



Sanquhar Loch Woodlands

MANAGEMENT PROPOSALS – A 5 YEAR PLAN

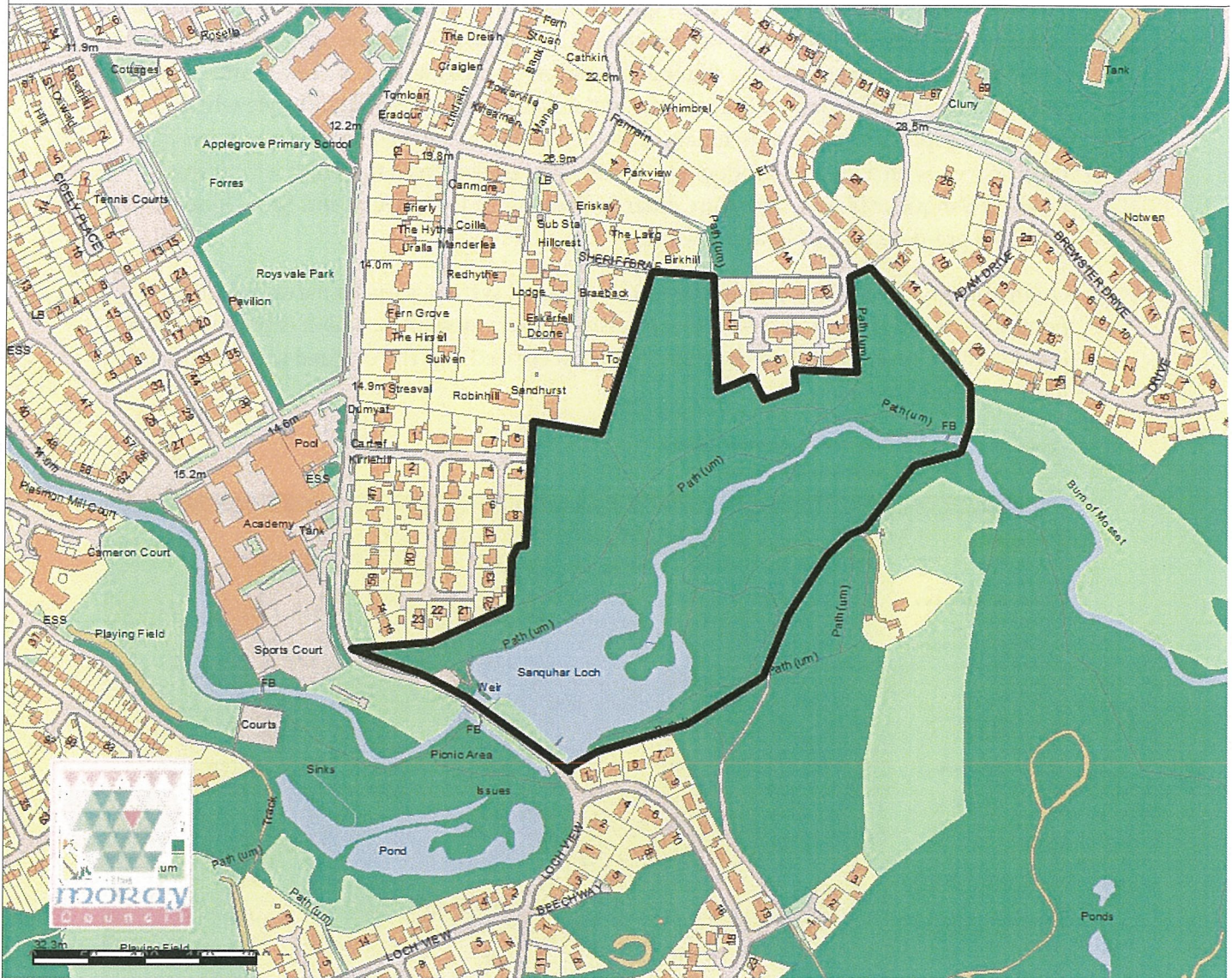
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Tilhill Forestry
December 2018

INTRODUCTION

- This management plan has been commissioned by Mr. Ken Kennedy , Lands and Parks Officer, **The Moray Council (TMC)** as an action point from an Economic Development and Infrastructure Committee meeting 20/3/18 (See appendix 5)
- The **Sanquhar Loch Woodlands** are situated in the town of Forres at grid reference NJ 041 581 which is 230m south east of Forres Academy. The woodlands and the Loch / Ponds are artifacts of landscaped grounds around what was Sanquhar House. The woodlands, and Ponds are now owned by TMC and are a well-regarded resource for the local community for recreation and education. The area is seen as 'a natural' habitat in the town of Forres. The footpaths around the Loch link into a wider network of footpaths around Forres. In summary the area has historical interest, landscape and amenity value as well as ecological, recreational and educational value.
- A group of volunteers called the **Sanquhar Dam Renovation Group (SDRG)** have been energetically working to improve access and the appearance of the area and also control invasive species around the Loch. They were commended by TMC for their excellent work. However they need funding to continue their works and this Plan is a way to access money donated by Arthur Stuart Murdoch who originally provided the funds (via his will) to allow Moray District Council to purchase the Loch and Woodlands in 1978.
- **Tilhill Forestry** are occasionally employed by TMC to give advice on Forestry and tree related matters.
- There is a requirement to create a management plan to direct management activities of the Woodlands and Loch based on consultations with TMC and stakeholders
- Note that TMC also own the area known as **Sanquhar Pond** (the 'Wee Pond') which is located to South of the Loch with associated woodland. However this Plan deals predominantly with Sanquhar Loch. It is proposed that Sanquhar Pond is treated as a Natural Reserve with minimal management for wildlife benefits.

Sanquhar Wood Boundary (Does not include 'Wee Pond')

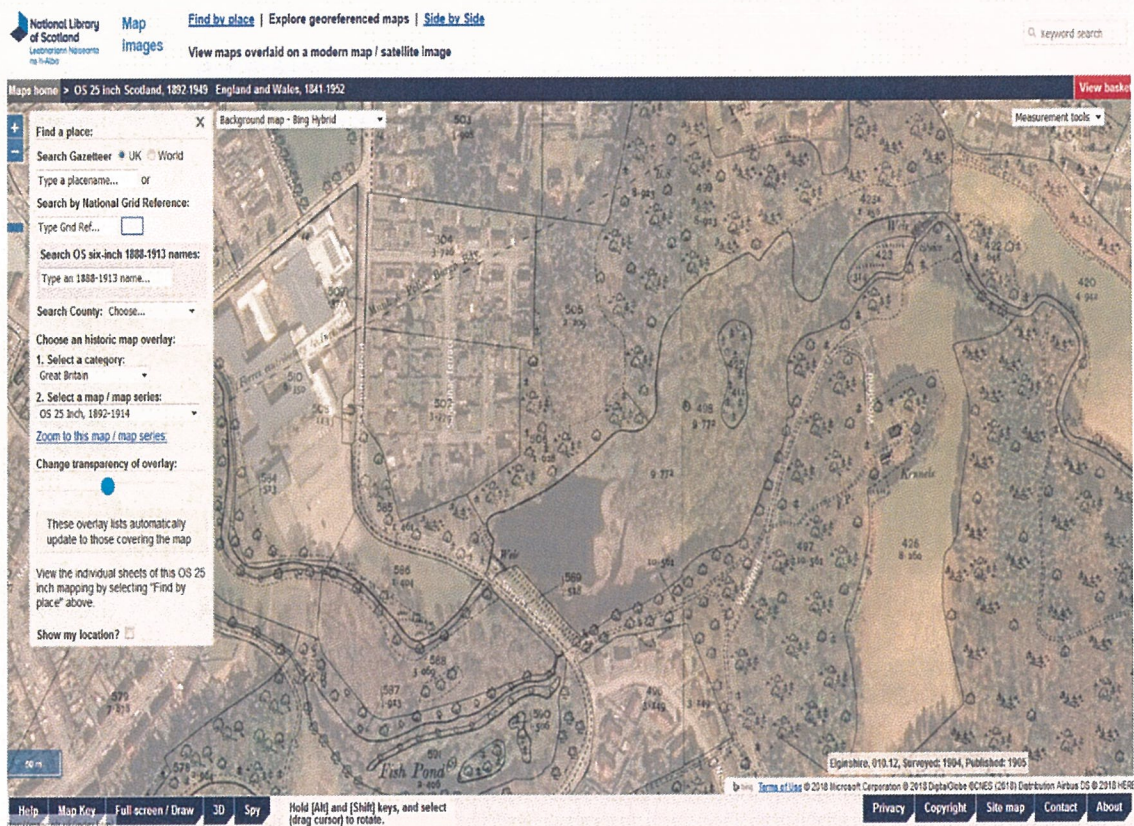


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A Brief History of the Sanquhar Ponds and Woodlands and local context (1800's to 2018)

To understand the history of the Loch greatly assists in understanding why the woodlands look the way they do. The Loch was created in the late 1890's and the age and appearance of the plantations suggest that a significant number of trees were planted around the same time to form mixed Broadleaf / Conifer woodlands in a Policy Woodland style which produced impressive large individuals of conifer within a matrix of large impressive broadleaves, with a view to producing a landscaped backdrop to the Pond within the locale of Sanquhar House. There are older individuals of Oak, Beech and Scots Pine which probably pre-date the landscaping works.

Unfortunately the Loch as part of the Burn of Mosset system, forms a natural settling pond for silt and thus progression to successional wet woodlands, which is probably what it would have reverted to had the Pond not been created and the original wet fields been left to natural processes.



It can be seen in the graphic above (reproduced with the kind permission of National Library of Scotland) which is an Ordnance Survey map (1905) georeferenced on an aerial map, which demonstrates the extent to which the Loch has diminished since its creation in the 1890's. Note that the Mill Lade that used to carry water from the Mosset Burn to the Forres / Plasmon Mill has been subsumed as the southern boundary of the new Loch - or 'Pond' as it was strictly called by staff on the Sanquhar Estate.

The whisky entrepreneur Alexander (Sandy) Edward who owned Sanquhar Estate at the time, commissioned the creation of the Pond and this was delivered by the local contractor Alexander Ross in the 1890's. For a personal historical account of the Dam and Loch see appendix 3, courtesy of Mr Ian Ross whose Great Great Grandfather excavated the Loch and built the Dam and whose family business acted as contractors for the Estate and maintained the Pond for generations.

Note that the Pond was commissioned not only for landscape purposes but also to supply water to the Benromach Distillery (for cooling) and the Plasmon Mill – both of which it is believed Alexander Edward had business interests in. The Plasmon Mill was supplied by a Lade that took water from the Burn of Mosset across his land and powered the wheel.

Note also that the term 'Sanquhar Loch' will be used in this report to distinguish it from the 'Sanquhar Pond' (known locally as the 'wee pond') which lies to the south and across the road from the Loch, and to fall into line with previous reports referenced here and TMC usage. Note that Ordnance Survey maps, online searches and local tourist literature also use the term 'Loch' rather than Pond. However it is recognized that long established residents may take exception to this.

Note that:

i) The Dam was breached in 1900 flooding houses in Burdshaugh (including Alexander Ross's).

ii) Ian Ross lowered the Spillway by 3ft in 1958 on instruction from the Council at that time (to avoid volume based Regulation).

iii) The Council raised it by a foot in the 1970's and possibly again in the 1980's – probably to keep ahead of siltation effects. (pers comm Ian Ross)

The Sanquhar Ponds and Woodlands were bought by Moray District Council in 1978 using funds bequeathed by Arthur Stuart Murdoch. His Will directed that any surplus funds be used to maintain or upgrade the land bought. These funds have sat in an account and earned interest and now sit at circa £60,000 at time of writing. These funds cannot be used for any other purpose.

The area is well used and fondly regarded by locals. It is used for dog walking, family recreation, school education, orienteering, bird watching, botany, ecology and for 'peace and quiet'. All of this is within an urban environment and which is seen as a 'natural' environment and is highly valued.

References for interest:

- <https://www.forres-gazette.co.uk/Features/Memory-Lane/The-Edwards-and-Sanquhar-Pond-spark-memories-for-local-folk-26042013.htm>
- <https://scotchwhisky.com/magazine/whisky-heroes/13541/alexander-edward-craigellachie/>

CONSULTATION RESULTS

General impressions

Consultees generally happy but do not want works to go 'too far' and lose the natural feel of Loch surrounds. Siltation came up repeatedly as did biodiversity protection

SANQUHAR CONSULTATION DAY 11 OCTOBER 2018

NAME	COMMENTS
Linda Mackie	Don't feed ducks; More poo bins; New map board; Foot bridge to wee Pond.
Sheila Phelvin - Scott	Too much veg cleared and impacts on wildlife loss of character; planting non natives.
Brenda Devlin	Too much duck feeding white bread; Parking on bend along road
Liz Jones	Life Belt required; Steps falling apart; path pot holes.
David Finlayson	Dog walker -happy with works
Bill Tulloch	Good work but don't 'over garden'
Claire Feaver	Strong concerns - will send email summary of long conversation to DH. Biodiversity loss and bird impacts biggest concerns. Some imported path material not appropriate round water
Rachael Preston	Young mother – 'great work suggest nature trail with boards 'like Baxters'
Stuart and Jane Johnston	Good work but don't 'over garden'
George and Heather Paul	Loss of Lichens on tree / Biodiversity (possibly have old photos) volunteers?
Chris Bird	No issues good work but maybe too far?
Carl & Barbara Adams	Access improved great job
Adrian Angell	Neighbour, above car park concerned about boundary trees proximity; more poo bins at back'
Alan Tissiman	Concerned to promote Biodiversity naturalness habitat. Gem site in urban area important for well being (youngsters mental health) needs protection.
Steve Hull	Retain biodiversity; deepen loch; make islands safe for birds.
Heather Duguid	No barrier at edge of water to prevent children getting stuck in silt danger. Edge trees gone

John and Laura Watson (volunteer)	Too many Gulls taking other chicks.
Gill Farmerey	Siltation of Loch; encroaching vegetation - 'Losing the Loch'
John Scott	Admires work done on paths, do not plant non natives, create silt trap upstream near bridge to reduce siltation and sump to clean.
Ian Green (Botanical Recorder (BSBI))	Rare form of non native Rush (<i>Carex pseudocyperus</i>) in wet woodland; no native rarities in woods around loch. - see appendix 4)
Heather Paul	Lichens expert provided list and advice Nothing rare or endangered known. (See appendix 4)
SEPA - Lucy Summers	Cannot recommend contractors. Gave list of regulations and advice on waterbodies, controlled activities and sedimentation.
SNH - Jennifer Heatley / Shirley Reid	Little and often works if possible; halt succession to woodland if possible; Semi Natural environment 'valuable for locals
Bob Laughton (FNLFT Fisheries)	Dam and ladder possible barrier to fish; Mosset Burn v good for Eels, some salmon to Dam. Poss funding for new study species survey and monitor habitat. Controlling invasives along burn with Dam volunteers; BL to send photos, info, contact at Nottingham Univ (TBC?) for academic study info.
RSPB - Karen Cunningham	Open up E of Loch willow encroaching; Increase open water and open aspect for wildfowl; Management of woodland to maximise native species for biodiversity benefit.
Altyre Estates -Fiona MacLeod -Assistant Factor	Blairs Loch veg clearance by community grp; Estate ground around Loch not viewed for active development and would look on offer to purchase favourably. Supplied boundary map for Loch.
Forres Community Council - Graham Hilditch	Has contact via Forres Green Spaces Group. Suggested speaking to Keith Cruickshanks at Benromach and Altyre Estates.
Keith Cruickshanks (Manager Ben Romach)	1. Water supply for whisky alkathane pipe under footpath 1-1.5m below surface (rerouted 2002) with air vent up near bridge source 1ml upstream. 2. Cooling water from sump under jetty blocked by volunteers 2017. Wayleaves agreed with MC. Believes siltation still reducing pond volume . Willing to assist loch improvement where possible.

Forestry Commission (David Hay)	Emphasised non native character/ man made landscaped Policy Woods. Pleased to see production of Plan to guide and communicate activities. FC grants probably not best suited at present. Keen on Deadwood, Natural Reserves and LISS;
Forres Academy	Ms Helen Duffy - Head of Science see email response - keen for school to use as resource and be involved in developments
Moray Council	Land and Parks / various Departments
Sanquhar Dam Restoration Group (SDRG)	The Key Group creating change on the ground
Forres Green Spaces Group	Various meetings held.
Dredging contractors	Ebsford Environmental - Nick Hartley, Managing Director for dredging info and price updates
Cbec eco engineering UK LTD	Dr. Hamish Moir – Possible to survey for siltation rates and catchment area analysis for erosion rates and sources. Would need specification to start project and work up costs.

(See also the contributions in Appendix 4 - Biodiversity)

LONG TERM VISION

Sanquhar Loch and Woodlands offer multiple public benefits, and allows locals and visitors to enjoy peace/ wildlife /health /social and environmental benefits.

Preserve and enhance the Sanquhar Ponds and Woodlands by involving volunteer groups and stakeholders for benefits to local community in perpetuity;

Prevent disappearance of the Loch through siltation and succession to woodland;

Maintain as a valuable 'natural' asset within an urban setting for future generations;

Accessible to all without destroying its semi natural character -find the balance;

Educational Resource for local schools and beyond.

Reflects TMC Core Values (Moray 2023 Plan)

OBJECTIVES OF MANAGEMENT

Create a management plan with Long Term Vision and short term Objectives that will communicate a required strategic direction, to allow monitored progress.

Control invasive species

Enhance wildlife value (e.g. Retain deadwood; reduce public access to islands as natural reserves; new planting)

Ensure the reasonable safety of users and neighbours (e.g. Remove dead and dying trees around high use areas). Enable reasonable access for all around the Loch.

Secure funding to manage the woodland and aquatic resource sustainably

Manage woodlands sustainably to add value and generate a return where possible

Maintain and perpetuate woodland character and value via Low Impact Silviculture Systems (LISS)

Maintain and perpetuate the wildlife and aesthetic value of the Ponds, Woods and Riparian areas

Promote the resource for educational purposes and tourism

1. THE WOODLANDS

Site Characteristics:

Area: See Appendix 1 for maps and schedules.
Sanquhar Loch: 11.31ha (3.53ha MB/MC; 0.78ha Larch; 0.65ha Spruces; 0.07ha DF with 4.47ha of Wet Woodland) the rest is either open ground or water.
Sanquhar Pond: 4.15ha 0.7ha of water rest under tree cover.
664mm rain /yr average
Elevation 25-52m asl
Soils : Humus- Iron Podzols derived from Fluvioglacial raised beach sands and gravels of acidic rock origins (from Hutton soils maps).

There are no designations on the area seen on a Land Information Search (LIS) (e.g SSSI or ASNW) Dec 2018

There are no botanically rare native species or rare Lichens – see Biodiversity Appendix 4

The woodlands and Loch are surrounded by housing to the north and plantation woodland to the south and east. There are good footpaths which link into high amenity areas nearby. The watercourse provides ecologically valuable linkage with the wider environment.

The woodlands are mostly growing on two small hills with locally steep slopes down to the Mosset Burn and Sanquhar Loch; the majority of woodland has a SE aspect. There is a short ridgeline running above Sherriffbrae down to Sanquhar Drive where most of the Spruce is located. The soils are moderately fertile for forestry purposes with reasonable drainage producing stable rooting conditions.

The steeper slopes above the north side of the Loch hold plantations of Oak and Douglas Fir with occasional Scots Pine, and an understory of natural regeneration of Sycamore, Beech, Douglas Fir, Holly, Hazel , Norway Spruce and occasional Oak seedlings seen. Birch regeneration is also seen on the ridge slopes.

The Spruce and Larch are showing signs of stress and infection by the fungal pathogen *Phaeolus schweinitzii*. The rainfall is possibly borderline for growth of Sitka and Norway Spruce especially on the well-drained ridge, however spruce trees are continuing to grow there. Scots Pine is occasionally seen to suffer from *Peridermium pini*. There are also signs

of Oak Dieback syndrome. There is a risk to Larch from *Phytophthora ramorum* therefore it is proposed that the presence of Larch is reduced to reduce this risk.

Some of the older specimen trees (Oak, Beech and Scots Pine) will predate the creation of the dam circa 130yrs ago, but most of the mature Douglas Fir and Oak were probably planted as mixed Policy Woodlands for Sanquhar House around the time of Pond and Dam creation.

Much of area has had woodland cover since at least the 1800's and has had areas felled and replanted.

