St. Kilda.

164. Whale Rock Channel
To the NE the main rock the weed at 10m gives way to a vertical cliff running down to 44m; this falls into a gully with a bottom at 48-50m which then runs out on the seabed at 46m. The far side of the gully is composed of a large rock mass which was not explored. Normal offshore encrusting was noticed on the walls together with a huge shoal of Pollack in the gully.

165. Whale Rock, S side
A weed—covered slope to 20m then a vertical face to 45m with a small ledge at 40m. The walls were covered with soft coral and jewel anemones. A large Shoal of pollack and a small shoal of cod were sighted.

166. Whale Rock tunnel
Situated at the NW of the rock with the entrance at a depth of 23m past a jammed block. The tunnel is 1m wide and slopes down to 30m in the form of a Sloping crack.

167. Whale Rock, N side
This takes the form of a vertical wall from 10m to 46m; the top is a little Stepped.

168. Shoal 17 miles E of St. Kilda 57 48N 08 00W
An undived shoal with a minimum depth of 40m.

169. Shoal 12 miles E St. Kilda 57 48N 08 11W
An undived Shoal with a minimum depth of 50m.

170. Rockall 57 36N 13 41W
'The' farthest isle. Rockall is a tiny rock only 25m across the base and 19m high. It is the only visible portion of the huge Rockall Bank, which is separated from St. Ki Ida by 160 miles of ocean reaching depths of over 2000m. It has only been dived once — by Seamus O' Reilly's group in 1972. Apparently the diving is sensational with depths around the rock reaching 90m. There is a series of big submarine walls, of which are undercut.

171. Hasslewood Rock, Rockall
An undived rock (drying 1m), 200m N of Rockall Islet.

172. Helen's Reef, Rockall
A small reef (minimum depth 2m), 2 miles ENE of Rockall Islet. It was dived in 1972 by Dr Nic Flemming; he found thick kelp beds on the reef and a 1 / 2 knot current.

173. Pickthall, Rockall
The most westerly point of Britain! Pickthall a drying rock a (2m) a few hundred metres W of Rockall. It was discovered in 1983 on an RAF Nimrod survey, though this has not been confirmed. Naturally, it is undived.

WRECK SITES AROUND ST. KILDA

It not for wrecks that divers come to St. Kilda and no major wreck remains are known in these waters. However, a number of wreckings have nevertheless taken place over the years. Some wrecks have already been mentioned: the galleon site in GeoChaimbir (site 47), the Glen Bay trawler (site 77), and the Conachair Beaufighter (site 88). Other wrecks exist, but most of the sites are not accurately known.

174. Icelandic vessels
The Icelandic sagas tell of a vessel sheltering at Hirta in 1202; could there be others that wrecked?

175. Armada vessel
There is a record an Armada vessel being lost off the Flannan Isles in 1588. Some years ago a ship's rail of Spanish Origin was raised by a fishing vessel in this vicinity.

176. A French or Spanish vessel
In 1686 “a company of French and Spaniards” arrived at St. Kilda in a pinnace, having been wrecked at Rockall.

177. St. Kildan boats
A boat Lost off Boreray in 1712. Another boat smashed and lost with her crew in 1759 in Village Bay. Boats were also smashed in 1735 and 1777, but it is not clear if they were lost at sea or not.

178. A Prussian vessel
A Prussian vessel is recorded as foundering off St. Kilda in 1835. The crew of eleven got safely ashore.
Ida in Less. The

179. The 'Dargavel'
A large and well—found boat bought by the St. Kildan in 1861 for 60 pounds. In 1863 the vessel set off Harris with a cargo of fish and cloth; she watched on her way from the rim of the Hirta cliffs. The vessel and her passengers (seven men and one woman) were never heard of again although clothing which may have belonged to them washed up on Mealasta, an island W of Lewis.

180. The “Janet Cowan”
Lost W of St. Kilda in 1864; the crew were succoured by the St. Kildans until they were taken off the island.

181. The 'Charlotte'
A Hull vessel wrecked on Rockall about Christmas 1839. Eighteen survivors made it to St. Kilda by lifeboat and were rescued by the St. Kildans.