Parts of the plantations have been removed for development e.g. to the north at St Leonards Drive. There is a stand of coppiced Sycamore there which has regrown after felling possibly as part of that development. Other coppice stools of Oak are found on the ridge where trees have been felled in the past and have regrown as coppice which introduces a younger age class in effect 0-50yrs. The natural Regeneration seen is predominantly 0-50yrs old.



Within the body of the woodlands there is a mosaic of age classes where broadleaved trees have been felled and have coppiced and produced a new age class (0-50); older age classes of 50-130yrs of conifer and broadleaves forming the Policy Woodlands of Sanquhar House and there are older specimens of Oak, Beech, Scots Pine and possibly Douglas Fir 130 – 200

years old.



Windblow and disease have combined to create gaps in the canopy where natural regeneration has occurred to create a varied woodland of mixed species and age classes within a mosaic.







This situation presents challenges and opportunities for forest management.

It is proposed that the woodlands be managed under a '**continuous cover**' system or **Low Impact Silvicultural System (LISS)** which is possible on well drained soils with stable stands of trees. Advance regeneration is obvious across the site which gives this system of management a high chance of success. Essentially the overstory is managed to produce and promote the next generation which makes up the understory. The art is creating the conditions that suit the desired tree species [which is essentially managing the canopy to vary light and moisture levels, to control the understory and ground vegetation to facilitate natural regeneration of the desired species of the next generation of trees. Too much light can mean too many weeds and favour undesirable opportunist species, too little light and only shade tolerant species survive. For example Oak tolerates some shade when young but needs increased light to grow and thrive. Sycamore is surprisingly shade tolerant for a species that likes open grown conditions

Clearfell systems of forest management are legitimate in most situations and are easier to communicate through maps and numbers (e.g. species maps, areas, stocking, volumes/ha and restocking species locations). There is an inherent difficulty in describing LISS systems of management that subsequent managers can follow, as management reacts to conditions appearing across the site and which change with time. It is a case of 'nudging' the site conditions to produce the desired end result. Therefore a set of principles should be followed instead of over-prescriptive instructions. The end result is the **perpetuation of the existing varied woodland environment with a 'semi natural' character**. This is a deliberately loose description to encompass the varied management techniques that will be employed. A key activity will be managing the next generation of trees through natural regeneration and targeted planting.

Principles of Silvicultural for Management of Sanquhar Loch Woodlands:

Remove dead, dying, diseased, moribund, unsafe trees. This is the easiest way to start the system off over the next 5 years - then review. Target Spruce and Larch showing stress (stem bleeding) and disease (fungal brackets).

Maintain the woodland environment; avoid larger clearfells (Selective Felling or Group Clearfell ideally less than 0.2ha (50m diameter circle) ideally working to wind firm boundaries.

Maintain a mixed conifer /broadleaved woodland and perpetuate the existing mixed Policy Woodland character by favoring desired regeneration. Weeding bracken and vigorous competitors.

Underplant well-spaced Larch and Sitka with shade tolerant species such as Douglas Fir and Western Red Cedar to test how well they take, and to reduce the presence of Larch and Sitka (due to Phytopthera risk on Larch and marginal growing conditions for Sitka.)

Over time it may be possible to work to an idealized woodland structure to reflect existing conditions (e.g Oak 35%, Larch 5%, DF 20%, Spruce 10% SP 10%, Sycamore 10% Birch 5%. Beech 5%). In groups of pure species and in mixture with Oak as per Policy Wood model. This model is for example only and a functional one can be developed over the next 5 years to guide long term management.

Existing species to perpetuate by natural regeneration or planting: Oak, Larch, Beech, Douglas Fir, Norway Spruce, Scots Pine, Birch, Hazel, Sycamore, Holly.

Beware Sycamore and Holly as they can be invasive. Control vigorous regeneration of any one species to perpetuate the existing character of woodlands. Assist regeneration of more sensitive species (Oak) by protecting with tree shelters when seedlings found.

Tree removals should be at a rate that does not increase wind damage dramatically (difficult with such mature stands of conifer) but maintains the woodland environment. Little and often - annual visits and removals. Working from end of summer until March avoids most breeding animals but beware wet weather risks of ground and root damage and soil compaction. The winter period is better for seeing defects on hardwood crowns and stems. Felling when sap is down also preferred for hardwoods.

When planting trees - match species characteristics to the planting site (e.g. do not plant light demanders in shade of older trees ; avoid planting in the root zones of mature trees as the competition for water, nutrients and light will probably be detrimental to sapling. Avoid sharp edges near saplings (tie wraps or wire or sharp edged protectors) as they can kill young trees. Practice good Silviculture.

Remove invasive species e.g. Rhododendron / Himalayan Balsam / Giant Hemlock or other undesirables that comes in.

Reduce presence of Sycamore in the Riparian zone / slopes around the Loch but utilize it in upper woodland areas to produce timber and cover, but do not let it dominate the whole site.

Increase presence of fallen and standing **Deadwood** for biodiversity benefits to provide habitat for rare organisms. Standing deadwood only where there is no hazard created.



Leave the Wet Woodlands / Successional Woodland area as a **Natural Reserve**, limiting management activities to removal of invasive species (e.g. Hogweed and Himalayan balsam) Public use of this area is very low and should be discouraged for the benefit of wildlife.

Zoning – It is desirable to view the woodland in zones:

- i) High public use area: around the footpaths for increased survey input for tree hazards.
- ii) Commercial areas away from the footpaths but can generate merchantable timber.
- iii) Natural reserves (wet woodlands) which receive minimal management and where public access is discouraged

SUMMARY ACTION PLAN – See Cashflow page 30 for associated costs

Year	Action	Comments
2019	Selective fell diseased dying trees. Protect selected natural regen. Build Timber Transfer Point (TTP); Tree Safety surveys	Target hazardous dead dying individuals. (Cash positive activity?) Treeshelters on oak
2020	Thin out Sycamore stools favour natural regen; Control invasive species; Tree safety surveys	Control Sycamore (Sy), Holly, Bracken Treeshelters Oak
2021	Remove dead dying trees; promote natural regen; Control invasive species; Tree safety surveys	Control Sy and Holly Bracken
2022	Remove dead dying trees; promote natural regen; Control invasive species; safety surveys	Control Sy and Holly Bracken
2023	Remove dead dying trees; promote natural regen; Control invasive species; safety surveys	Control Sy and Holly Bracken

REFERENCES:

The Forestry Standard:

[https://www.forestry.gov.uk/pdf/FCFC001.pdf/\\$FILE/FCFC001.pdf](https://www.forestry.gov.uk/pdf/FCFC001.pdf/$FILE/FCFC001.pdf)

FROM RPID SITE: “**Low impact silvicultural systems** are a type of woodland management that helps to increase species and structural diversity. It normally causes less rapid change to the landscape and to the physical environment than clear felling **systems** and so can help the landowner meet multi-purpose objectives”. Mosaic of scales of cutting and regenerating.

FROM UKWAS SITE: “**Natural Reserves** are predominantly wooded, usually mature and intended to reach biological maturity. They are permanently identified and in locations which are of particularly high wildlife interest or potential. They are managed by minimum intervention unless alternative interventions have higher conservation or biodiversity value”.

DEADWOOD: Dead and decaying trees are vital components of a properly functioning forest ecosystem and play a key role in sustaining biodiversity, soil fertility and energy flows such as hydrological processes in streams and rivers. Deadwood also plays a part in mitigating the effects of climate change by acting as a medium-term sink for carbon. Historically, deadwood was systematically removed from woodlands for firewood. By contrast, in wood pastures and wooded commons, firewood was produced from pollards and this allowed old trees with internal decaying wood habitats to develop. Until the late 20th century, deadwood in managed forests was removed due to a misconception of the need to sanitise woodland to secure forest health – or simply to keep a wood looking ‘tidy’. Over time this has led to the widespread impoverishment of woodland biodiversity.

<https://www.forestry.gov.uk/england-managingdeadwood>

POLICY WOODLANDS: Policy type woodland is a good all-purpose small woodland with a variety of potential uses. It can be used to screen structures and public roads, provide a setting for buildings, add autumn colour to a view or manage public access. It can be combined with individual trees, hedgerow trees, avenues and roundels to create an attractive pattern of landscape features. The key features of a small policy woodland are therefore:

Can be any shape

Large crowned broadleaves and conifers should dominate

Unusual and exotic species can be accommodated

See Page 15 of FC Guide: <https://scotland.forestry.gov.uk/images/corporate/pdf/small-woodlands-on-farms.pdf>

2. THE AQUATIC ZONE

See appendix 2 for **Northern Ecological Services (NES)** feasibility study for restoration and management for Sanquhar Loch (2014). It is an authoritative document and is still relevant moving into 2019 and beyond. As such it is not intended to replicate what was written here but the document must be referred to when considering management of the riparian zone

The NES report describes the catchment and gives background to the Chapleton Flood Protection Scheme and presents 3 options for management of the Sanquhar Loch:

1. Do Nothing
2. Limited Dredging
3. Larger Scale Deepening

The report also covers Habitat Enhancement by creating artificial weirs in two suggested locations and removal of invasive species (which the SDRG have well in hand at time of writing).

Advice on the management proposals suggested in the report were discussed with Mr Robert Laughton Director of the Findhorn Nairn and Lossie Fisheries Trust. The Trust works alongside the SDRG volunteers to remove invasive species and who has a wealth of experience relating to the Mosset Burn and the Ponds/ Loch.

Advice was also sought from Mr Nick Hartley -Managing Director of Ebsford Environmental (dredging services) to get up to date information on prices and logistics. Both parties were consulted by Dr William Lattimer of NES in 2014.

The NES report suggests that siltation rates are likely to have reduced due to the Chapleton Dam installation and floodplain wetland creation.

The baffled crump dam effectively restricts peak flows downstream and through the Sanquhar Loch to circa 8m³/sec whereas peak flows historically could be 30m³/sec (1 : 10yr) and as high as 60m³/sec (1 : 100yr event). The existing channel capacity through the town is 10m³/s.



Silt is seen to collect above the Chapelon Dam Trash Screen and the wetlands created will undoubtedly intercept more silt during spate conditions. Therefore the NES suggestion is an entirely logical conclusion.



However there is a perception among local residents now that the siltation rates seen in the Loch may be increasing. Could this be because there are no peak flows of a magnitude to push silt through the Loch as before? Siltation rates on the Loch are potentially a key piece of information going forward. It is suggested here that this issue requires further

research before committing funds to any dredging works.



Looking at the old aerial photographs (see appendix 3) and assuming the 1905 map boundaries are accurate it appears that between the 1900 and the 1980's the water surface decreased from c.4ha down to approx. 1.5ha. Compare this to the present where open water surface appears to have reduced to circa 0.7ha. Bear in mind that the Spillway has been lowered then raised (possibly twice) in the past 60 years. Ian Ross's record of reducing the Spillway height by 3ft on behalf of the Council in 1958 would have lowered the water and possibly dried out the shallower north end, rapidly advancing the succession to wet woodland. A very crude estimate of siltation since the 80's is a loss of 50% of open water to siltation and vegetation succession. The open water area is currently measured at circa 7000 m² (0.7ha)

Note that there is a figure of £100,000 placed in the cashflow for dredging c. 2000- 2500 m³ of silt -see the NES limited dredging option in appendix 2- and includes for the potential costs associated with obtaining the necessary permissions from SEPA (this is based on the conversation with Nick Hartley of Ebsford Environmental). This limited amount of dredging was proposed to keep the volume of the loch below the 10,000m³ where Reservoir (Scotland) Act 2011 regulations are triggered with potential for onerous survey and reporting requirements.

During the consultations it was noted repeatedly that there is a desire within the local community to see the Loch environment preserved and at least halt the siltation and successional woodlands.

It seems that avoiding regulation based on volume criteria has been an important factor at least twice in the management of the Loch.

It should be noted by anyone working in the riparian areas and the aquatic environment that there are restrictions on certain activities to protect this environment.

SEPA has published guidance within the **Controlled Activities Regulations Guide (2011)** and within that, the **General Binding Rules (GBR's)** that must be referred to. See appendix 7.

GBRs represent a set of mandatory rules which cover specific low risk activities. Activities complying with the rules do not require an application to be made to SEPA, as compliance with a GBR is considered to be compliance with an authorisation.

https://www.sepa.org.uk/media/34761/car_a_practical_guide.pdf

The question of constructing weirs had been raised several time during consultation and is suggested within the NES report. The construction of a fish friendly weir that allows passage of spawning fish is not a simple project. In conversation with SEPA and Bob Laughton of FNL Fisheries Trust even a small construction, as for the Mossett Burn could cost £40,000. This figure appears in the cashflow as a marker for further discussion and research, as there may be cheaper alternatives which satisfy the requirements as a silt trap and which increases diversity of the river habitat.

HOW TO ACHIEVE WHAT WE WANT- (WORKPLANS AND CASHFLOWS)

At the Economic Development and Infrastructure Services Committee (EDISC) meeting on 20/3/18 the committee recognized the excellent work done by the Sanquhar Dam Restoration Group (SDRG).

Most of the works presented in the cashflow assume no labour cost and that much can be achieved with volunteer labour. Certain tasks which require specialist skills (e.g. arboricultural climbing safety works or use of heavy machinery) will be bought in by employing professionals to complete the works.

The existing arrangement is that TMC has insurance in place, **which it is assumed at present** to cover the volunteer's activities. It is assumed that so long as SDRG are working to an agreed programme of works and have effective Risk Assessments (RA's) in place and the works are agreed with TMC, then the volunteers are covered by that insurance, (PLI? Personal Injury?). **This relationship needs to be tested with the Insurers and discussed and clarified with the SDRG.**

(Note that the Forres in Bloom group have own insurance and RA's).

There are specialist insurance companies which can supply this cover (e.g. Zurich Insurers -but others are available).

Note that the Risk Assessment process should also include an **Environmental Risk Assessment to avoid impacts upon protected species e.g. Birds, Bats, Butterflies, Badgers, Red Squirrels, Otters and fish during spawning /breeding seasons.**

Risk assessment must ensure that the Hazards are correctly identified and the risks controlled. e.g. working with power tools and machinery, felling trees, using chemicals and working in the aquatic environment - All require specialist skills and require training and competence to be done safely to protect people, property and the environment and should enable valid insurance cover to protect all involved.

The volunteers are aware of statutory restrictions and regulation surrounding certain activities. TMC will agree operational plans and assess risks and statutory compliance. E.g.

i) Felling trees generally requires felling licenses

ii) Works in the riparian and aquatic environment must be informed by SEPA: The General Binding Rules.

iii) Wildlife breeding seasons and restrictions on disturbing animals / birds are considered as part of the risk assessment process.

There does exist a risk to TMC if the volunteers are unsupervised and not adequately controlling risk - for example, at present there appears to be key individuals with qualifications and experience to use power tools and heavier machinery, if those individuals are not available during operations then the risk assessment must adapt.

A good reference site from The Conservation Volunteers (TCV – previously BTCV)

<https://www.conservationhandbooks.com/basic-safety-conservation-work/>

SOURCES OF FUNDING / FINANCIAL CONSIDERATIONS

It is noted that SDRG are adept at accessing available funding. (e.g. Berryburn Windfarm Community Fund, Moray Towns Partnership, and local donations of materials). Due credit should be given here.

It is not intended to go into great detail on fundraising in this document as funding sources change from month to month and the SRDG are well attuned to seeking out sources of funding.

The SDRG have suggested that TMC should procure materials on their behalf to save 20% on VAT.

It has been discussed in the past about the possibility of moving the Woodlands and Ponds into the care of a Trust, as has been achieved by the Forres Community Woodlands Trust (FCWT) which owns on behalf of the local community the neighboring Sanquhar Woodlands, as well as the Muiry and Newforres Woods. In theory this option could also be used to improve the fundraising abilities of the SDRG Volunteers. There is a perception that ownership by TMC inhibits fundraising capability, as a public body that owns the area it is exempt from certain grants. However, it appears at present there is no entity able to take on the assets from TMC.

There is also the possibility of investing the cash in some form of financial vehicle to generate an annual dividend and provide a long term revenue stream. This is not discussed in any detail here but it is mentioned as an option that exists for further investigation.

Other potential sources of funding as example:

1. SEPA funds (Water Restoration Fund to combat siltation effects?)

<https://www.sepa.org.uk/environment/water/water-environment-fund/>

2. SNH – Environmental advice and list of potential funding organisations
3. SRDP (but need to be a registered rural business?)
4. Challenge Funds
5. Forestry Commission Forestry Grant Schemes
6. National Lottery Funds
7. Scottish Communities Landfill Fund

MONITORING AND PROGRESS

Any management plan requires that progress is monitored against an agreed programme of works and the information is used to keep the plan on track.

For this Plan to be effective, someone will have to take ownership of it and the process, and to take a lead in implementing the works, monitoring progress and making the adjustments that are inevitably required. It is proposed that a named person within TMC assumes this role.

SUMMARY - THE CASHFLOW AND OPERATIONS MAP

PROJECTED CASHFLOWS AND COSTS SANQUHAR PONDS 2019 - 2023											
It is assumed here that volunteer labour is used where possible on non hazardous /specialist activities. Where activities are assessed as hazardous professional assistance will be used and will therefore attract labour costs											
PRICES SHOWN BELOW ARE ESTIMATES AND ACTUALS COULD VARY SIGNIFICANTLY. USEFUL AS WORK PLANNING MARKERS.											
ACTIVITY		ESTIMATE					COMMENTS				
FORESTRY	Year	2019	2020	2021	2022	2023					
INCOME											
Timber Income annual estimate (net of working costs)	£	1,000	£	500	£	1,000	£	500	£	1,000	Firewood and sawn wood sales
Annual investment income from Bond or fund	£	2,500	£	2,500	£	2,500	£	2,500	£	2,500	TBC?
Fund raising (Landfill fund? SEPA Water Env funds? Etc)	£	3,000	£	3,000	£	100,000	£	3,000	£	3,000	Availability of funding will vary yr on yr from who and how much - detail not possible
TOTALS	£	6,500	£	6,000	£	103,500	£	6,000	£	6,500	
EXPENDITURE							COMMENTS				
Tree safety surveys, arb safety works deadwood removals	£	1,000	£	1,000	£	1,000	£	1,000	£	1,000	Annual along footpaths safety zones.
SDRG Insurance TBC											TBC
Review management Planning	£	-	£	-	£	-	£	-	£	500	5 year review - TMC will control and monitor annual works
Control invasives (mech/chem Rhodo, Hogweed), Pull H Balsalm, bamboo etc	£	250	£	250	£	250	£	250	£	250	Volunteers must be trained Power tools and chemical use or else professional input required - stump treatment and aquatic environment
Reduce slope at Kennel Cottage path	£	2,000	£	-	£	-	£	-	£	-	Assume 50m3 of aggregate required with enough fines to bind and produce suitable surface for chairs and buggies (2.2T/m3 at £12/T delivered =£1320 plus £500 m/c + haul. (No controlled waste materials used)
Planings dressing northern pathway (Is tarmac suitable riparian material?)	£	1,000	£	-	£	-	£	-	£	-	TBC- This and slope infill may be covered by Berryburn Windfarm donations
Planting trees and shrubs	£	250	£	250	£	250	£	250	£	250	TMC could supply materials and expertise therefore nil cost?
Plant bulbs / seeding slopes to stabilise soils	£	250	£	250	£	250	£	250	£	250	TMC could supply materials and expertise therefore nil cost?
Maintain planted trees and shrubs LOCATE/ PROTECT SELECTED REGENERATION	£	250	£	250	£	250	£	250	£	250	TMC could supply materials and expertise therefore nil cost?
Safety signs at Dam	£	-	£	-	£	-	£	-	£	-	TMC supply
Ongoing maintenance of footpaths and plantings	£	100	£	100	£	100	£	100	£	100	Volunteer labour
Control of Riparian Invasives	£	200	£	200	£	200	£	200	£	200	Volunteer labour - cost of chemicals and tools
Submit Felling Licence applications	£	300	£	-	£	-	£	300	£	-	
Construct Timber Loading Area Sanquhar Drive	£	1,500	£	-	£	-	£	-	£	-	Level area spread 3 loads of 4inch clean stone plus machine to prep
TOTALS	£	7,100	£	2,300	£	2,300	£	2,600	£	2,800	
AQUATIC / RIPARIAN ENVIRONMENT											
Siltation Assessment and licence application for Dredging (Redo volume assessment?)	£	3,000	£	-	£	-	£	-	£	-	Geomorphologist required? SEPA will require assessment before licence dredging TBC?
Remeasure volume of Loch v's 2016? Measure?		TBC									
Bridge repair - top of Loch and small brig at fish ladder? TBC	£	1,000									
Monitor condition of concrete outflow weir	£	-	£	500					£	500	TBC how often survey required
Dredging Sanquhar Loch 25000m3	£	-	£	-	£	100,000	£	-	£	-	Maintain Loch capacity below 10,000m3
Control Invasives volunteers Mare's tails Bull Rushes etc	£	100	£	100	£	100	£	100	£	100	Chemical and manual controls - persistance required
Install Weir (TBC maybe cheaper alternatives?) (Bob Laughton pers. comms)	£	-	£	40,000							Benefit to be proven. Costs to be researched.
Open braided channels /tributairies (do whilst Dredging? TBC)	£	2,000									Hire machine to dredge channels? SEPA licence? TBC
Information and interpretation Boards around Loch	£	3,500									Cost Covered by Moray Towns Partnership
Costs assoc with Reservoirs (2011) Regulation (if more than 10000m3 volume)											Designed informative tour highlighting biodiversity and habitat benefits and historical context
Produce literature for schools study groups.	£	100	£	-	£	100	£	-	£	100	This unknown at time of writing Dec 18
Map Mark boundary to dredge to and maintain in perpetuity	£	-	£	-	£	500	£	-	£	-	Volunteers Work with school groups? TBC
TOTALS	£	9,700	£	40,600	£	100,700	£	100	£	700	Hold the line against siltation
NET INCOME/EXP	-£	10,300	-£	36,900	£	500	£	3,300	£	3,000	-£ 40,400
TMC supply materials and reclaim vat? Saving volunteers money?											

APPENDIX 4: BIODIVERSITY

ECOLOGICAL REPORT -FORRES ACADEMY -PRINCIPAL TEACHER OF BIOLOGY –
GORDON BIRNIE (2000)

LICHENS LIST by Heather Paul

BOTANICAL RECORDS by IAN GREEN (Botanical Recorder)

An ecological survey of Sanquhar loch and adjacent woodland. A report submitted to the Forres Footpaths Trust.

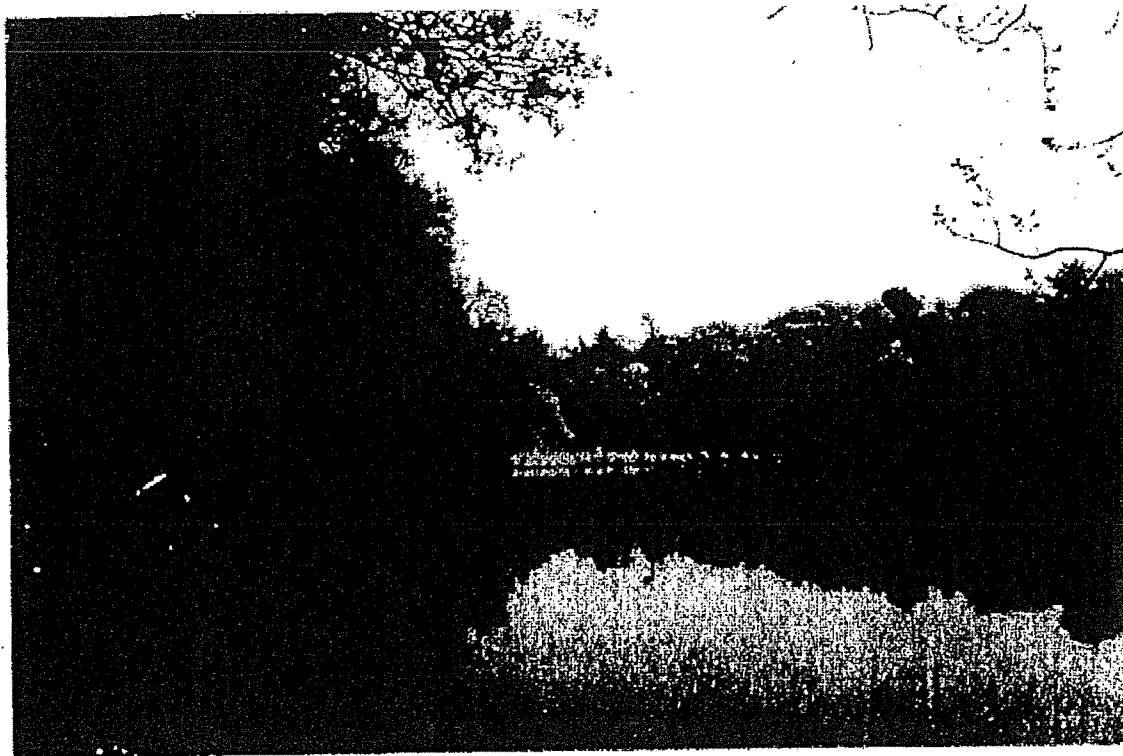


Plate 1 : A view of Sanquhar Loch

Report prepared by Gordon Birnie, BSc (Hons)
Principal Teacher of Biology, Forres Academy.



Plate 2 : Alder in wet Woodland

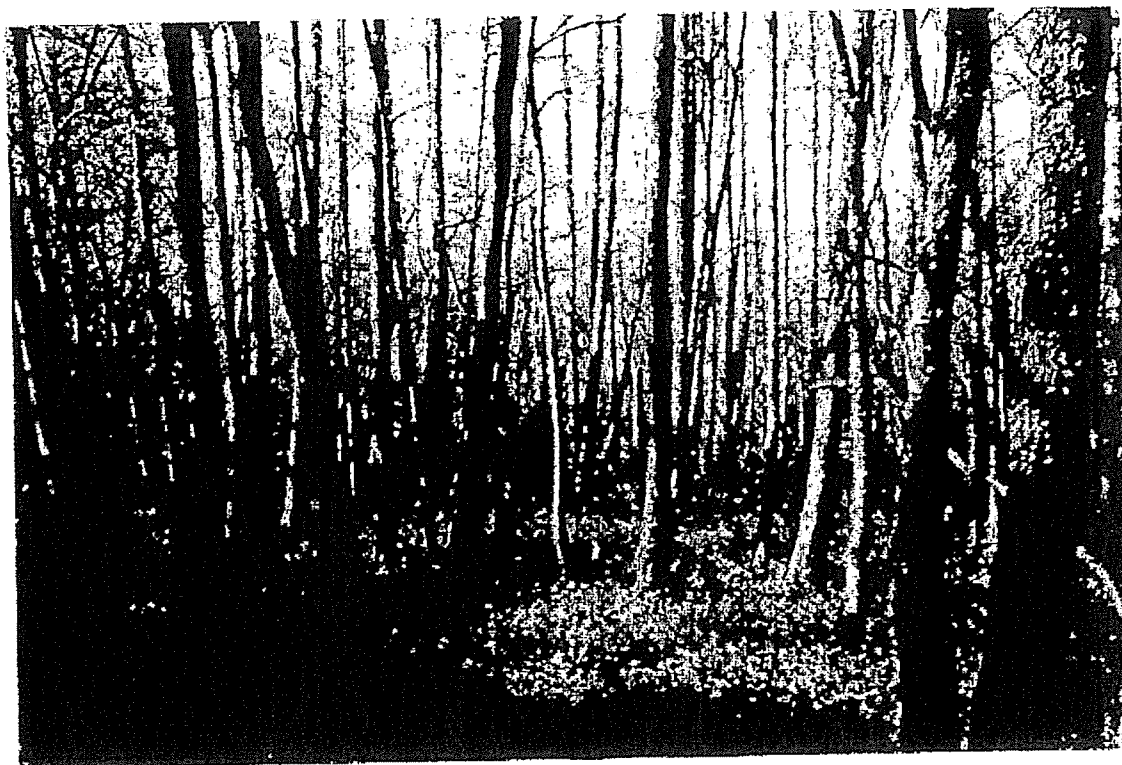


Plate 3 : Alder stand in Wet Woodland on south side



Plate 4 : Alder and Willow colonising south side of Loch



Plate 5 : "Floating vegetation" fringed by Alder and Willow at the advancing edge of wet Woodland.

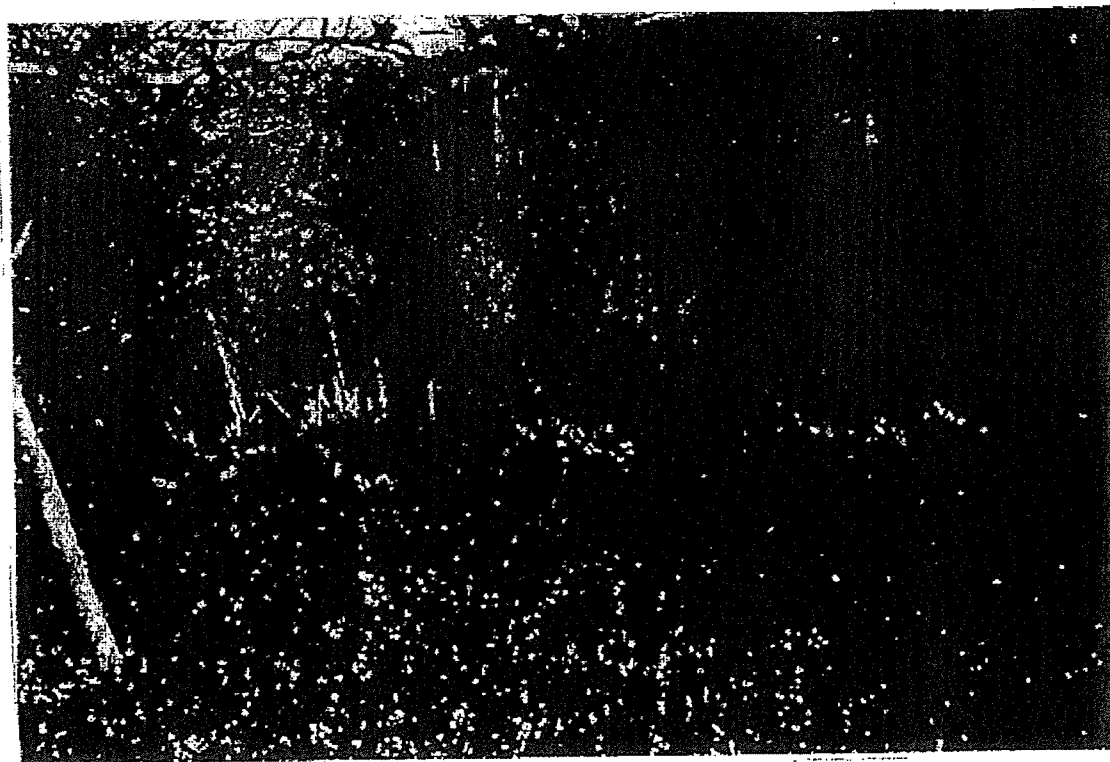


Plate 6 : Willow and Alder edging an area of wet vegetation dominated by Horsetail and large bittercress .

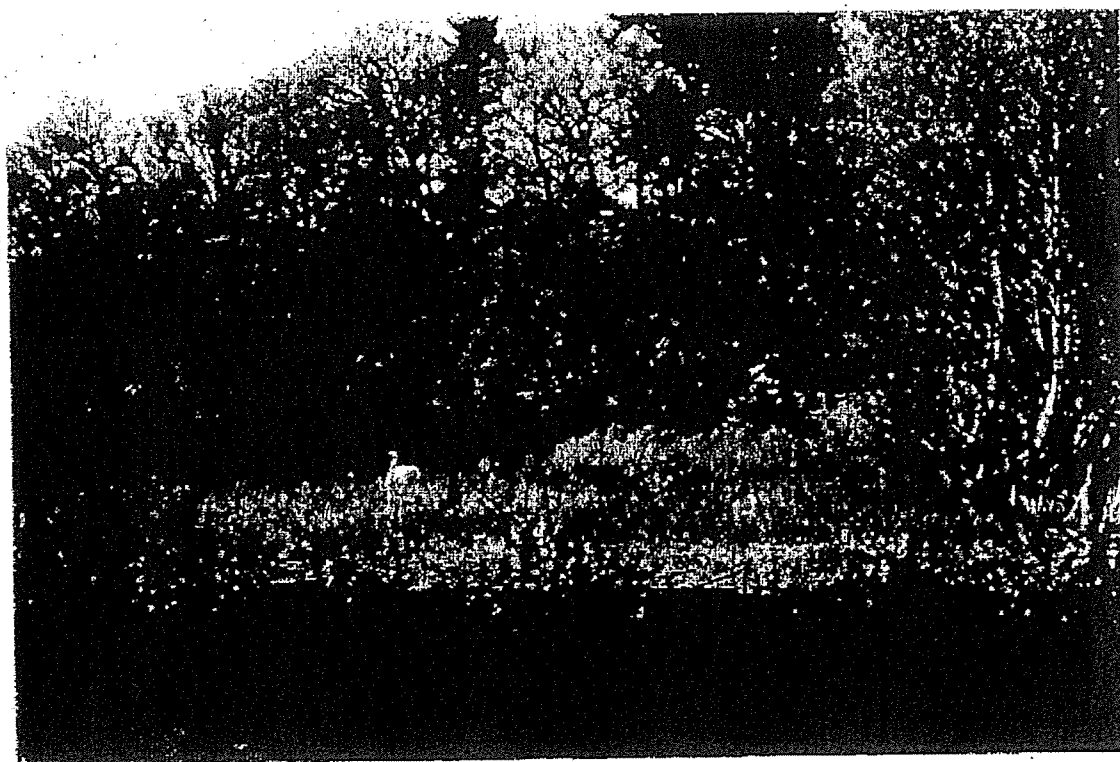


Plate 7 : Advancing spit where burn enters loch.

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3 Results from Belt Transect	3
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1 Introduction – Description of Sanquhar Loch area

- 1.1 Sanquhar Loch (GR 041581) Forres, Moray is an important local feature. The Loch is artificial having been created in a natural valley by damming the Mosset burn around the turn of last century. Being on – stream has meant that it has progressively silted up. A study of available maps suggests that this process has been most marked since 1930.
- 1.2 The loch now consists of two areas. Firstly, an area of open clean water of approximately 1000m² and secondly, an area of wet woodland of approximately 2000m². This has developed at the head end of the loch, to the northeast, and is still subject to periodic flooding. Over the years the silted area has become colonised by vegetation and a carr woodland, dominated by Alder and Willow, has developed. This succession has resulted in a valuable wetland habitat.
- 1.3 Sanquhar Loch is situated in an area surrounded by mixed woodland. Nearby is a 1000 pupil secondary school, playing fields and low density housing. A network of paths around the loch, and in the immediate hinterland, provides walks for a whole cross-section of the population. In addition it is the focus for a range of other activities including fishing for trout, exercising dogs, cycling, birdwatching or just relaxing on the seats provided near the edge of the loch. It is also used by senior pupils from Forres Academy for ecological surveys and research projects.
- 1.4 Loss of the loch, as will undoubtedly happen in the near future, since probably half of it, particularly on its eastern side, is now under 1m in depth, would be a tragic loss, not only for wildlife, but also as a public amenity. Any future management must involve maintaining the loch, controlling future sedimentation and managing the wetland area wisely.

2 A Survey of the Flora in the wetland area.

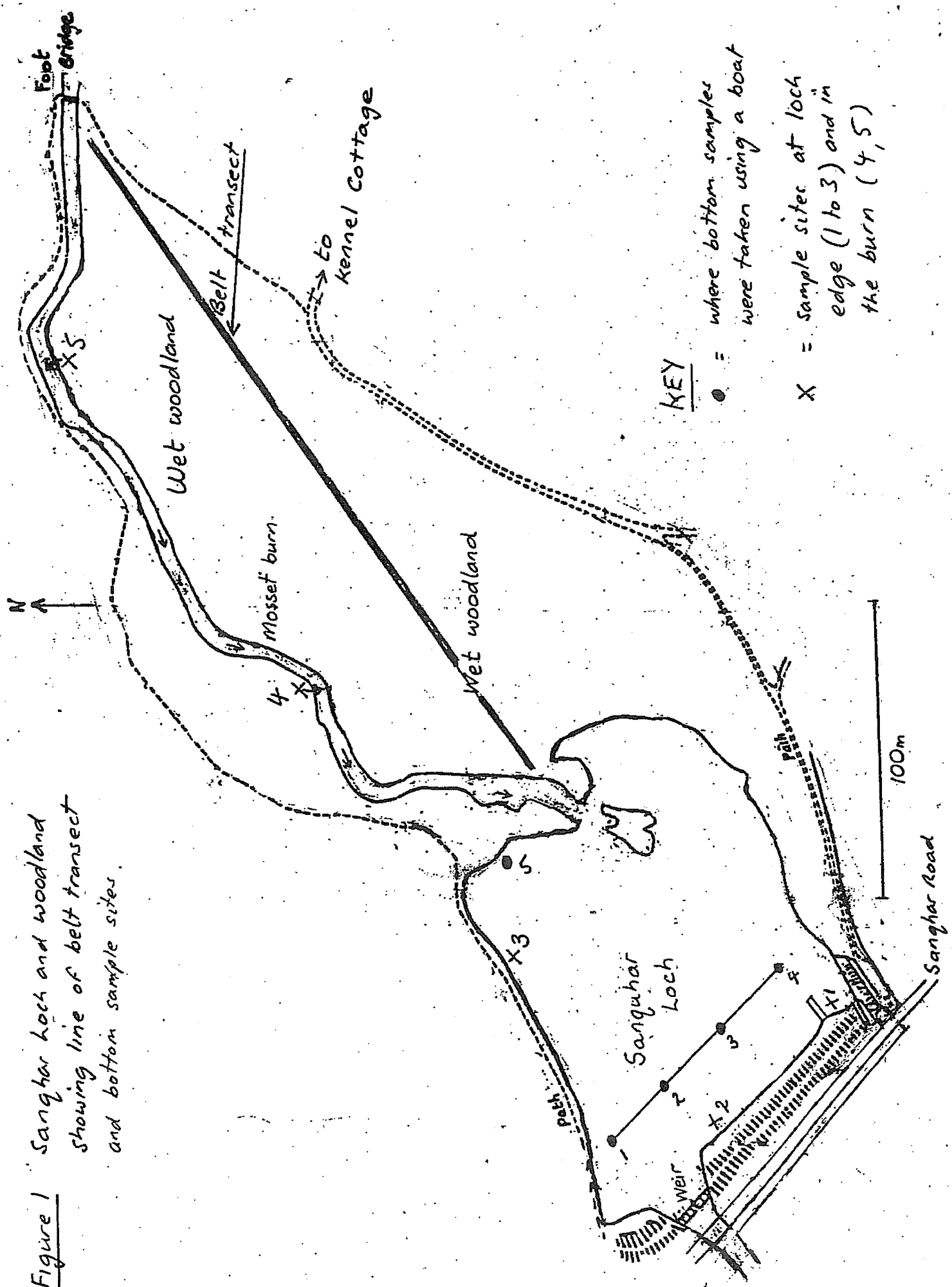
2.1 Woodland walk survey (5.5.2000)

As a preliminary to the main study a woodland walk from the footpath to the waters edge, where the burn enters the loch, was undertaken. This was to determine a possible route for a belt transect. En route the number of species seen were recorded. All plant types, except lichens, were noted. As straight a line as was practical was followed. However some short detours had to be made either because of dense vegetation or soft wet ground. 32 species were discovered.

2.2 An interrupted belt transect (8.5.2000)

A belt transect was taken along a line shown in figure 1. At irregular intervals a $\frac{1}{4}$ m² quadrat was placed and the density of plant cover recorded. The Domin scale was used to measure abundance. This procedure is used in the British National Vegetation Classification Programme. In addition any species occurring nearby, but not in the quadrat, were recorded. This data was used to prepare a species list for the habitat. It is inevitable that some species in the woodland will have been missed. Because of the nature of the topography certain sections are difficult to survey accurately. Lichens and ferns were not surveyed.

Figure 1 Sanghar loch and woodland showing line of belt transect and bottom sample sites.



3 Results from the belt transect

3.1 Species list

Species arranged in order of being found.