182. The 'Peti Dubrovacki'

An 880 ton barque-rigged Austro—Hungarian vessel lost several miles W of St. Kilda in 1877 while on passage from Glasgow to New York. Seven men were lost in the capsize; the nine survivors reached Village Bay in their ship's boat on 18.1.1877 and were billeted among the villagers until taken off St. Kilda by HMS 'Jackal' on 22.2.1877.

183. The SS 'Norse'
This vessel from Copenhagen ran into Rockall on 28.6.1904 and 600 lives were lost 10 children survived to arrive at Stornaway Hospital on 4.7.1904, but they all subsequently died of exposure.

184. Hudson aircraft
Lost somewhere near St. Kilda. An airman's body wrapped in a parachute was supposedly recovered from a cleit.

185. The 'Golden Chance'
A 18m MFV lost in Village Bay when she dragged her anchor in a SE gale on 13.6.1981; she came ashore and completely broke up while the skipper and were in the Puffin. The loss of a charter boat a skipper of skill and determination is much lamented.

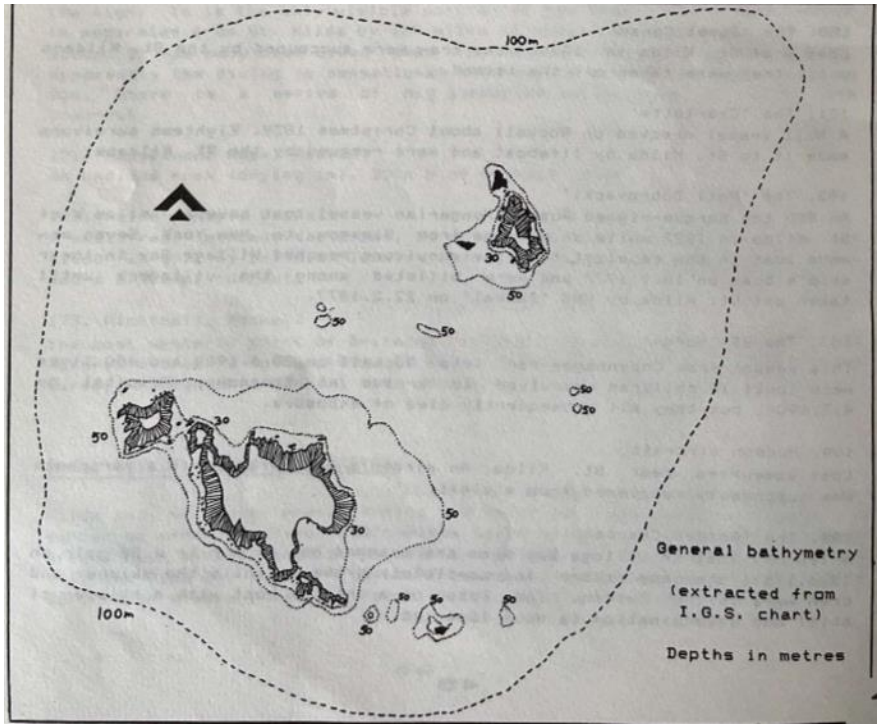
IN CONCLUSION

So finally come to an end to the dive of St. Kilda, yet still there are many left. However I is unlikely that we shall ever fully explore the submarine environment of the archipelago. And it is such a wild coast that you feel first anyway! There is even a line of thought that considers that many of the secrets should be left hidden for all time.

With much superlative diving it is very difficult to pick the best. The caves in Dun and Soay are rather challenging; the fantastic tunnels are numerous - through Sgarbhstac, Levenish, Am Plastair, Soay Stac, Stac Biorach, Rubha Bhrengadal, and Stac an Armin; the like submarine shoals are all memorable; the vertical and overhanging walls of Soay, Boreray, Stac an Armin and Stac Lee are mindblowing. If I had to pick my favourites these would be Sgarbhstac Arch, the "volcano rim" shoal, and the overhanging wall at the E corner Stac Lee, though there are several others that are very nearly as good.