1. <i>Pentaglottis sempervirens</i>	Green Alkanet	Boraginaceae
2. <i>Urtica dioica</i>	Nettle	Urticaceae
3. <i>Aegopodium podagraria</i>	Ground Elder	Umbelliferae
4. <i>Ranunculus ficaria</i>	Lesser Celandine	Ranunculaceae
5. <i>Galium odoratum</i>	Woodruff	Rubiaceae
6. <i>Ranunculus repens</i>	Creeping Buttercup	Ranunculaceae
7. <i>Stellaria holostea</i>	Greater Stichwort	Caryophyllaceae
8. <i>Conopodium majus</i>	Pignut	Umbelliferae
9. <i>Anemone nemorosa</i>	Wood Anemone	Ranunculaceae
10. <i>Petasites hybridus</i>	Butterbur	Compositae
11. <i>Ribes rubrum</i>	Red Currant	Grossulariaceae
12. <i>Allaria petiolata</i>	Garlic Mustard	Cruciferae
13. <i>Impatiens glandulifera</i>	Himalayan Balsam	Balsaminaceae
14. <i>Luzula sylvatica</i>	Great Woodrush	Juncaceae
15. <i>Endymion non-scriptus</i>	Bluebell	Liliaceae
16. <i>Alnus glutinosa</i>	Alder	Betulaceae
17. <i>Prunus padus</i>	Bird Cherry	Rosaceae
18. <i>Symphytum officinale</i>	Tuberous Comfrey	Boraginaceae
19. <i>Rumex obtusifolius</i>	Broadleaved Dock	Polygonaceae
20. <i>Mercurialis perennis</i>	Dog's mercury	Euphorbiaceae
21. <i>Allium ursinum</i>	Ramson's	Liliaceae
22. <i>Taxus baccata</i>	Yew	Taxaceae
23. <i>Pseudotsuga menziesii</i>	Douglas Fir	Pinaceae
24. <i>Rhododendron ponticum</i>	Rhododendron	Ericaceae
25. <i>Prunus laurocerasus</i>	Cherry Laurel	Rosaceae
26. <i>Cardamine amara</i>	Large Bittercress	Cruciferae
27. <i>Oxalis acetosella</i>	Wood-sorrel	Oxalidaceae
28. <i>Senecio jacobaea</i>	Ragwort	Compositae
29. <i>Ajuga reptans</i>	Bugle	Labiatae
30. <i>Glechoma hederacea</i>	Ground Ivy	Labiatae
31. <i>Myosotis scorpioides</i>	Water forgetmenot	Boraginaceae
32. <i>Euphorbia amygdaloides</i>	Wood spurge	Euphorbiaceae
33. <i>Betula pendula</i>	Silver Birch	Betuceae
34. <i>Sambucus nigra</i>	Elder	Caprifoliaceae
35. <i>Galium aparine</i>	Common Cleavers	Rubiaceae
36. <i>Taraxacum sp.</i>	Dandelion	Compositae
37. <i>Mentha aquatica</i>	Water Mint	Labiatae
38. <i>Caltha palustris</i>	Marsh Marigold	Ranunculaceae
39. <i>Equisetum fluviatile</i>	Water Horsetail	Equisetaceae
40. <i>Juncus effusus</i>	Soft Rush	Juncaceae
41. <i>Iris pseudacorus</i>	Yellow Iris	Iridaceae
42. <i>Typha latifolia</i>	Reedmace	Typhaceae
43. <i>Carex rostrata</i>	Bottle Sedge	Cyperaceae
44. <i>Salix viminalis</i>	Osier	Salicaceae
45. <i>Salix caprea</i>	Goat Willow	Salicaceae

- 3.2 The following 7 species were also found in the locality by Tom Finnemore of Scottish Wildlife Trust on 28.05.1999. His sampling area was slightly larger and took in land adjacent to the wetland area.

1. *Veronica beccabunga* Brooklime Scrophulariaceae
2. *Anthriscus sylvestris* Cow parsley Umbelliferae
3. *Heracleum mantegazzianum* Giant hogweed umbelliferae
4. *Lycopus europaeus* Gipsywort Labiatae
5. *Stachys sylvatica* Hedge Woundwort Labiatae
6. *Geranium robertianum* Herb Robert Geraniaceae

Sampling from a boat on the 12.05.00 revealed patches of the Small Pondweed *Potamogeton berchtoldii*. This appeared to favour shallow, sandy areas.

- 3.3 The present survey together with that done by the Scottish Wildlife Trust has revealed 52 species. Although the wetland covers a relatively small area it has developed naturally and it contains few non-native species

- 3.4 The colonisation of the area by certain species, for example Himalyan Balsam, Rhododendrum, Laurel and Giant Hogweed, would have to be monitored and if necessary their spread curtailed.

- 3.5 The variety of species is high and it represents an important habitat, which is of local importance. Nationally such areas have diminished due to changes in agricultural practice and drainage schemes.

3.6 Rarity of species

A check through the flora of Moray (Webster 1978) reveals that no rare plants have been discovered in this survey. Most are common or abundant in their respective habitats throughout Moray. The recording history of some plant species is also given and there are records relating to plants found at Sanquhar House and pond. Over the years various plant collections have been made in the Forres area and some of the specimens are lodged in the Falconer Museum in Forres. The herbarium of Dr John Innes (1815-81) is particularly notable. Webster records the following species from the Sanquhar area:

1. Lesser Celandine *Ranunculus ficaria* 1856
2. Reedmace *Typha latifolia* 1954
3. Water forgetmenot *Myosotis scorpiodes* 1961
4. Ramson's *Allium ursinum* This was listed as occasional in 1969.
5. Large Bittercress *Cardamine amara* This was listed as occurring on the banks of the Mosset burn in 1954. The exact position is not specified.

3.7 A comparison with the flora from Kennels wood.

The flora of Kennels wood was surveyed in July 1990 by Tom Finnemore and additions have been made by pupils and staff from Forres Academy (see

Woodland Journal volume 1 January 1993, Forres Academy. Unpublished). 45 species have been found. The majority of these are characteristic of deciduous woodland developing on a well drained acidic soil, ranging from pH 4.5 to pH 6 , which is generally shallow and of low fertility. Only 11 species are shared.

These are:

- | | |
|---------------------|------------------------------|
| 1. Greater Woodrush | <i>Luzula sylvatica</i> |
| 2. Wood sorrel | <i>Oxalis acetosella</i> |
| 3. Wood anemone | <i>Anemone nemorosa</i> |
| 4. Pignut | <i>Conopodium majus</i> |
| 5. Bluebell | <i>Endymion non-scriptus</i> |
| 6. Broadleaved Dock | <i>Rumex obtusifolius</i> |
| 7. Nettle | <i>Urtica dioica</i> |
| 8. Comfrey | <i>Symphytum officinale</i> |
| 9. Sweet Woodruff | <i>Galium odoratum</i> |
| 10. Bugle | <i>Ajuga reptans</i> |
| 11. Dog's mercury | <i>Mercurialis perennis</i> |

Kennels Wood immediately borders the western side of the Loch. It is logical to expect plants from here to spread into the carr woodland, particularly when the soil dries out. Woodrush, Wood sorrel, Wood Anemone, Pignut, Bluebell, Comfrey and Sweet Woodruff probably took this route. More aquatic species such as Marsh Marigold, Water Horsetail, Bottle Sedge, Reedmace and Iris may have been carried down the Mosset Burn.

3.8 Distribution and density of the species along the belt transect.

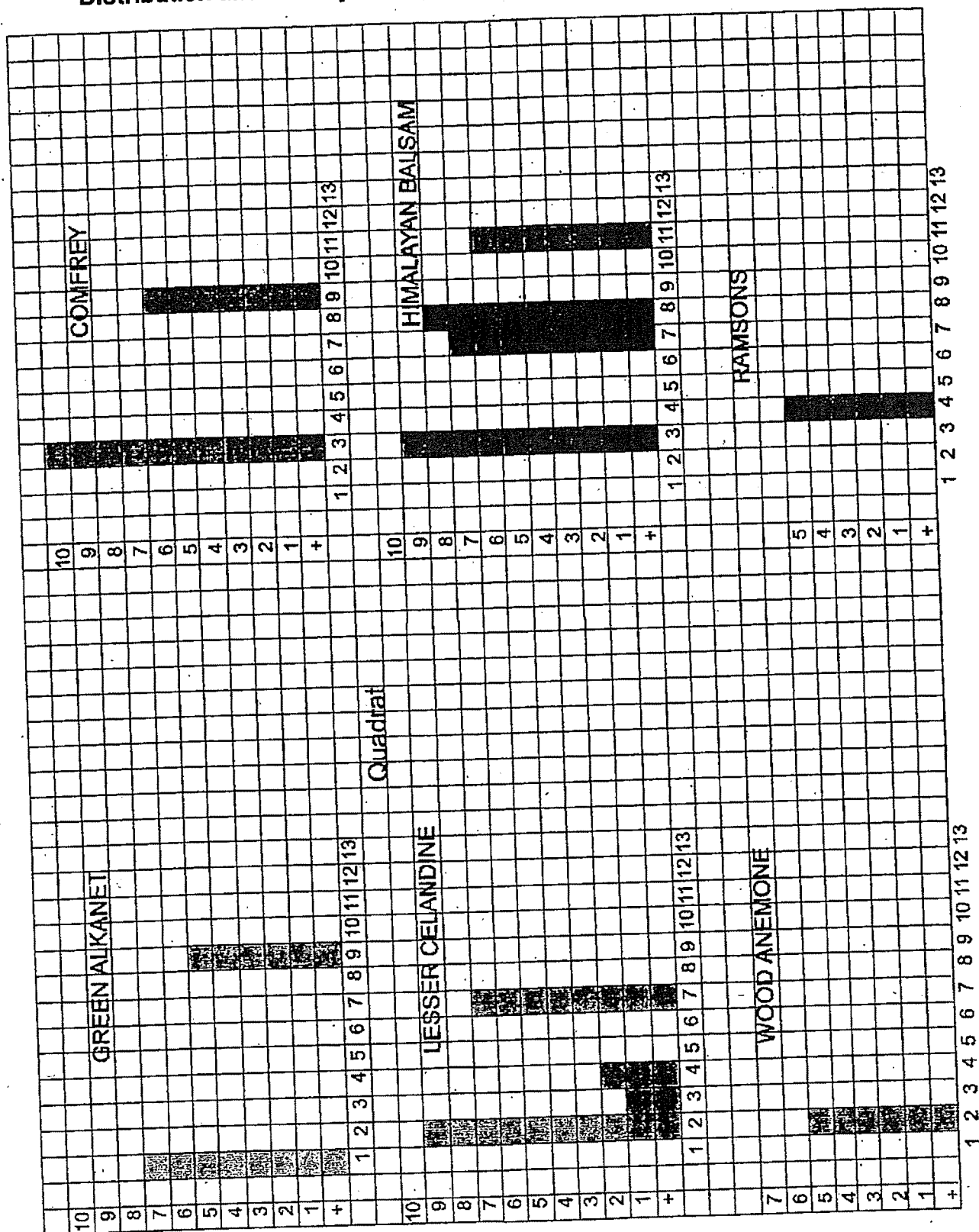
TABLE 1 THE SPECIES RECORDED TOGETHER WITH THEIR DENSITY (DOMAIN SCALE).

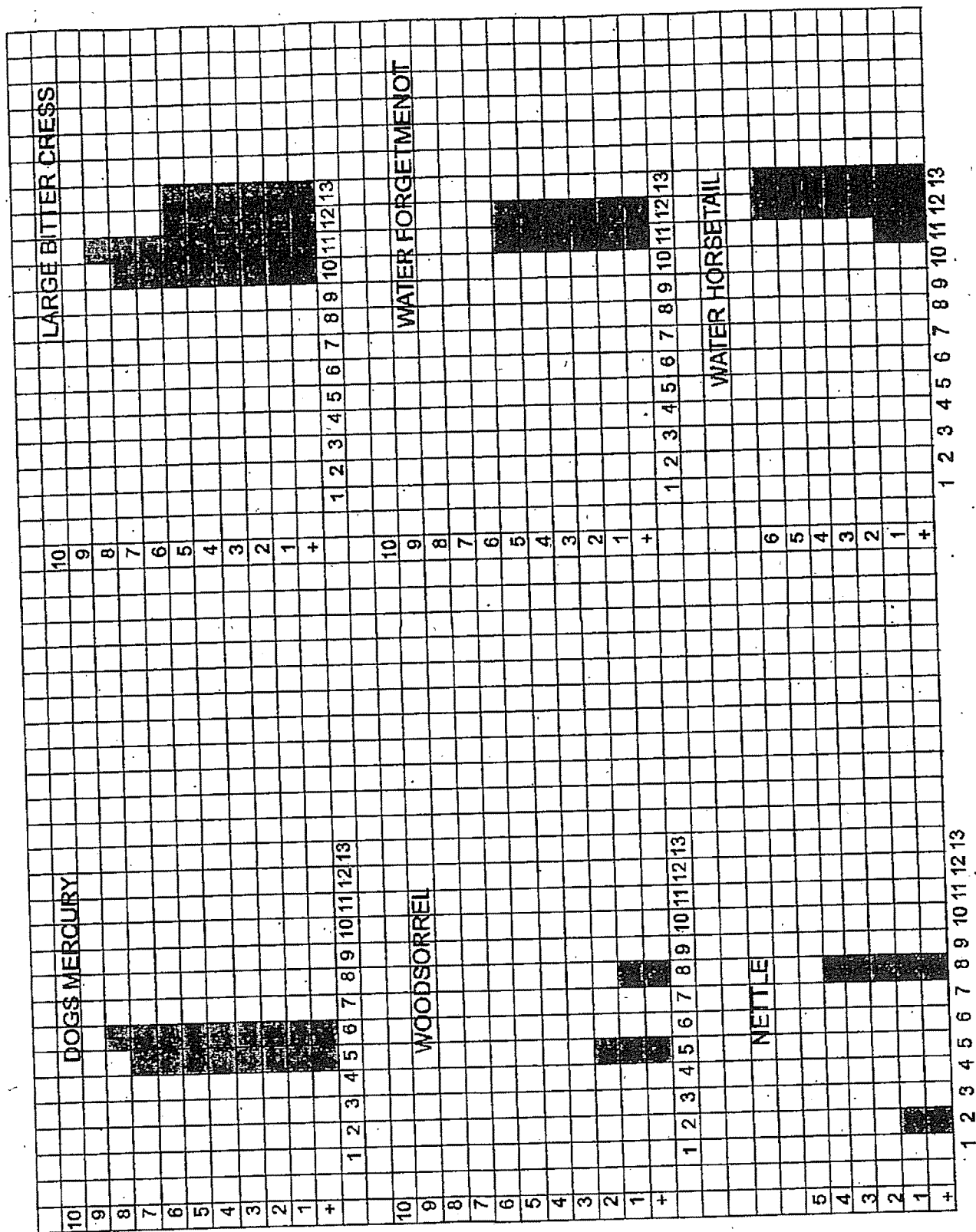
QUADRAT	SPECIES	COVER
1	GREEN ALKANET	7
	LESSER CELANDINE	5
	NETTLE	1
	GROUND ELDER	1
	WOODRUFF	+
2	LESSER CELANDINE	9
	WOOD ANEMONE	5
3	COMFREY	10
	LESSER CELANDINE	1
	GROUND ELDER	+
4	HIMALAYAN BALSAM	9
	RAMSON'S	5
	LESSER CELADINE	2
	GARLIC MUSTARD	1
5	DOGS MERCURY	7
	WOOD SORREL	3
6	DOG'S MERCURY	8
7	LESSER CELANDINE	77
	HIMALAYAN BALSAM	
8	HIMALAYAN BALSAM	8
	NETTLE	4
	COMMON CLEAVERS	4
	WOOD SORREL	1
9	WOOD SPURGE	6
	COMFREY	6
	GREEN ALKANET	5
	GRASS SP.	4
	BUTTERBUR	+
10	LARGE BITTERCRESS	7
	GRASS SP.	6
11	LARGE BITTERCRESS WATER	8
	FORGET-ME-NOT	5
	HIMALAYAN BALSAM	5
	WATER HORSETAIL	1
12	WATER FORGET-ME-NOT	5
	WATER HORSETAIL	6
	CREEPING BUTTERCUP	5
	LARGE BITTERCRESS	5
	WATERMINT	2
13	WATER HORSETAIL	7
	LARGE BITTERCRESS	6
	CREEPING BUTTERCUP	3
	YELLOW IRIS	1
	REEDMACE	1
	BOTTLE SEDGE	1

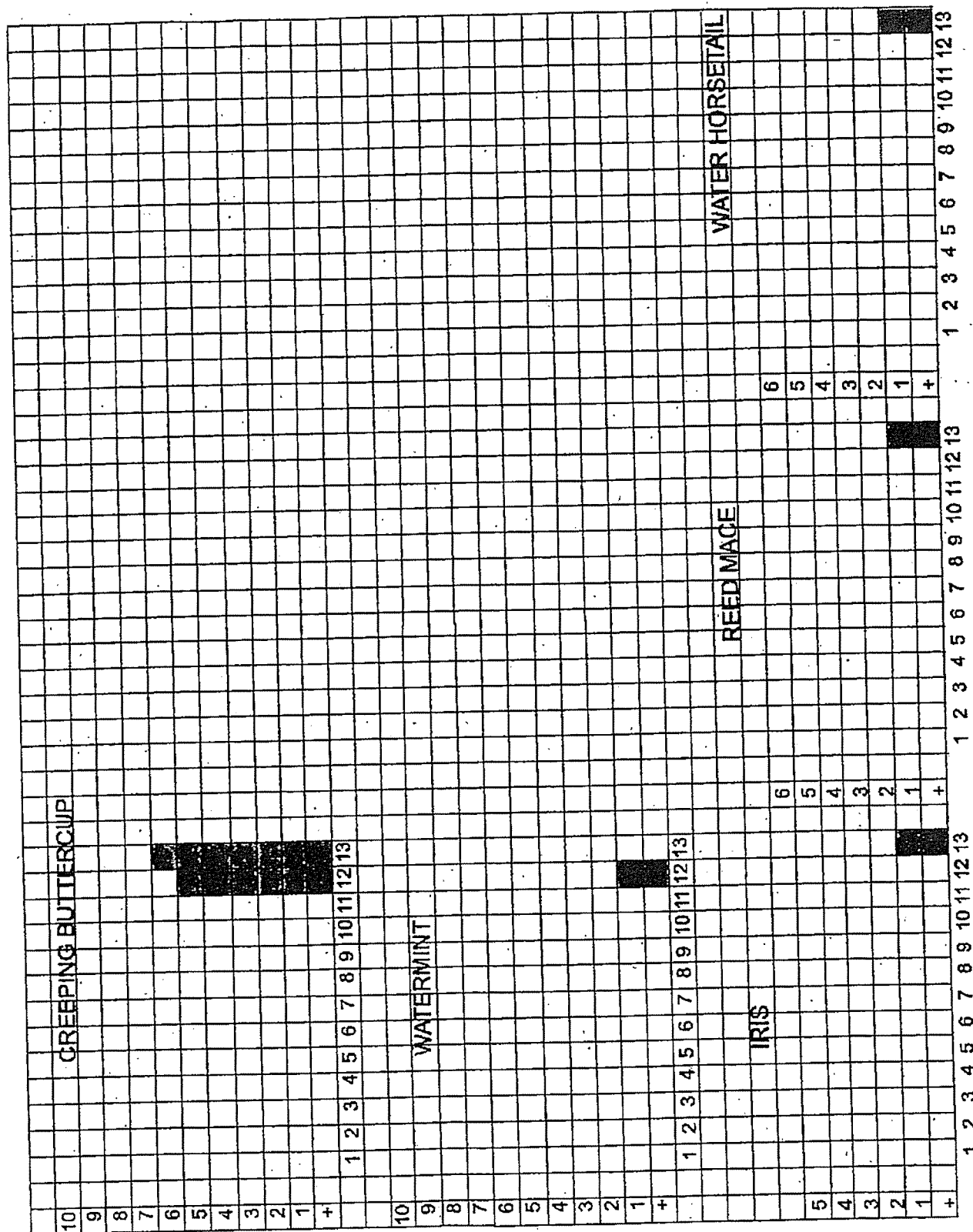
3.9 Analysis of the data

The data in table 1 is shown in Figure 2

Distribution and density of major species along belt transect







3.10 The bar charts in figure 2 reflect the transition from more solid ground, to the NE near the footbridge, to the increasingly wet conditions as one approaches the water's edge. By quadrat 11 the substrate was mud. At 12 the mud vibrated when walked on and by 13 the vegetation was clearly floating. Truly aquatic species were therefore found from quadrat 10 onwards. This area was dominated by Bittercress, Water forget-me-not, Water Horsetail and Bottle Sedge. Creeping Buttercup was also extensive and there were pockets of Reed Mace and Iris. These species, together with the invasive Himalyan Balsam, are likely to spread as the loch becomes shallower. Likewise species recorded in quadrats 1 to 9 will colonise areas that gradually become firmer and drier.

3.11 Value of Flora to Wildlife

In any ecosystem plants are the producer organisms. Without the food that they provide no animal life could exist. Their role is also illustrated by the following species, which are associated with this study. Flowering plants attract many insects. In the wet woodland the orange-tip butterfly (*Anthocharis cardamines*) was common. It was seen visiting the flowers of the Large Bittercress. Crucifers are a food plant also for its larvae. The Reedmace provides cover and a vertical surface for the larvae of Dragonflies to perform their final ecdysis. The Yellow Iris also provides cover for many invertebrates.

Certain plants are valuable for food. The seeds from horsetail and aquatic buttercups are eaten by Mallard and Teal ducks. The leaf and stem of the buttercup is also eaten by Wigeon and the whole plant is a good habitat for invertebrates and amphibians such as newts.

3.12 Any future enlargement of the loch would need to leave areas of vegetation representative of the habitat. Providing such nuclei were not too small, a stock of existing species would be maintained with the potential to colonise.

4 Tree Survey

- 4.1 The original intention was to make a vegetation map. However this proved to be very difficult since access to many parts of the carr woodland was dangerous due to the soft mud. However the species present and their approximate position was recorded on a sketch map. See Figure 3.

The following species were recorded:

1	Yew	<i>Taxus baccata</i>
2	Douglas Fir	<i>Pseudotsuga taxifolia</i>
3	Scots Pine	<i>Pinus sylvestris</i>
4	Goat Willow	<i>Salix caprea</i>
5	Common Osier	<i>Salix viminalis</i>
6	Silver Birch	<i>Betula pendula</i>
7	Common Alder	<i>Alnus glutinosa</i>
8	Hazel	<i>Corylus avellana</i>
9	Oak	<i>Quercus robur</i>
10	Red Currant	<i>Ribes rubrum</i>
11	Rowan	<i>Sorbus aucuparia</i>
12	Blackthorn	<i>Prunus spinosa</i>
13	Bird Cherry	<i>Prunus padus</i>
14	Holly	<i>Ilex aquifolium</i>
15	Sycamore	<i>Acer pseudoplatanus</i>
16	Ash	<i>Fraxinus excelsior</i>
17	Common Elder	<i>Sambucus nigra</i>
18	Laurel	<i>Prunus laurocerasus</i>
19	Rhododendron	<i>Rhododendron ponticum</i>

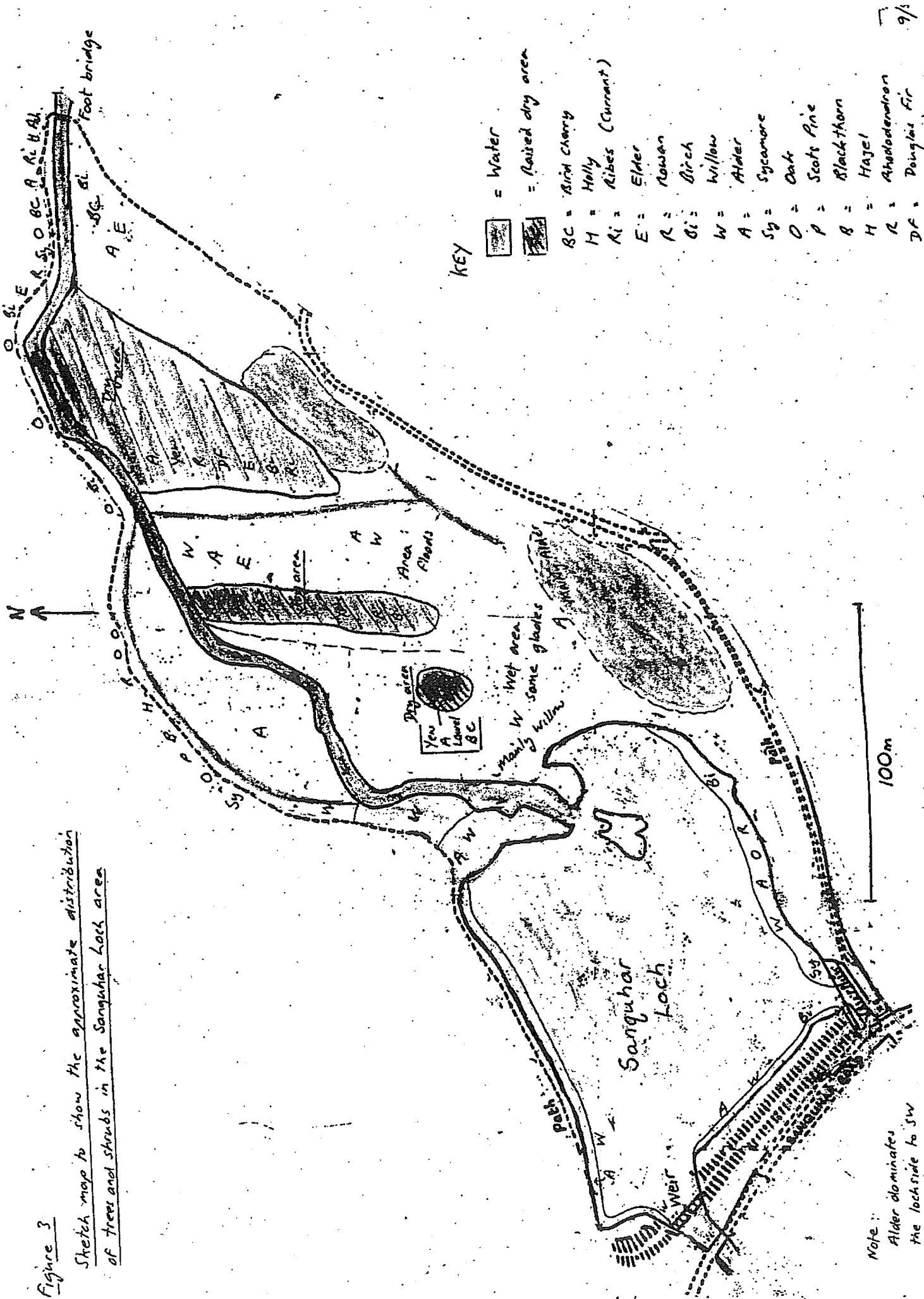
- 4.2 The area is dominated by Alder and Willow sp. Alder is found mainly along the edges of the loch, close to the burn as one moves NE and is particularly extensive on the SE side, where a fine stand has developed. During flooding the burn bursts its banks and follows a natural path southwards cutting across the middle of the woodland and then spreading out along the southern boundary of the study area. Consequently a lot of wet ground and standing water is present. The central area is covered in fine silt and to the west of this is an extensive area of willow shrub. Some open glades are found here, which provide a sheltered area for insects such as butterflies

- 4.3 Three raised areas are present. These have been colonised by Yew, Rhododendron, Laurel, Elder and Red Currant. Douglas Fir has also reached a considerable size on these islands. A study of the 1905 OS map suggests that the western boundary of the largest "dry area" at the eastern end of the study area (see figure 3) probably marks the edge of the original loch. The middle "dry area" was probably once an island. This may be artificial since no raised area is indicated on the 1870 map when the whole area was a field. Indeed the circular first "dry area" also appears to have been a possible island.

A study of the 1905 O.S. map suggests that the western boundary of the largest "dry area" at the eastern end of the study area (see Figure 3) probably marks the

Figure 3

Sketch map to show the approximate distribution of trees and shrubs in the Sanghar Loch area



edge of the original loch. The middle "dry area" was probably once an island. This may be artificial since no raised area is indicated on the 1860 map when the whole area was a field. Indeed the circular first "dry area" also appears to have been a possible island.

4.4 In the future management plan consideration should be given to removing the Rhododendron and Laurel. At present they do provide cover for nesting birds such as the Mallards, and for Roe deer. However they also attract teenagers who are lighting fires and leaving litter.

4.5 Near the footbridge is an area particularly rich in the tree species. These provide an attractive feature for any visitors to the area.

4.6 Value of Tree species to wildlife

Research has shown that certain species are especially important. The Alder for example has 141 species of associated invertebrate. Its seeds are eaten by Mallard. Willow sp. have also high value with over 250 associated invertebrates. Its tendency to form scrub means that it is also very useful for cover. Oak supports the greatest number of invertebrates – some 423 species have been recorded. The acorns are eaten by Mallards. Birch is associated with 334 invertebrates and its seeds are eaten by Mallard and Teal.

4.7 The variety of species and the fact that many are close to the existing path means a "tree trail" would be a valuable educational feature. In the curriculum of both primary and early secondary, pupils are expected to have studied the variety and characteristics of living things. This should also involve fieldwork in the immediate vicinity of the school (see appendix 1 which shows a section of the 5-14 Environmental Studies document, National Guidelines, The Scottish Office Education Department).

5 A Survey of the freshwater organisms

5.1 Initial samples (05/05/00)

Kick samples were taken, using a standard pond net, at three sites along the Loch's edge. Two samples were taken from the Mosset Burn (see figure 1)
From the samples taken it was hoped to get a representative sample of the species present and obtain a rough measure of their abundance based on impression. Identification to species level can be difficult with freshwater organisms so this was not always achieved.

5.2 Results of the samples

Table 2 Depth of sample, nature of bottom and pH of water.

Sample	Depth (cm)	Substrate	pH
1	30	Black mud	6.9
2	30	Sand, gravel	7.0
3	30	Gravel	7.1
4	<30	Gravel	7.0
5	<30	Gravel, mud	7.0

The following groups of organisms were found:

1. Annelida - Oligochaeta
2. Nematoda
3. Arthropoda
 - (a) Crustacea
 - i) Ostracoda
 - ii) Copepoda *Cyclops sp.*
 - iii) Branchiopoda *Daphnia sp.*
 - (b) Insecta - Dipteran larvae and pupae
Trichopteran larvae (caddis)
 - (c) Arachnida - Mites

Table 3 - Organisms sampled and their relative abundance.

A = abundant C = common R = rare

Organism	Sample				
	1	2	3	4*	5*
Oligochaeta	R	R	-	-	-
Nematoda	R	C	-	-	-
Ostracoda	R	-	R	-	-
Cyclops sp.	R	-	-	-	-
Daphnia sp.	R	-	-	-	-
Dipteran larvae	C	C	R	R	R
Dipteran pupae	-	R	R	-	-
Caddis larvae	R	-	-	C	-
Mites	R	-	C	-	A

* Mosset Burn

5.3 Previous Sampling

The CSYS class at Forres Academy carried out an investigation into the distribution of *Gammarus pulex* on the 27/09/99, 01/09/99 and 03/09/99. Controlling factors were also measured. *Gammarus* was found in the Loch area and in the burn running into the Loch. The *Gammarus* appeared to prefer slow flowing water and a substrate whose organic matter varied between 0.49% and 7.04%. The highest numbers of shrimps correlated with the highest organic matter.

Gammarus is present in the loch and burn but was not detected on the 05/05/00. However very heavy rainfall with flood conditions may have temporarily altered the population levels of this organism and indeed of others.

5.4 Further Sampling

Four bottom samples were taken from a boat, using a standard pond net, at 20m intervals and following a parallel line, again at approximately 20m, from the embankment. A fifth sample was taken at the pond edge next to the vegetation. Figure 1 shows the position of the samples.

A plankton sample was taken by towing a standard plankton net at constant speed across the loch and back again. The line taken was similar to that followed when bottom sampling.

5.5 Results of Sampling

Table 4 Depth of sampling and nature of substrate

Sample	Depth	Substrate
1	>1m	Black, smelly mud
2	>1m	Mud
3	<1m	Sand
4	<1m	Mud
5	<1m	Oak leaves

Groups of Organisms found:

1. Annelida - Oligochaeta
2. Nematoda
3. Mollusca – Gastropoda *Planorbis sp.*
4. Platyhelminthes – flatworms
5. Arthropoda
 - (i) Ostracoda
 - (ii) Isopoda *Asellus aquaticus*
 - (iii) Amphipoda *Gammarus pulex*
 - (iv) Insecta

Plecoptera	Stone flies
Ephemoptera	Mayflies
Trichoptera	Caddis larvae
Coleoptera	Beetle larvae
Diptera	Larvae and pupae
Hemiptera	Waterboatmen
 - (v) Arachnida mites

Corixa sp.

Table 5 Organisms sampled at each station and their relative abundance.

Organism	Sample				
	1	2	3	4	5
Oligochaeta	C	-	C	-	R
Nematoda	-	-	-	-	R
Planorbis sp.	-	-	-	-	-
Ostracoda	C	-	-	-	A
<i>Asellus aquaticus</i>	-	-	-	-	R
<i>Gammarus pulex</i>	-	-	A	-	R
Stonefly nymphs	-	-	-	-	R
Mayfly nymphs	-	-	-	-	R
Caddis larvae	-	-	C	-	A
Beetle larvae	-	-	-	-	R
Dipteran larvae	A	A	A	A	C
Dipteran pupae	-	-	-	-	C
Waterboatmen	-	-	-	-	R
Mites	-	-	R	-	C*
Flatworm	-	-	R	-	-

A = abundant

C = common

R = rare

* = *Limnesia* sp.

- 5.6 Although small trout are commonly seen jumping in the loch their food supply seems to be scant, since the bottom fauna does not appear to be particularly rich. Tiny pickings would be provided by the Dipteran larvae, which certainly are abundant, especially in the muddy areas. A greater diversity of fauna is found on the sandier parts of the loch. However the richest fauna is associated with the edge of the vegetation (sample 5). Thirteen types of organism were recorded. Various species of caddis were abundant, while very large numbers of water slater were present. This is a species commonly associated with an abundance of organic matter. Oak leaves from the nearby trees being a regular source especially in the autumn. The presence of Stonefly and Mayfly nymphs indicates good quality water.

5.7 Results of plankton sampling

Table 6

Group	Number of Species	Notes
Algae	3	Desmid, Chlamydomonas sp Filamentous algae
Protozoa	1	Colonial protozoan
Diatom	1	
Arthropoda	1	Ostracod
Crustacea	1	Copepod

- 5.8. Bearing in mind the limitations of the sampling procedure the loch appears to poor in species. However this is largely to be expected since it is a moving system and it is a relatively shallow body of water. It is also early in the season. More extensive sampling, on a monthly basis, would produce a better evaluation. Additional information about the nutrient status would also be an essential part of the jigsaw.

5.9 Management Implications

Any disturbance to the pond is likely to have only a short term affect.

Recolonisation from insects whose larval stages are aquatic and by invaders

From the burn would soon take place

6 Birds of Sanquhar

- 6.1 During the study a record of birds was made. This only represented a snapshot of the avian fauna. Fortunately a local bird enthusiast has kept records for the last ten years (see "A personal account of the birds of Sanquhar pond and surrounding area 1990-1998" with supplement for 1999 by Allan J. Lawrence. This report is unpublished and is in the hands of the Forres footpaths trust. Note central records for Moray and Nairn are kept by Martin Cook)

6.2 A list of bird Species

1. Little Grebe	<i>Tachybaptus ruficollis</i>
2. Cormorant	<i>Phalacrocorax carbo</i>
3. Grey Heron	<i>Ardea cinerea</i>
4. Mute Swan	<i>Cygnus olor</i>
5. Whooper Swan	<i>Cygnus cygnus</i>
6. Wigeon	<i>Anas penelope</i>
7. Gadwall	<i>Anas strepera</i>
8. Teal	<i>Anas crecca</i>
9. Mallard	<i>Anas platyrhynchos</i>
10. Pochard	<i>Aythya ferina</i>
11. Tufted duck	<i>Aythya fuligula</i>
12. Goldeneye	<i>Bucephala clangula</i>
13. Red-breasted Merganser	<i>Mergus serrator</i>
14. Goosander	<i>Mergus merganser</i>
15. Sparrowhawk	<i>Accipiter nisus</i>
16. Buzzard	<i>Buteo buteo</i>
17. Kestrel	<i>Falco tinnunculus</i>
18. Pheasant	<i>Phasianus colchicus</i>
19. Moorhen	<i>Gallinula chloropus</i>
20. Oystercatcher	<i>Haematopus ostralegus</i>
21. Woodcock	<i>Scolopax rusticola</i>
22. Common sandpiper	<i>Actitis hypoleucos</i>
23. Black-headed gull	<i>Larus ridibundus</i>
24. Common gull	<i>Larus canus</i>
25. Herring gull	<i>Larus argentatus</i>
26. Woodpigeon	<i>Columba palumbus</i>
27. Tawny Owl	<i>Strix aluco</i>
28. Swift	<i>Apus apus</i>
29. Swallow	<i>Hirundo rustica</i>
30. House martin	<i>Delichon urbica</i>
31. Sand martin	<i>Riparia riparia</i>
32. Great spotted woodpecker	<i>Dendrocopos major</i>
33. Grey Wagtail	<i>Motacilla cinerea</i>
34. Pied Wagtail	<i>Motacilla alba</i>
35. Dipper	<i>Cinclus cinclus</i>
36. Wren	<i>Troglodytes troglodytes</i>
37. Dunnock	<i>Prunella modularis</i>
38. Robin	<i>Erithacus rubecula</i>
39. Blackbird	<i>Turdus merula</i>

40. Song Thrush	<i>Turdus philomelos</i>
41. Fieldfare	<i>Turdus pilaris</i>
42. Redwing	<i>Turdus iliacus</i>
43. Mistle Thrush	<i>Turdus viscivorus</i>
44. Whitethroat	<i>Sylvia communis</i>
45. Blackcap	<i>Sylvia atricapilla</i>
46. Wood Warbler	<i>Phylloscopus sibilatrix</i>
47. Chiffchaff	<i>Phylloscopus collybita</i>
48 Willow Warbler	<i>Phylloscopus trochilus</i>
49. Goldcrest	<i>Regulus regulus</i>
50. Spotted flycatcher	<i>Muscipapa striata</i>
51. Long-tailed tit	<i>Aegithalos caudatus</i>
52. Coal Tit	<i>Parus ater</i>
53. Blue Tit	<i>Parus caeruleus</i>
54. Great Tit	<i>Parus major</i>
55. Treecreeper	<i>Certhia familiaris</i>
56. Jackdaw	<i>Corvus monedula</i>
57. Rook	<i>Corvus frugilegus</i>
58. Carrion crow/Hooded crow	<i>Corvus corone</i>
59. Starling	<i>Sturnus vulgaris</i>
60. House sparrow	<i>Passer domesticus</i>
61. Chaffinch	<i>Fringilla coelebs</i>
62. Greenfinch	<i>Carduelis chloris</i>
63. Goldfinch	<i>Carduelis carduelis</i>
64. Siskin	<i>Carduelis spinus</i>
65. Redpoll	<i>Carduelis flammea</i>
66. Crossbill	(species not identified)
67. Bullfinch	<i>Pyrrhula pyrrhula</i>
68. Yellowhammer	<i>Emberiza citrinella</i>
69. Reed Bunting	<i>Emberiza schoeniclus</i>

- 6.3 A review of the bird records for Moray and Nairn (Cook 1992) shows that 67 of the species recorded at Sanquhar are to be expected in the type of habitat being considered. Two however stand out. The Gadwell recorded on the loch on 22/08/91 and the Wood Warbler, seen on the southside of the loch from the 11th to 29th May 1997 are listed as being scarce and rare respectively.

What is impressive is the variety of bird species that visit the area. An analysis (see table 7) of Mr Lawrence's records shows that many are visitors staying for varying lengths of time. This is often associated with local seasonal changes or a staging post during migration. Many birds are resident and presumably breeding in the locality, but more work needs to be done in order to establish the breeding density. The Mute Swan (1 pair) and Mallard breed regularly around the loch. The Dipper and Grey Wagtail also breed nearby.

6.4 Occurrence of bird species associated with Sanguhar Loch

Many bird species either swim in the loch e.g. Ducks, Gulls or feed at its edges e.g. Heron, Moorhen or depend on the burn e.g. Grey Wagtail, Dipper. Others fly over and collect insects e.g. Swallows and House Martins. The following table shows when various species may be seen.

Table 7 Seasonal variation in bird species associated with Sanguhar Loch.