St. Kilda, with its diving, its seabirds and its rugged scenery will always be there, defying the tempestuous western ocean. A jewel in that ocean, beckoning enticingly to those divers, naturalists and photographers with an exploratory bent, and to those who recognise the goal of an 'ultima thule'. No doubt, St. Kilda will exert its strange charm and forever cast its haunting, lingering spell on those who value a remote and precious environment.

It is lonely and difficult of access, its weather frequently heavy, its seas often wild, but this is just as it should be; this is Britain's farthest outpost and it is right that it should be rugged and unyielding.



General bathymetry
(extracted from I.G.S. chart)
Depths in metres

APPENDIX 1: Books & articles about St. Kilda

Books:

The list of books given below represents the more important milestones in the enormous list of titles published on St. Kilda. A full list (of 230 titles) was given by Williamson & Boyd (1960), and updated by Quine (1982).

A late voyage to St. Kilda Martin 1698/1934 London
Description the Western Isles of ScotIand Martin 1716/1976
Edinburgh
A history of St. Kilda MacauIay 1764/1974 London
Out of the world, or life at St. KiIda Sands 1878 Edinburgh
St. Kilda past and present Seton 1878/1980 Edinburgh
St. Kilda and the St. Kildans Connel 1887 London
With nature and a camera Kearton 1897/1970 Inverness
St. Kilda Heathcote 1900 London
Episode in the life of the Rev. Neil Mackenzie at St. KiIda from 1829 to 1843 Mackenzie (JB) 1911 Printed privately
Geology of St. Kilda Cockburn Trans RS Edin Vol 58 1935
Island going Atkinson 1949 London
St. Kilda summer Williamson & Boyd 1960 London
Atlantic fury Innes 1962 London (novel)
The farthest Hebrides MacGregor 1969 London
Life and death of St. Kilda Steel 1975 Glasgow
St. Kilda & other Hebridean Outliers Thompson 1970 Edinburgh
Island on the edge of the world MacLean 1972 Edinburgh
Island survivors Jewell, Milner & Boyd 1974London
British seals Hewer 1974 London
St Kilda Mail Sked (ed.) Annually from 1976 (Journal of the St. Kilda Club)
Birds of St. Kilda Harris & Murray 1978 Cambridge
The gannet Nelson 1978 Berkhamsted
A St. Kilda handbook Small (ed.) 1979 Dundee
St. Kilda revisited Quine 1982 Frome
St. Kilda: a photographic album Buchanan 1983 Edinburgh
The Geology of St. Kilda Harding et al. In press Rep. Inst. Geol. Sci.

Diving articles:

Diving Britain's farthest isles (St. Kilda) Vallintine Triton Sep/Oct 1972
Diving Britain’s nastiest isle (Rockall) Flemming Triton Jan/Feb 1976
Scotfed Expedition to the Hebrides (mainly St. Kilda) Ridley Triton Jul/Aug 1976
Diving Scotland's Atlantic seaboard Ridley 1979 Glasgow
The BSAC St. Kilda Survey Expedition, 1979 Ridley Underwater world Jan 1980
Diving in the land of demons (RAF Expedition to St. Kilda) Gray Diver Feb 1980
ADG St. Kilda 1982 (Norfed Expedition) Monteith Dive North Winter 1982-3
Stratford's St. Kilda trip Roberts Scottish Diver Sep/Oct 1983
Under the of the world (SSAC St. Kilda Expedition, 1983) Davidson In press
BSAC West Scotland Expedition 1983 (St Kilda) Ridley In press

APPENDIX 2: Marine life of St. Kilda

This list was compiled from information gathered by Christine Howson (4 weeks in July/August 1979), Maurice Davidson (2 weeksin July 1983), Alastair Skene (2 weeksin August 1983), and Gordon Ridley (8 weeks in June-August in five visits since 1975). Onlythe first named is a professional biologist.

ALGAE: Prasiola stipitata, Laminaria digitata, Laminaria hyperborea, Laminaria saccharina, Alaria esculenta, Fucus distichus, Corallina officinalis, Lithothamnion sp., Porphyra umbilicalis

LICHENS: Verrucaria sp.