	J	F	M	A	M	J	J	A	S	O	N	D
Little Grebe	✓	✓							✓	✓	✓	✓
Cormorant	✓									✓	✓	
Grey heron	✓		✓	✓	✓	✓		✓				✓
Mute Swan	✓	✓	✓	✓	✓	✓						
Whooper Swan	✓											✓
Wigeon								✓				
Gadwall								✓	✓	✓	✓	✓
Teal	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mallard	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pochard	✓								✓	✓	✓	✓
Tufted Duck	✓	✓	✓	✓	✓	✓					✓	✓
Goldeneye	✓	✓	✓									
Red-Breasted Merganser			✓									
Goosander		✓										
Moorhen	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Common Sandpiper				✓								
Black-Headed Gull	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓
Common Gull	✓							✓	✓	✓	✓	
Herring Gull	✓		✓					✓	✓	✓	✓	✓
Grey Wagtail			✓	✓	✓	✓	✓	✓		✓	✓	✓
Dipper	✓	✓	✓	✓	✓	✓	✓	✓				
Swift					✓			✓				
Swallow					✓					✓		
House Martin							✓		✓			

Despite its relatively small size the loch can attract large numbers of wildfowl during the winter months. 200 Teal were observed on 18.01.92 while 400 were seen on 29th December 1993. Mallards are usually present in considerable numbers. Around 30 is quite common but numbers as high as 200 have been seen (on 30.01.93). Black-headed gulls are also common and their numbers swell in the winter months. 116 were counted on 03.01.93. Herring Gulls are becoming more frequent visitors particularly over the last three years.

6.5 Management Suggestions

Bird Studies

- An indicator board showing pictures of the common species of water bird. This could be placed on the embankment which is a good viewing point.
- A leaflet giving a species list of those birds which are likely to be seen. Spaces could be added for any birds not listed. Members of the public and school pupils could be encouraged to record species on a regular basis. They could also count those swimming on the loch. A box could be provided for return of the leaflets. Alternatively they could be sent to Forres Academy.
- Encourage project work for example bird behaviour, feeding and migration. The RSPB provides many excellent source materials. These projects could be integrated into a schools 5-14 Environmental Studies programme since it would be an opportunity to cover one of the prescribed areas viz "Develop informed attitudes and values relating to the care and conservation of the environment".

Habitat improvements to the loch

- Deepening it so that a reasonable area 2-3m in depth is created. This will favour diving ducks such as the Tufted duck. (It will also suit trout).
- Creating a better shoreline to encourage waders.
- Ensure more of the bank slopes gently.
- Provide more secretive areas by scalloping the shoreline and creating spits of land.
- Encourage more edge vegetation. Planting of selected species native to Moray should perhaps be considered in order to increase the variety of aquatic plants.
It is likely that by making the shoreline more accessible, and by creating bays, there will be an increase in the abundance and variety of aquatic invertebrates. School pupils will also be able to sample the water more safely.
- Monitor the colonisation of edging trees so that access is maintained and flight paths for ducks are not impeded.
- Create small islands for nesting and cover.

7 Management of Sanguhar loch area

Returning the loch to its original size as shown in the 1905 OS map (2nd Edition) would be a massive and expensive task. Such a disruptive undertaking would destroy much of the existing flora and remove a valuable habitat for animals. Management must therefore represent a compromise.

Objectives

1. Maintain and improve the habitat for wildlife.
2. Enhance the local area for recreational and educational activities.
3. Have a long term management policy so that the loch does not continue to shrink.

Considerations

1. Changing the shape and the size of the loch cannot be achieved easily because of access problems around the edge. Some areas are too soft for a digger to operate, for example on the southside and within the wet woodland. Furthermore much of the central area of the loch, which is becoming very shallow, is out of reach even by a long armed digger. An alternative method of excavation would be needed.
2. Some of the existing paths should be strengthened and widened to allow digger access.
3. Silting needs to be curtailed and in future regular removal of silt will always have to be undertaken.
4. Deepening is necessary but to no more than 2-3m.
5. Increasing the area of standing water is desirable.
6. The level of the existing water should be maintained. Periodic flooding of the wet woodland would still occur and the high water table within the woodland would help maintain the present habitat.
7. It will also be necessary to remove some of the trees from the wet woodland in order to maintain the succession at its present seral stage. Otherwise the area will gradually become more forested and dry out.

Practical details

See the sketch map shown in Figure 4. Ten suggestions are made. In outline these are;

- Deepen the water out from the embankment, change its shape so small bays are created:
- Create an offstream pond.
- Improve the track beyond Kennel cottage.
- Make a new burn channel
- Deepen sections of the burn.
- Excavate an onstream pond to act as a silt trap.
- Block off a portion of the burn that leads into the centre of the loch
- Make the burn enter at the N side of the loch.
- Strengthening and widening the parts on the N side of the loch

References

1. Webster M.M (1978). Flora of Moray, Nairn and East Inverness. Aberdeen University Press.
2. Cook M (1992) the birds of Moray and Nairn. Mercat Press

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3. Alan Hunter for giving up his time and providing us with a boat.
4. Jack Thornley for his prompt assistance on numerous occasions especially for helping with old maps of the area. Jack also provided the driving force for this initiative and I hope this report will not only encourage future conservation work but will also prove to be a stimulus for environmental studies and an awareness raising exercise for the community of Forres. Sanquhar is indeed a local jewel.

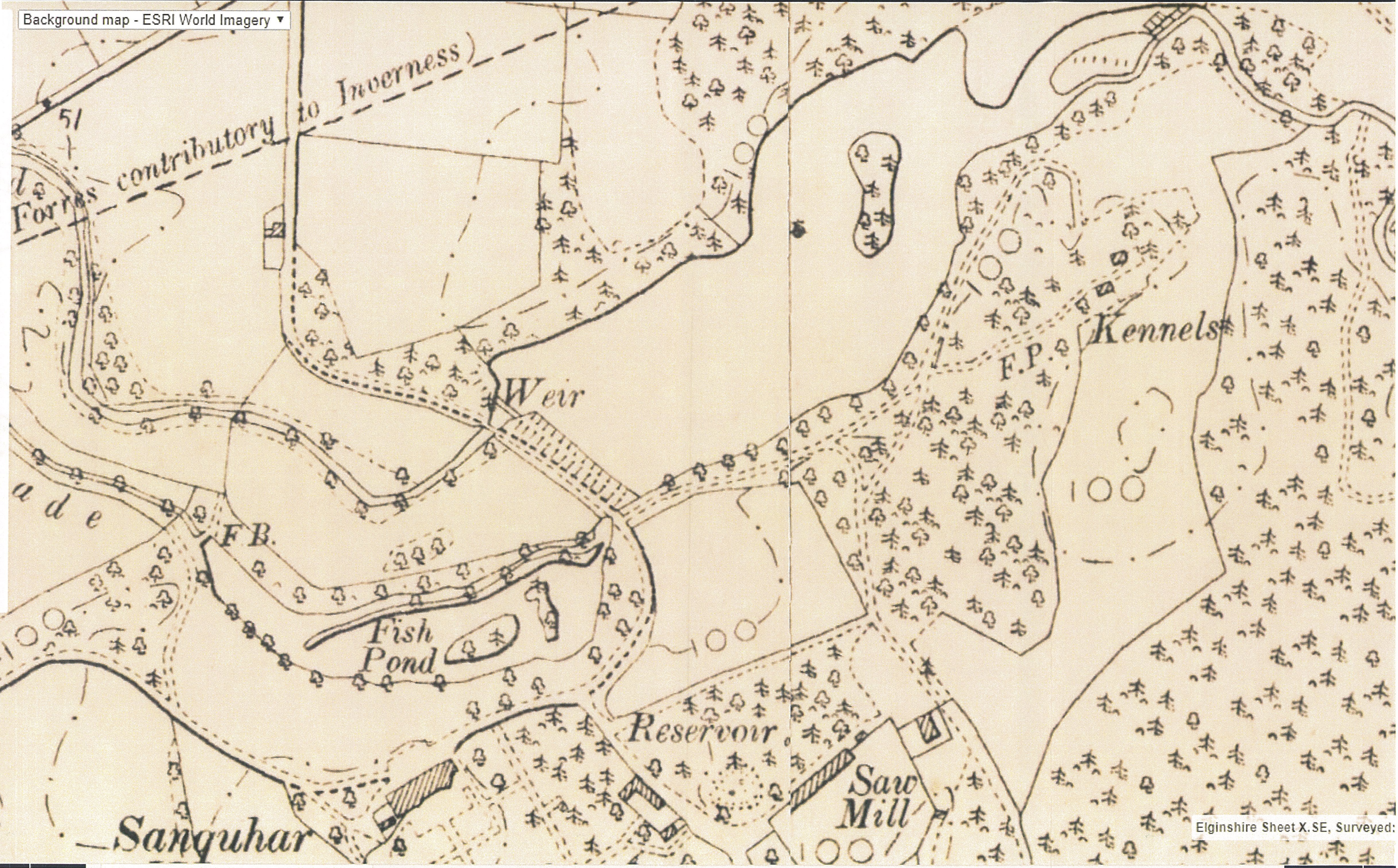
From Botanical Recorder - Ian Green - October 2018

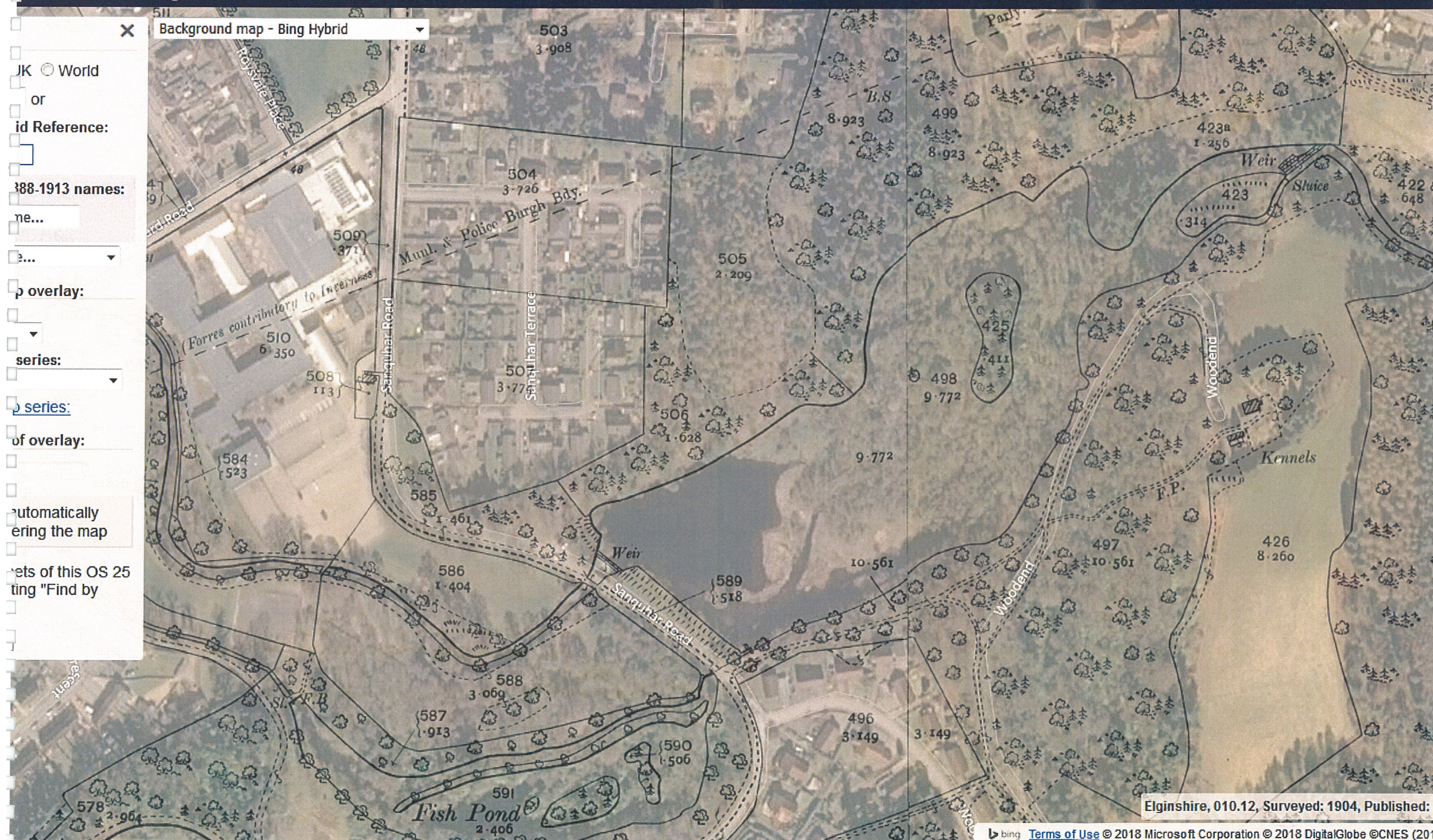
Taxon	Vernacular	Gridref	Comment
1 Acer pseudoplatanus	Sycamore	NJ042582	
2 Aegopodium podagraria	Ground-elder	NJ041582	
3 Alliaria petiolata	Garlic Mustard	NJ040581	
4 Alnus glutinosa	Alder	NJ039580	
5 Alnus glutinosa	Alder	NJ040581	
6 Alnus glutinosa	Alder	NJ041581	
7 Angelica sylvestris	Wild Angelica	NJ039580	
8 Anthoxanthum odoratum	Sweet Vernal-grass	NJ040581	
9 Arabidopsis thaliana	Thale Cress	NJ040580	
10 Callitriche brutia subsp. hamulata	Intermediate Water-starwort	NJ039581	
11 Caltha palustris	Marsh-marigold	NJ040581	
12 Caltha palustris	Marsh-marigold	NJ041581	
13 Cardamine amara	Large Bitter-cress	NJ039580	
14 Cardamine amara	Large Bitter-cress	NJ040581	
15 Cardamine amara	Large Bitter-cress	NJ041581	
16 Cardamine flexuosa	Wavy Bitter-cress	NJ042583	
17 Cardamine pratensis	Cuckooflower	NJ039580	
18 Carex pseudocyperus	Cyperus Sedge	NJ041581	One plant on the muddy banks of Sanguhar Loch
19 Carex remota	Remote Sedge	NJ040581	
20 Carex remota	Remote Sedge	NJ042581	
21 Carex rostrata	Bottle Sedge	NJ039581	
22 Carex rostrata	Bottle Sedge	NJ041581	
23 Chrysosplenium oppositifolium	Opposite-leaved Golden-saxifrage	NJ041581	
24 Cicerbita macrophylla	Common Blue-sow-thistle	NJ039580	
25 Corylus avellana	Hazel	NJ042583	
26 Cotoneaster frigidus	Tree Cotoneaster	NJ039580	Self-sown and planted
27 Cotoneaster hjelmqvistii	Hjelmqvist's Cotoneaster	NJ039580	Self-sown. Bank on S. side of Sanguhar Road
28 Cotoneaster salicifolius	Willow-leaved Cotoneaster	NJ039580	Self-sown. On bank on S. side of Sanguhar Road
29 Crocus tommasinianus	Early Crocus	NJ040580	A few plants on north side of path
30 Crocus tommasinianus	Early Crocus	NJ040580	
31 Cytisus scoparius subsp. scoparius	Broom	NJ040581	
32 Dactylis glomerata	Cock's-foot	NJ041582	

33	<i>Dryopteris affinis</i> agg.	Scaly Male-fern	NJ040581	
34	<i>Dryopteris filix-mas</i>	Male-fern	NJ040581	
35	<i>Equisetum arvense</i>	Field Horsetail	NJ039580	
36	<i>Equisetum fluviatile</i>	Water Horsetail	NJ040581	
37	<i>Equisetum fluviatile</i>	Water Horsetail	NJ041581	
38	<i>Fagus sylvatica</i>	Beech	NJ041582	
39	<i>Fraxinus excelsior</i>	Ash	NJ040581	
40	<i>Galanthus nivalis</i>	Snowdrop	NJ043582	
41	<i>Galium odoratum</i>	Woodruff	NJ041582	
42	<i>Galium odoratum</i>	Woodruff	NJ043582	
43	<i>Hedera helix</i> agg.	Ivy	NJ040581	
44	<i>Heracleum mantegazzianum</i>	Giant Hogweed	NJ041582	
45	<i>Hypericum pulchrum</i>	Slender St John's-wort	NJ040581	
46	<i>Impatiens glandulifera</i>	Indian Balsam	NJ040581	
47	<i>Impatiens glandulifera</i>	Indian Balsam	NJ041581	
48	<i>Impatiens glandulifera</i>	Indian Balsam	NJ042582	Growing by the Mosset Burn
49	<i>Juncus effusus</i>	Soft-rush	NJ040581	
50	<i>Juncus effusus</i>	Soft-rush	NJ041581	
51	<i>Lamium galeobdolon</i> subsp. <i>argentatum</i>	Garden Yellow-archangel	NJ043584	Patch on edge of trees
52	<i>Lapsana communis</i>	Nipplewort	NJ040581	
53	<i>Leucojum vernum</i>	Spring Snowflake	NJ040580	One clump by base of tree on north side of path
54	<i>Leucojum vernum</i>	Spring Snowflake	NJ040580	One clump by base of tree on north side of path
55	<i>Lonicera periclymenum</i>	Honeysuckle	NJ041582	
56	<i>Luzula sylvatica</i>	Great Wood-rush	NJ040581	
57	<i>Lycopus europaeus</i>	Gypsywort	NJ039580	
58	<i>Lycopus europaeus</i>	Gypsywort	NJ040581	
59	<i>Lycopus europaeus</i>	Gypsywort	NJ042582	Growing by the Mosset Burn
60	<i>Mentha x piperita</i>	Peppermint (<i>M. aquatica</i> x <i>spicata</i>)	NJ039581	

or [England and Wales, 1842-1952](#)

Background map - ESRI World Imagery ▾

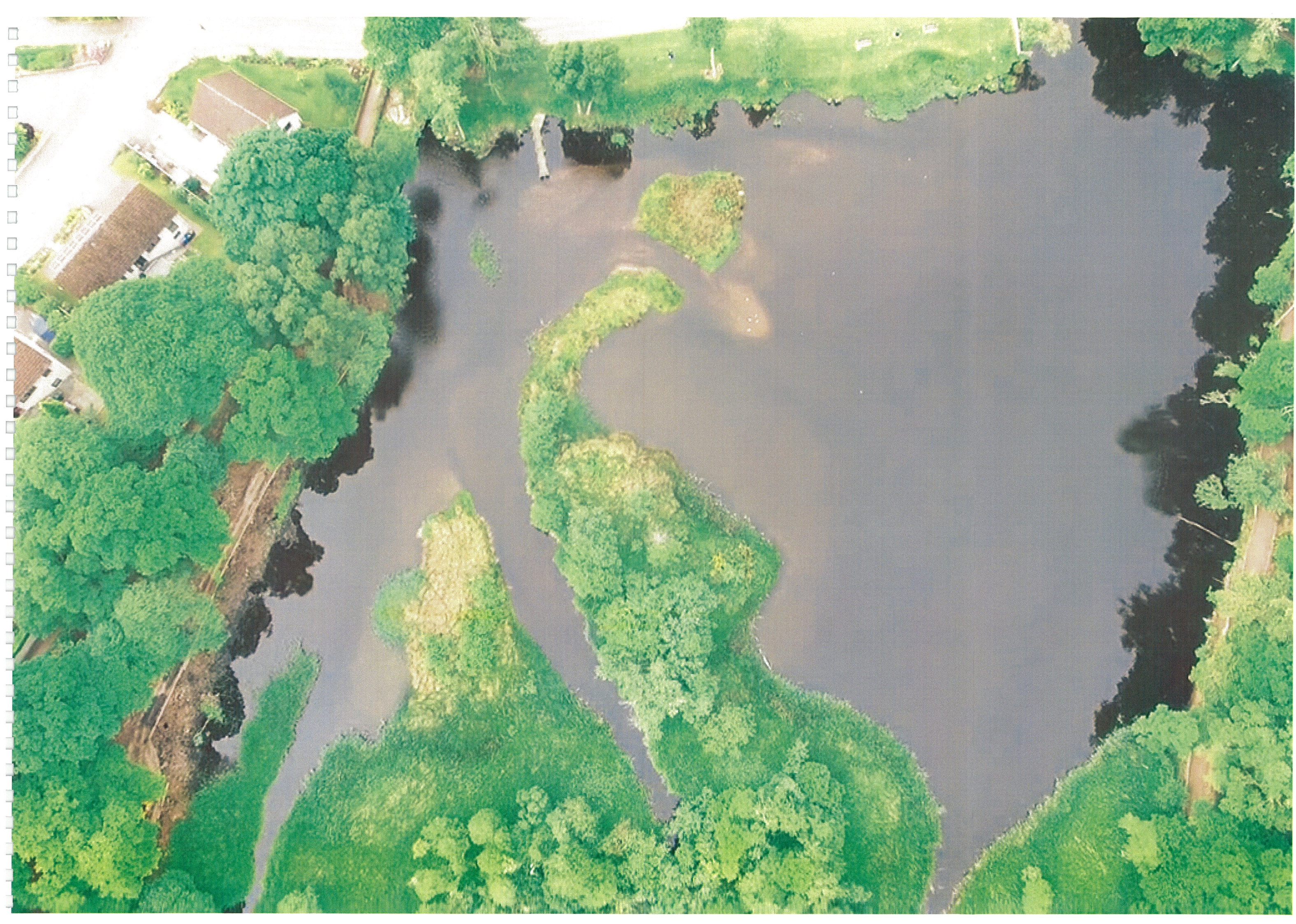




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61	<i>Mercurialis perennis</i>	Dog's Mercury	NJ043583
62	<i>Mercurialis perennis</i>	Dog's Mercury	NJ043583
63	<i>Milium effusum</i>	Wood Millet	NJ043583
64	<i>Milium effusum</i>	Wood Millet	NJ043583
65	<i>Mimulus</i> agg.	Monkeyflower	NJ039580
66	<i>Mimulus</i> agg.	Monkeyflower	NJ041581
67	<i>Myrrhis odorata</i>	Sweet Cicely	NJ039580
68	<i>Myrrhis odorata</i>	Sweet Cicely	NJ041582
69	<i>Narcissus</i> agg.	Cultivated Daffodil	NJ040580
70	<i>Oxalis acetosella</i>	Wood-sorrel	NJ041582
71	<i>Oxalis acetosella</i>	Wood-sorrel	NJ040582
72	<i>Pentaglottis sempervirens</i>	Green Alkanet	NJ040581
73	<i>Phalaris arundinacea</i>	Reed Canary-grass	NJ040581
74	<i>Picea abies</i>	Norway Spruce	NJ041582
75	<i>Plantago major</i>	Greater Plantain	NJ040581
76	<i>Prunus padus</i>	Bird Cherry	NJ039580
77	<i>Prunus padus</i>	Bird Cherry	NJ042583
78	<i>Prunus spinosa</i>	Blackthorn	NJ041582
79	<i>Pseudotsuga menziesii</i>	Douglas Fir	NJ040581
80	<i>Pteridium aquilinum</i>	Bracken	NJ041582
81	<i>Quercus robur</i>	Pedunculate Oak	NJ040581
82	<i>Rhododendron luteum</i>	Yellow Azalea	NJ042581
83	<i>Rhododendron ponticum</i>	Rhododendron	NJ042582
84	<i>Ribes sanguineum</i>	Flowering Currant	NJ040581
85	<i>Ribes sanguineum</i>	Flowering Currant	NJ040582
86	<i>Salix viminalis</i>	Osier	NJ041582
87	<i>Salix x holosericea</i>	<i>S. cinerea</i> x <i>viminalis</i>	NJ041581
88	<i>Sambucus nigra</i>	Elder	NJ040582
89	<i>Schedonorus giganteus</i>	Giant Fescue	NJ043582
90	<i>Senecio aquaticus</i>	Marsh Ragwort	NJ041582
91	<i>Senecio jacobaea</i>	Common Ragwort	NJ042582
92	<i>Solanum dulcamara</i>	Bittersweet	NJ040581
93	<i>Stachys palustris</i>	Marsh Woundwort	NJ041582
94	<i>Stachys sylvatica</i>	Hedge Woundwort	NJ043583
95	<i>Stachys sylvatica</i>	Hedge Woundwort	NJ043583

96	<i>Stellaria alsine</i>	Bog Stitchwort	NJ041581	
97	<i>Stellaria holostea</i>	Greater Stitchwort	NJ042583	
98	<i>Symphytum orientale</i>	White Comfrey	NJ039580	A good size patch, on bank below road (south side of road
99	<i>Symphytum tuberosum</i>	Tuberous Comfrey	NJ042583	
100	<i>Symphytum x uplandicum</i>	Russian Comfrey (<i>S. asperum</i> x <i>officinale</i>)	NJ041582	
101	<i>Tilia x europaea</i>	Lime	NJ039580	
102	<i>Tulipa gesneriana</i>	Garden Tulip	NJ043584	Waste area on edge of trees
103	<i>Typha latifolia</i>	Bulrush	NJ040581	
104	<i>Typha latifolia</i>	Bulrush	NJ041581	
105	<i>Urtica dioica</i>	Common Nettle	NJ040581	
106	<i>Valeriana pyrenaica</i>	Pyrenean Valerian	NJ040580	A few plants on bank of Sanguhar Loch
107	<i>Valeriana pyrenaica</i>	Pyrenean Valerian	NJ040580	Growing by Sanguhar Loch
108	<i>Valeriana pyrenaica</i>	Pyrenean Valerian	NJ040580	
109	<i>Valeriana pyrenaica</i>	Pyrenean Valerian	NJ039580	
110	<i>Valeriana pyrenaica</i>	Pyrenean Valerian	NJ039580	
111	<i>Veronica montana</i>	Wood Speedwell	NJ043582	
112	<i>Veronica officinalis</i>	Heath Speedwell	NJ040581	
113	<i>Veronica officinalis</i>	Heath Speedwell	NJ041581	Woodland by Sanguhar Loch
114	<i>Vicia sepium</i>	Bush Vetch	NJ043582	

Lichens around Sanquhar Loch, Forres.

The following is a list of lichens and lichenicolous fungus I have recorded since 2011 on oak, sycamore, alder, willow, hazel, rowan, beech, poplar, birch, larch, pine, fir. Other lichen species have been seen but not yet identified. Lichens on other substrates eg wooden railings, rock, have not been identified.

Amandinea punctata
Anisomeridium biforme
Arthonia radiata

Briancoppinsia cytospora
Bryoria fuscescens
Bryoria subcana
Buellia schaereri

Calicium viride
Calicium glaucellum
Chaenotheca trichialis
Chysothrix candelaris
Cladonia coniocraea
Cladonia macilenta
Cliostomum griffithii
Clypeococcum hypocenomycis

Evernia prunastri

Hypogymnia physodes
Hypogymnia tubulosa
Hypocenomyce scalaris

Lecania cyrtellina
Lecanora carpinea
Lecanora chlarotera
Lecanora expallens
Lecanora symmicta
Lecidella elaeochroma
Lepraria incana
Leptosphaeria ramalinae
Lichenochora aipoliae
Lichenodiplis lichenicola
Lichenocodium erodens

Marchandiomyces corallinus
Melanelixia fuliginosa subsp *glabratula*
Melanelixia subaurifera
Melanohalea exasperata

Parmelia sulcata

Peltigera hymenina
Peltigera membranacea
Peltigera praetextata
Pertusaria pertusa
Phaeophyscia orbicularis
Phaeosporobolus usneae
Phlyctis argena
Physcia adscendens
Physcia aipolia
Physcia stellaris
Physcia tenella
Physconia distorta
Physconia enteroxantha
Placynthiella sp.
Platismatia glauca
Pseudevernia furfuracea
Pyrrhospora quernea

Ramalina calicaris
Ramalina farinacea
Ramalina fastigiata
Ramalina fraxinea
Rinodina sophodes

Tuckermanopsis chlorophylla

Usnea hirta
Usnea subfloridana
Usnea wasmuthii
Unguiculariopsis lettaui

Xanthoria parietina

Total 62

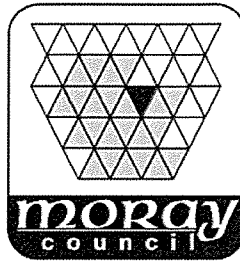
Heather Paul 18-11- 2018

paulheather12@yahoo.co.uk

APPENDIX 5:

MORAY COUNCIL

MINUTES OF MEETING EDISC – 20 MARCH 2018



**REPORT TO: ECONOMIC DEVELOPMENT AND INFRASTRUCTURE
SERVICES COMMITTEE ON 20 MARCH 2018**

SUBJECT: SANQUHAR LOCH & WOODLAND MANAGEMENT PLAN

**BY: CORPORATE DIRECTOR (ECONOMIC DEVELOPMENT,
PLANNING AND INFRASTRUCTURE)**

1. REASON FOR REPORT

- 1.1 Committee is asked to note proposals for a Management Plan for Sanquhar Loch, Forres and agree the funding arrangements.
- 1.2 This report is submitted to Committee in terms of Section (III) F (11) of the Council's Scheme of Administration relating to exercising the functions of the Council in relation to Parks, Open Spaces and Tree/Woodland management and maintenance.

2. RECOMMENDATION

2.1 It is recommended that Committee:

- i) notes that Sanquhar Loch & Woodland, Forres is owned by Moray Council;
- ii) note the impact of the Reservoirs (Scotland) Act 2011;
- iii) agrees that up to £6,000 of the £59,700 legacy funding which is classed as revenue reserves may be accessed to be spent on the development of a Management Plan for the Loch & Woodland;
- iv) recognise the excellent work that has been carried out to date on the Loch & Woodland by the volunteers of the Sanquhar Dam Restoration Group.

3. BACKGROUND

- 3.1 Sanquhar Loch is situated in the southern residential area of Forres, (OS Grid Ref. NJ 040.581). The loch, which has been formed by a dam across the Burn of Mosset, provides an attractive local amenity with open-water, fen and wet woodland habitats of wildlife value. It is part of a more extensive area of woodlands and ponds in the Chapleton area of Forres. At a public meeting in April 2013 residents were briefed on the rapid deterioration of Sanquhar Loch. The area outlined in orange in **APPENDIX A** represents the extent of the area that the volunteers agreed to focus their efforts on.

- 3.2 There is an extensive footpath network throughout, including a circular route around Sanquhar Loch and woodland which links to the wider network of footpaths around Forres.
(see <https://www.forresfootpathstrust.org.uk/pdfs/Chapleton%20AI2.pdf>).
- 3.3 Arthur Stuart Murdoch bequeathed money to Forres Town Council with direction to invest the funds and then later purchase fishing rights on the River Findhorn. This was duly done and the fishing rights are currently held in trust as directed by the will. AS Murdoch's will directed that any surplus funds available after purchase of the fishing rights should be used to purchase land for a public park and to this end Sanquhar Loch was purchased by the Moray District Council in 1978. Sanquhar Loch is currently owned by Moray Council as successors to the Moray District Council and does not form part of a trust or Forres common good.
- 3.4 The will further directed that any surplus monies available after purchase of the park should be used for its upgrade or maintenance. These surplus monies have earned interest over the years and now amounts to £59,700. This amount is held as part of revenue reserves and forms a remainder of the residue of AS Murdoch's estate. These funds cannot be used for any other purpose.
- 3.5 Sanquhar Loch and Woodland is owned by Moray Council and managed by Environmental Protection - Lands and Parks section.
- 3.6 In summary, the key benefits of Sanquhar Loch are as follows:
- historical interest as an example of a landscaped estate ;
 - local landscape and amenity value for residents and visitors with associated physical and mental health benefits;
 - part of a wider network of high amenity green spaces and public footpaths;
 - local ecological value with successional wetland habitats from open water to wet woodland;
 - a linking complex of habitats in the wider ecological network; and
 - educational value as it is used by local schools and other interested groups.
- 3.7 Local residents have long held concerns over the siltation rates of the Loch and the future management of the popular amenity site. The process of erosion and silt transport in the upstream catchment is now however considered to be under control from the Chapelton Flood Alleviation Scheme. With the condition of the Loch, with respect to siltation, now expected to be much more stable, a long term Management Plan to enhance the Loch and conserve the environment is considered justifiable.
- 3.8 In March 2014 Moray Council appointed Northern Ecological Services (NES) to review the options for restoration and management of the Loch with input from stakeholder groups. This report (**APPENDIX B**) is available in the Members' Portal.

4. CONSIDERATION OF THE RESERVOIRS (SCOTLAND) ACT 2011

The position regarding Sanquhar Loch in terms of the Reservoirs (Scotland) Act 2011 and the Council's obligation is summarised as follows:-

- 4.1. The Reservoirs (Scotland) Act 2011 reduced the limit at which a body of impounded water would be classed as a reservoir from 25,000 to 10,000 cubic metres. The consequences of this change are not currently being enforced but are likely to be in the near future. The time at which it will be enforced will be decided by SEPA.
- 4.2 A survey of Sanquhar Loch was undertaken to determine the volume of water impounded and the results of this indicate that the volume of water in the loch is approximately 8,000 cubic meters, which is below the new limit. However, the loch contains a large volume of mobile silt and local residents have expressed a wish to dredge the loch both of which could increase the impounded volume under the Act to 10,000 cubic metres. Any dredging would be carefully managed to ensure that the volume of water is kept below 10,000 cubic metres.
- 4.3 Notwithstanding the statutory limit the Council is obliged under common law to safeguard third parties against the escape of stored liquid irrespective of volume. The loch is also located in a built up area of Forres upstream of a primary school and would likely be classed as high risk if it does come under the act. It was considered advisable to have the loch inspected by a reservoirs engineer to determine any work that might be required in the interest of safety.
- 4.4 An informal inspection was undertaken on 10 October 2017, by an Inspecting Engineer, to determine any work that may be required in the interests of safety. The findings of the inspection were that the condition of the dam structure does not currently raise any concerns. The flow into the loch is controlled by the dam at Chapelton Reservoir, which forms part of the Burn of Mosset Flood Prevention Scheme. This control reduces pressure on Sanquhar dam during flood events up to and including 100 years, however it should be noted that dam safety is assessed at higher events, i.e. 1 in 1000 years. The recommendations made were to monitor the structure, in particular the condition of the concrete overflow and the mature trees where root expansion or wind throw could damage the integrity of the structure.

5. PROGRESS BY VOUNTEER GROUPS

- 5.1 A dedicated group of volunteers known as the Sanquhar Dam Restoration Group have been working on restoring the area in recent years for the benefit of the Community. Council staff provide direction and where appropriate support the activities of the action group. At weekends they carry out works such as tree thinning and path restoration. The volunteers have carried out over 1600 hours of work to the loch, woodland and path network since the beginning of 2017. The volunteer group are willing to carry out further works such as path edgings, drainage and upgrading pathway surfaces and have

requested Moray Council to provide materials to enable approved works to progress.

- 5.2 There are clearly a lot of issues to be considered in how the council move forward with a strategic long term plan for restoration and management of this popular local amenity. Any plan will need to address a wide range of issues such as litter, health and safety, legislation, pollution, and restoration needs to be balanced against wildlife conservation, flood risk and public safety.

6. WHERE DO WE WANT TO BE

- 6.1 The proposal is to create a 5-year management plan for the loch and woodland for the period 2019-2024. It will be produced with input from the local community and will provide a long-term vision for the woodland and loch and detail works and operational duties required to achieve that vision. It will clarify to anyone interested in the woodland and loch, how the assets will be managed and improved to achieve the vision.

6.2 Aims of the Management Plan:

- In partnership with stakeholder groups, create a vision for Sanquhar Loch & Woodlands;
- Clarify and communicate a work plan and agree milestones and targets with the focus on conserving, rejuvenating and enhancing the existing natural capital of the site;
- The Park Management Plan would include details of maintenance and improvement works, risks and estimated costs required to implement the works and sources of funding.
- Ensure all stakeholders know about the management priorities for the site;
- Clarify issues such as risk assessments, insurance cover, health and safety for voluntary groups.

- 6.3 The plan will enable the Council to have a formal arrangement with the Sanquhar Dam Restoration Group and other organisations to achieve common goals. This plan is intended to be aimed at Council services, the local community, stakeholder/ volunteer groups and will be a flexible working document that will be reviewed and updated on a regular basis. Preferred options for works will be prioritised and risk assessed.

- 6.4 On completion of the Management Plan, a further committee report will be submitted outlining the vision, costs and proposed work plan for the loch and woodland. This work plan will provide the basis for approving further release of the legacy fund.

7. SUMMARY OF IMPLICATIONS

(a) Moray 2026: A Plan for the Future and Moray Corporate Plan 2015 – 2017

Contributes to Moray Council Core Values that support the progress and delivery of Moray 2023 especially Sustainability - "promote Community

empowerment as a means of supporting communities to take on more responsibilities.” Also, contributes to objectives in the Corporate Plan, namely Priority 3 – Healthier Citizens – “We will create attractive, accessible open spaces for recreation “ and “we will support the creation and maintenance of safe, attractive and accessible green space”.

(b) Policy and Legal

Sanquhar Loch could be classed as a reservoir under the Reservoirs (Scotland) Act 2011 when the consequences of the lower impoundment limit is enforced by SEPA.

(c) Financial implications

A total of £59,700 is available from the council's revenue reserves. Approval to spend up to £6,000 of the reserves is requested at this time for the development of a park management plan. If remedial works are required to stabilise the dam potential costs will be the subject of a future report to this committee.

(d) Risk Implications

If the condition of the dam structure deteriorates it could fail with catastrophic results. The condition of this structure should be monitored and any remedial works required undertaken at the earliest opportunity.

(e) Staffing Implications

The proposals can be managed utilising existing staffing resources.

(f) Property

Sanquhar Loch and Woodlands offer the potential for multiple health, social and environmental benefits. To ensure that these benefits are realised requires careful planning and management. The development of a Park and Woodland Management Plan would provide the required strategic direction.

(g) Equalities

The proposed management plan can contribute to the capacity building of local groups in support of the Moray Council's aims in relation to community engagement. It is recommended that the group looks at ways of improving disabled access around Sanquhar Loch in a partnership between the Moray Council and local groups

(h) Consultations

D Halliday, Acting Consultancy Manager, D Brands, Principal Accountant, L Rowan, Committee Services Officer, A Scott, Legal Services Manager (Property and Contracts), P Nevin, Senior Solicitor and Don Toonen, Equal Opportunities Officer have been consulted and any comments are included in the report.

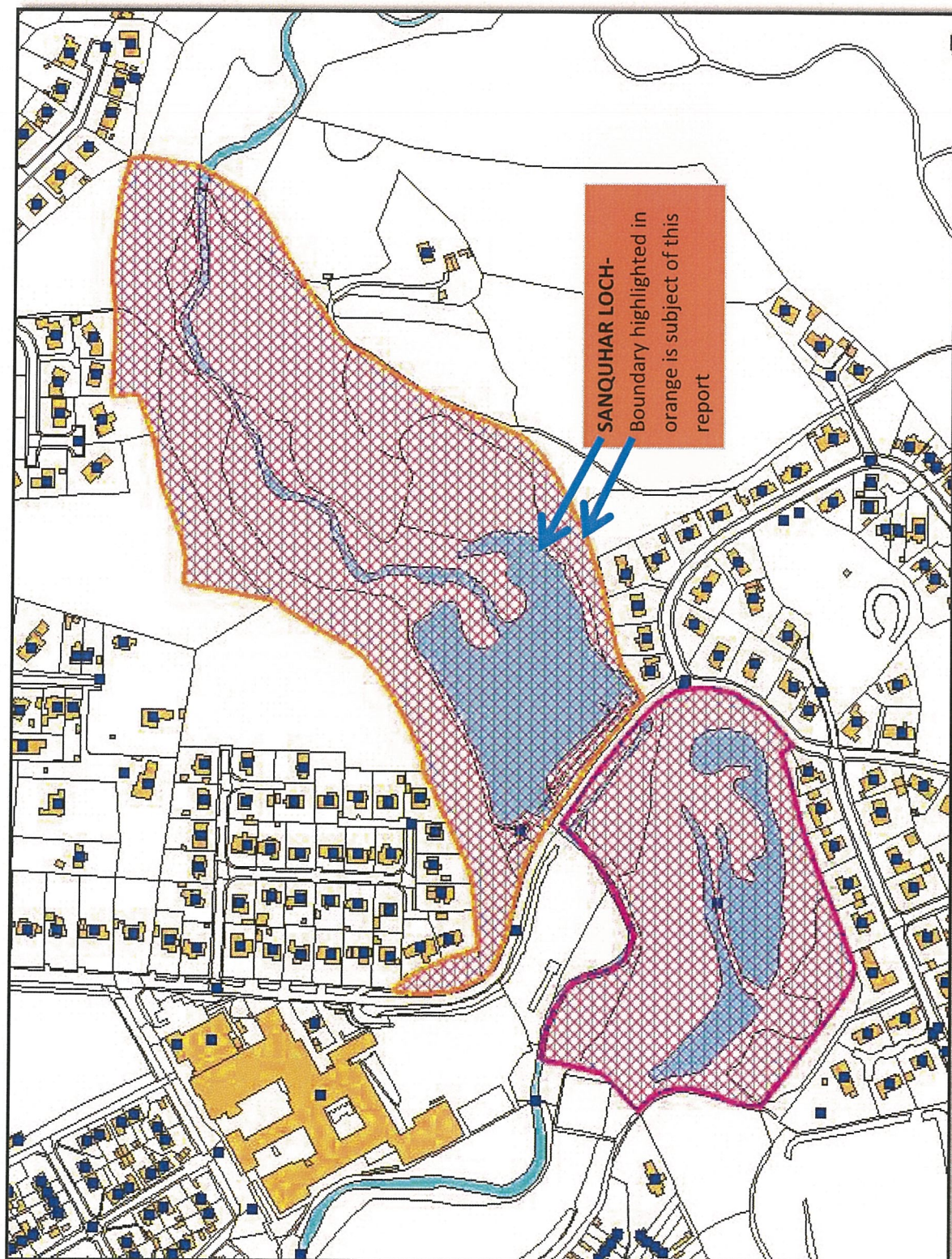
8. CONCLUSIONS

- 8.1 Partial access to legacy funding will enable development of a Management Plan. A strategic Management Plan will provide a medium to long term vision for this important open space asset and provide the basis for future release of the legacy fund. This approach will benefit the Community and build on the strong partnership with the voluntary group whose dedication and valuable contribution to the loch should be recognised.**

Author of Report: Colin Bell Environmental Protection Manager

Background Papers:

Ref:





APPENDIX 6:

FELLING LICENCE 2018

Our Reference : FLA03023

Forestry Commission
Grampian Conservancy
Portsoy Road
Huntly
Aberdeenshire
AB54 4SJ

Tel: 0300 067 6210
grampian.cons@forestry.gsi.gov.uk

Tilhill Forestry
43 Clachnaharry Road
Inverness
IV3 8RA

FAO: Mr David Hardie

13-APR-2018

Dear Mr Hardie

Felling Licence Application (Forestry Act 1967)

Name of Property: Sanquhar Loch Wood

Name of Wood: Sanquhar Wood

Please find attached a copy of your approved Felling Licence and Map. If you are an agent receiving this licence on behalf of the owner, please forward a copy to the owner for their retention.