SPONGES: Sycon coronatum, Grantia sp., Cliona celata, Halichondria panicea, Myxilla encrustans, Pachymatisma johnstoni, Stylopella collumbella, Polymastia bolteorme

HYDROIDS: Obelia geniculata, Tubularia sp., Memertesia sp.

JELLYFISH: Velella velella, Chrysaora hysoscella, Cyanea lamarckii, Cyanea capillata, Aurelia aurita

ANTHOZOA: Cerianthus lloydi, Acinia equina, Urticina felina, Metridium senile, Sagartia elegans, Caryophillia smithi, Corynactis viridis, Alcyonium digitatum

SEA GOOSEBERRIES: Pleutobrachia pileus, Bolinopsis infundibulum, Beroe cucumis

WORMS: Sabella pavonina, Pomatoceros triqueter, Filograna sp.

CRUSTACEA: Chthamalus stellatus, Balanus balanoides, Squilla sp., Palinurus vulgaris, Nephrops norvegicus, Homarus gammarus, Galathea squamifera, Galathea strigosa, Eupagurus bernhardus, Inachus dorsettensis, Cancer pagurus, Carcinus maenas, Liocarthinus puber

SEA SPIDERS: Nymphon gracile

BRYOZOA: Membranipora membranacea, Flustra foliiacea, Myriozous truncata

STARFISH: Antedon bifida, Astropecten irregularis, Porania pulvillus, Henricia sanguinolenta, Crossaster papposus, Asterias rubens, Marthasterias glacialis, Ophiocomina nigra, Ophiura sp., Ophiopholis aculeata, Echinus esculentus

SALPS: Salpa maxima, Salp sp.

SEA SQUIRTS: Clavelina lepadiformis, Ascidia sp., Dendrodoa grossularia, Botryllus schlosseri

MOLLUSCS: Chiton sp., Patella vilgata, Patina pellucida, Gibbula cineria, Gibula umbilicalis, Calliostoma zizyphinum, Trivia monacha, Aplysia punctata, Chlamys varia, Eledone cirrhosa

NUDIBRANCHS: Aeolidia papillosa, Antiopella cristata, Archidoris pseudoargos, Cadlina laevis, Coryphella gracilis, Coryphella lineata, Coryphella verrucosa, Crimora papillata, Cuthona gymnota, Cuthona sp., Dendronotus frondosus, Doto coronata, Doto maculata, Doto pinnatifida, Doto sp., Eubranchus exiguus, Eubranchus farrani, Eubranchus pallidus, Facelina coronata, Favorinus blianus, Goniodoris castanea, Gonidoris nodosa, Limacia clavigera, Limacia clavigera, Lomanotus marmoratus, Onchidoris bilamellata, Onchidoris luteocincta, Polycera faeroensis, Polycera quadrilineata, Tergipes tergipes, Tritonia hombergi, Tritonia plebeia

FISH: Cetrhinus maximus, Conger conger, Trisopterus minutus, Pollachius pollachius, Scomber scombrus, Labrus bergylta, Crenilabrus melops, Ammodytes sp., Chirolophis ascanii, Thorogobius ephippiatus, Cylopterus lumpus, Lophius piscatorius, Zeugcpterus punctatus, Flatfish sp.

SEABIRDSS: (Only relatively common birds are listed many others have been seen.) Fulmar, Sooty shearwater, Manx shearwater, Storm petrel, Leach's petrel, Gannet, Shag, Eider, Oystercatcher, Snipe, Turnstone, Great skua, Lesser black-backed gull, Herring gull, Great black-backed gull, Kittiwake, Razorbill, Guillemot, Black guillemot, Puffin

SEA MAMMALS: Halichoerus grypus, Orchinus orca, Delphinus delphis, Dolphin sp., Fin whale sp.

APPENDIX 3: Nudibranchs of Whale Rock

These 9 species were collected in two dives by Alistair Skene on 9.8.1983.
Archidoris pseudoargus, Coryphella lineata, Dendronotus frondosus, Eubranchus exiguus, Eubranchus farrani, Goniodoris castanea, Goniodoris nodosa, Tergipes tergipes, Tritonia hombergi