Please note the expiry date for the completion of the work given on page 2.

If the licence is subject to conditions these will be specified at Part 2:

It is the responsibility of the owner to ensure that these conditions are met by the dates shown. You have previously been given the opportunity to comment on the Conditions as specified. However in the event that a comment was not received from you, you will have been deemed to have accepted the conditions. If this is the case and you now wish to challenge the conditions of the licence, you may do so in writing within three months of the date of this letter provided the trees have not been felled.

The Forestry Commission may visit the site at any time to inspect the progress of any conditional restocking.

Yours sincerely

Aileen Christie
Admin Officer

Licence to Fell Growing Trees

Licence Number: FLA03023

To: The Moray Council

Land & Parks Department, Environmental Services, Ashgrove Depot,
Ashgrove Road, Elgin, IV30 1UU

This Unconditional Licence gives you permission under section 10 of the Forestry Act 1967 as amended to fell the trees described below and shown on the attached map. Tree Felling under this Licence has been approved by the Forestry Commission as being in accordance with Government policy for the sound management of a renewable resource.

This licence expires on: 13-APR-2019

You should tell others involved with the felling about the details of this licence (e.g. by giving a copy of the licence and map to the person felling the trees). If you sell the land you should also tell the new owner about this licence. If a Tree Preservation Order is placed on these trees after this licence has been issued, you must also get the consent of the Local Authority before felling the trees.

Phytophthora ramorum

If you are to fell Larch within the P. ramorum Zone 1 (outside the Management Zone) or Zone 2 areas where you are within 10km of a known infection (which are indicated on the regularly updated map) then you must first contact your local Conservancy Office before you begin felling to find out if the stand needs to be inspected to confirm the presence or absence of Phytophthora ramorum. The inspection cannot be carried out until the trees are fully in needle.

For further information please see www.scotland.forestry.gov.uk/supporting/forest-industries/tree-health/phytophthora-ramorum/advice-and-information/guide-to-actions

The map of zones is currently

http://www.scotland.forestry.gov.uk/images/corporate/pdf/Pramorum_risk_zones_Oct11.pdf

Timber Haulage

Please refer to the agreed routes for timber haulage. The agreed routes map can be viewed on the Timber Transport Forum website (<http://timbertransportforum.org.uk/>).

As many routes are subject to consultation or restrictions you should discuss and agree your haulage plans (routes and volumes) with the local authority in advance of commencing operations. Any new or altered public access to a public road and loading bays may need planning permission. Please confirm with the local authority Planning Department if it is your intention to carry out this type of work. Any works which are necessary to create or alter an access will also require a Road Opening Permit.

Nature Conservation

Under the Nature Conservation (Scotland) Act 2004 as amended by the Wildlife and Natural Environment (Scotland) Act 2011, anyone planning, permitting or carrying out forest operations or other activities in woodlands should be aware of their wildlife protection responsibilities.

Where protected species are present, it is the responsibility of the land owner or forest manager to ensure that the disturbance licence is in place before operations begin and to ensure compliance with the licence conditions.

FCS has produced a number of Guidance Notes which can be found at:

<http://scotland.forestry.gov.uk/supporting/strategy-policy-guidance/biodiversity/wildlife-and-forest-operations>



Forest Industry Safety Accord

Forestry can be dangerous. The Forest Industry is working together to raise the standards of Health, safety and welfare in the work place. More information can be found at: www.ukfisa.com

Approved by

Date: 13-APR-2018

Gavin Legge - Operations Manager

For and on behalf of The Forestry Commissioners

Forestry Commission
Grampian Conservancy
Portsoy Road
Huntly
Aberdeenshire
AB54 4SJ

Part 1 - Description of the trees to be Felled

Name of Property: Sanquhar Loch Wood

Name of Wood: Sanquhar Wood

Grid Reference (of centre of principle Felling Area): NJ041583

Nearest Town or Locality Name: Forres

Local Authority: Moray Council

Felling Operations Table:

Felling Site/Cpt	Type of Operation	Species to be Felled	Marking of Trees	Est. Area (ha)	Approx Age (years)	No of Trees to be removed	Est Volume (m3)	Thinning Stocking Density (per ha)	
								Pre	Post
1	T - Thinning	Larch	Paint	4.7	80	200	160	400	250
1	T - Thinning	Sycamore	Paint	.5	20	30	10	600	300

Total Area: 5.2 Total Volume: 170

Part 3 - Additional Notes

**EU Timber Regulation:
Due Diligence for UK Grown Timber**

This document is intended to help meet the obligations placed on "operators", as defined under EU Timber Regulation (No 995/210), to undertake a risk assessment. It outlines the risk factors associated with timber grown in Great Britain / United Kingdom (see overleaf) for the timber detailed below.

Evidence of Lawful Harvesting

1. Felling Licence Ref No(s) or Statutory Plant Health Notice(SHPN) number	Date Approved
FLA03023	13-APR-18

(If the recipient of the felling licence, or SHPN is felling the timber but not directly placing it on the market then the due diligence form must be passed to the agent or company who are doing so).

OR

2. Forest Management Plan Ref No (s)	Date Approved

Gavin Legge - Operations Manager
(On behalf of the Forestry Commission)

Dated : 13-APR-18

3. In absence of felling licence, or SHPN or forest plan:
Where the timber came from : Name & Address of Supplier/Land Owner:
 Reason the timber does not derive from an approved felling licence or a forest plan:

Certification: If the timber is independently certified enter the certificate number below:

--

Additional Risk Factors: If there are any factors (not covered overleaf) that indicate a risk that the timber could be illegally harvested, enter these below with an explanation of how that risk has been mitigated.

Factor	Means of Mitigation

Declaration by the operator: I declare that the timber referred to above is grown in Great Britain / United Kingdom. I have identified any additional risk factors and the action taken to mitigate that risk, and I have no reason to believe that there are further risks of the timber being illegal.

Signed :

Dated :

Information on EU timber regulations can be found at:
http://ec.europa.eu/environment/forests/timber_regulation.htm

EU Timber Regulation: Due Diligence for UK Grown Timber

The timber described overleaf was produced from GB/UK forests where the following risk factors apply.

1. **Illegality** - Forests in Great Britain are regulated by the Forestry Commission or Natural Resources Wales. In Northern Ireland the Forest Service, part of the Department of Agriculture and Rural Development. The incidence of illegal felling is low, estimated at much less than 1% of the timber volume harvested.
2. **Governance** - The UK is ranked highly for good governance in independent assessments, such as The Worldwide Governance Indicators project (funded by The World Bank). Moreover forestry proposals in the UK are available for comment and the UK is well served by bodies from civil-society that contribute specialist knowledge and opinion to the assessment of forestry proposals.
3. **International Perspective** - There is no UN Security Council ban on timber exports from the UK and the UK is not associated with or designated as a source of 'conflict timber', both of which are key international indicators of illegality.
4. **Forest Regulation** - The UK has specific forest laws (principally, The Forestry Act 1967, and the Forestry Act (Northern Ireland) 2010) which convey powers to regulate forestry activities, control felling, administer woodland grants and to manage state forests. The Forestry Commission issued a revised UK Forestry Standard (UKFS) in 2011 which provides a benchmark against which forestry is regulated and is explicit in terms of legal requirements and the assurances of legality and sustainability that can be given by the process of forest regulation. The Forestry Commission/Natural Resources Wales / Northern Ireland Forest Service are the competent authorities with respect to Environmental Impact Assessment (Forestry) Regulations. The Forestry Commission reports on behalf of the UK the sustainability of UK forests in the Global Forest Resources Assessment and Forest Europe indicators and compiles annual statistical information. These various sources of information indicate that forests in the UK are managed on a sustainable basis.
5. **Endangered Timber Species** - There are no endangered timber species present in the UK.
6. **Assessment of UK grown timber by the certification schemes** - The two major international certification schemes, FSC and PEFC, have assessed GB as being of low risk in terms of their "Controlled Wood" and "Avoidance of Controversial Sources" respectively. This allows up to 30% of non-certified GB grown timber to enter supply chains. Approximately 80% of timber coming to the market in the UK has been independently certified as coming from well managed forests. This is in addition to the regulatory processes outlined above

Notes for completion of form

The person who first places timber / timber products on the market or uses them is defined as:

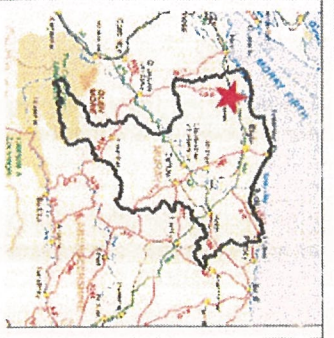
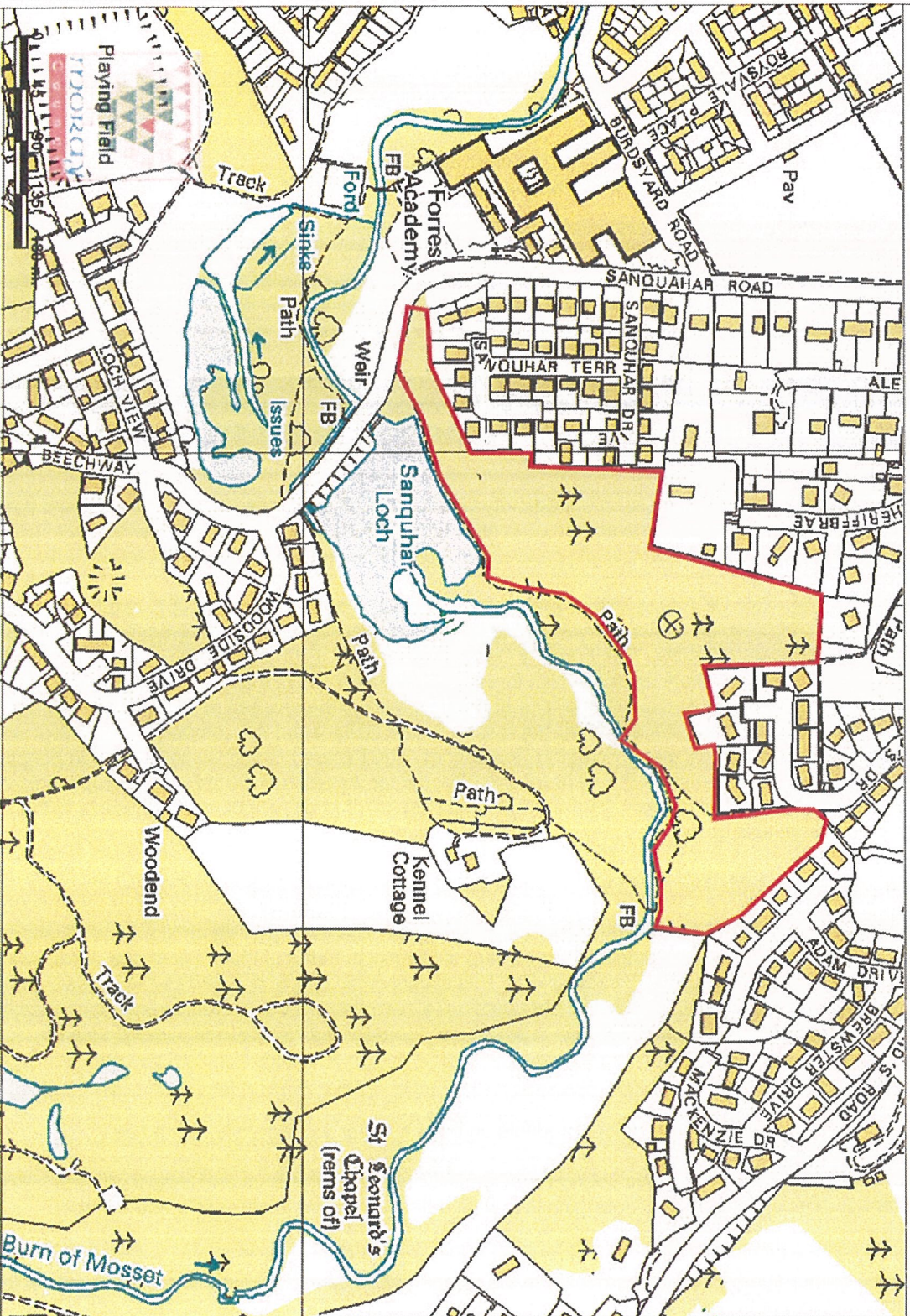
If you are a landowner, harvesting and selling the trees, then complete this form and keep it with the felling licence/management plan (as appropriate) together with details of the contract for sale of the timber.

If you are buying the timber 'standing' and harvesting the trees, then complete this form, ask for a copy of the felling licence or management plan approval from the owner and keep this form together with details of the contract for purchase of the timber.

It is important to keep a record for at least 5 years, as required by the legislation, of timber sales and purchases.

Information on EU timber regulations can be found at:
http://ec.europa.eu/environment/forests/timber_regulation.htm

Sanguhar Loch, Forbes



Legend

2007 Moray Wards

Thinning Area

Site location grid ref
304130 / 858310

Agent: David Hardie,
Tilhill Forestry

Signed:

19/3/18



Scale: 1:5,000



Reproduced from the Ordnance Survey map
with the permission of the Controller of Her
Majesty's Stationary Office Crown Copyright
2007. The Moray Council 100023422

SEPA GUIDANCE

CONTROLLED ACTIVITIES GUIDANCE

USE OF ROAD PLANINGS GUIDANACE





(Front Pages only – see online guidance for full documents)



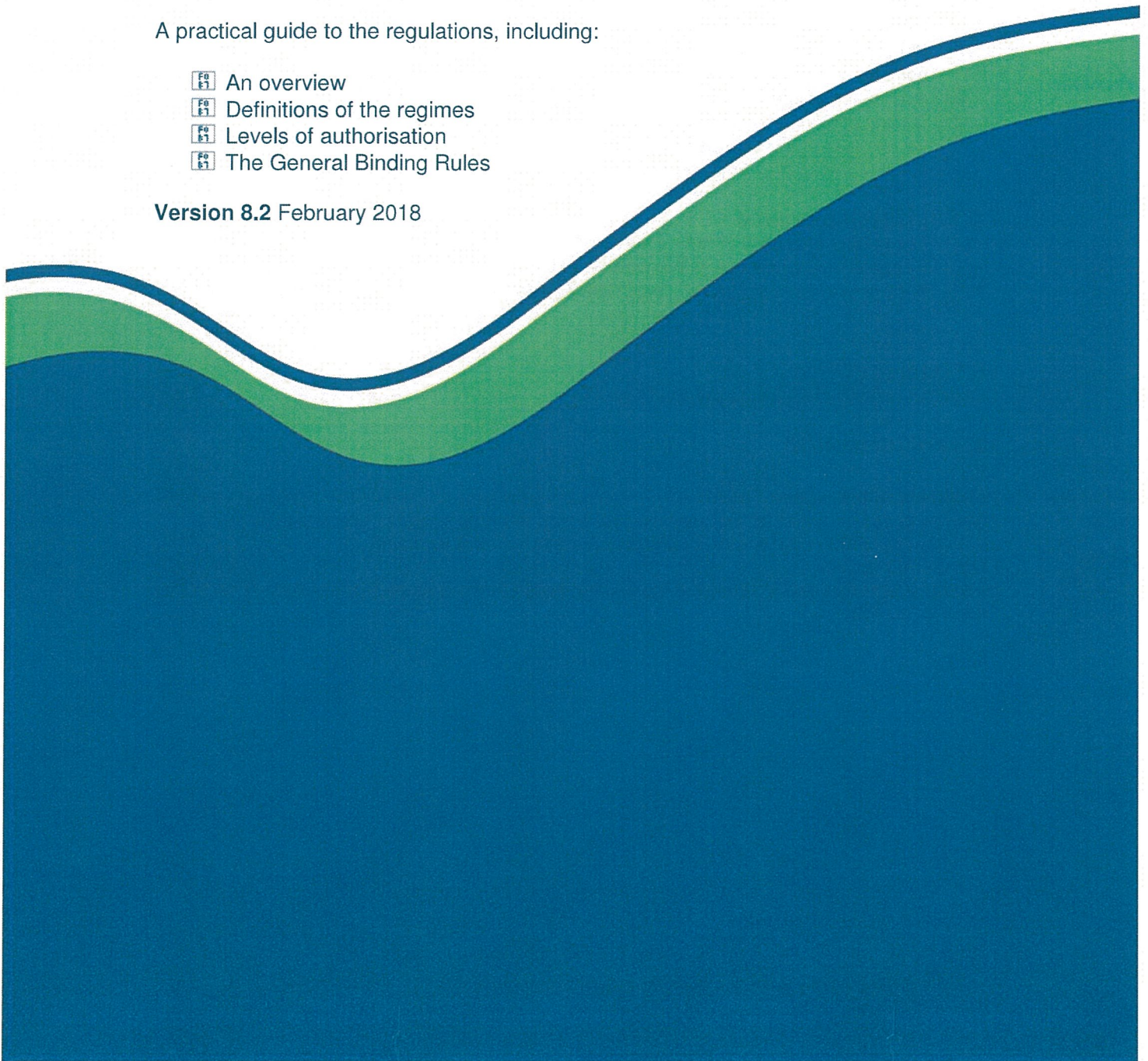
The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended)

A Practical Guide

A practical guide to the regulations, including:

-  An overview
-  Definitions of the regimes
-  Levels of authorisation
-  The General Binding Rules

Version 8.2 February 2018



Briefing note

The CAR practical guide, Version 8, January 2018






1. Background

This revised guide provides practical advice on the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended), or CAR. It details which activities are regulated by SEPA. The key changes to the guide are summarised in this briefing note. For further information on the regulations, visit the water regulation pages of the SEPA website. Please note that the CAR Practical Guide is only available electronically.



2. Summary of changes

This revision is primarily to include the changes to CAR brought in by the Water Environment (Miscellaneous) (Scotland) Regulations 2017.

2.1 Pollution control regime

-  Oil Storage now covered by new GBRs 26, 27 and 28
-  Sites where there is an onward distribution of oil – new Licence requirement for those not able to comply with GBR28
-  Application of pesticide – revised GBR23 and new Registration and Licence
-  Construction site SUDS – revised GBR10 and new Licence
-  Direct discharge into groundwater of grout containing blaes for the purpose of construction or maintenance works – new Registration

2.2 Engineering regime

-  Operating vehicles in or near a surface water or wetland – revision to GBR9 – the Registration for this activity has been removed
-  Bank protection using trees – new GBR25 – Registration has been removed

v8.1 January 2018

Correction relating to herbicide applications

v8.2 February 2018

Pollution control regime

A licence is now required for surface water discharge from 60 hectares of residential development (>1000 houses previously) and A roads are now included.

Engineering regime

Updated information text in relation to contacting local District Salmon Fishery Boards or Trusts for advice.

GUIDANCE ON THE PRODUCTION OF FULLY RECOVERED ASPHALT ROAD PLANINGS

