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THE
HERITAGE
COUNCIL

Scoping study
for development of
on-line heritage materials
for the
primary school sector



Submitted by
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INTRODUCTION

The objective of this study, commissioned by the Heritage Council, is to provide a comprehensive audit of on-line heritage materials for the primary school sector that relate directly to the remit of the Council and to assess their current and potential use by teachers and children. This is to inform decision-making and planning around the possible provision of web-based resources for primary schools.

The Council currently operates the Heritage in Schools scheme in collaboration with the Irish National Teachers Organisation (INTO), which offers schools access to the expertise of over one hundred Heritage Specialists who are available to visit schools and lead fieldwork. A directory of these specialists is circulated to primary schools and teachers arrange a visit from an expert of their choice on an aspect of natural, built or cultural heritage. This allows pupils and teachers to engage in hands on learning and facilitates interaction with an expert who is knowledgeable and enthusiastic about their subject. The cost of visits is shared by the schools and the Heritage Council.

The demand for the scheme has grown rapidly and demand for visits has increased beyond existing funding capacity. Supplementing the scheme with web-based elements developed in consultation with specialists may be one way to optimise the available resources. In a broader sense this audit looks at what teachers would find useful in teaching heritage within the curriculum and the most practical and useful way of providing such resources. There is a lot of information available on the web that relates to heritage but whether it is useful to teachers will depend on its format, ease of access, language and content. Awareness of the existence of material is also a factor.

This study was undertaken to ascertain the following:

- ***The intersections of the Heritage Council's remit and the primary school curriculum***

Section 1 outlines the key areas of intersection between the revised Primary Curriculum and the remit of the Heritage Council, focussing on the subject area of Social, Environmental and Scientific Education, which encompasses history, geography and science. A matrix is used to illustrate these key intersections matching the subject strands (the units into which the curriculum is divided) and aspects of the Council's remit which coincide most closely. For example the Strand Unit 'Living Things' relates most closely to Flora, Fauna and Wildlife habitats, all of which are aspects of the Council's remit.

- ***Distinguish between general on-line information resources and those most suitable for classroom use***

Section 2 consists of a detailed listing of on-line, Irish, heritage resources currently available, distinguishing between those that provide useful, general background information on heritage, and those which provide resources designed specifically for primary schools. The latter are more appealing to teachers and are more relevant in the context of planning for future provision of heritage information to schools.

- ***Consult with stakeholders in the primary education sector to identify information and resource gaps, which currently exist***

- ***Assess the potential value and use of existing materials by teachers and identify teachers views on what would be key new materials through direct communication and/or a focus group scenario***

These two objectives of the study are addressed in Sections 3 and 4, which outline the consultation that took place with:

- Teachers and students, through questionnaires, focus groups and interviews
- Other stakeholders (NCTE, Blackrock Education Centre, Primary Curriculum Support Service, Heritage Officers, Heritage Specialists, ICT Advisors)

These sections give detailed feedback on the views of those involved in consultation in respect of what is available/used at present, the perceived gaps that exist in on-line resource provision, and views on what could be most useful in terms of new materials. A summary of the key outcomes is also provided and a consensus begins to emerge about going forward.

- ***To outline teachers access to and use of IT technology***

In Section 5 relevant data from the most recent NCTE IT census is presented and some supplementary inputs are referenced to provide an overall view of IT use in schools, which will be the context for provision of any new resource by the Heritage Council.

- ***To make recommendations on what on-line heritage materials would be of most use to the primary education sector***

In Section 6, overall conclusions are drawn and recommendations are made as to how to approach the overall provision of a web-based resource for primary schools. This includes some strategic inputs and specific pointers for development of a web-based resource.

SECTION 1. THE INTERSECTIONS OF THE HERITAGE COUNCILS REMIT AND THE PRIMARY SCHOOL CURRICULUM

Introduction

The new revised primary curriculum was introduced in 1999 after many years of planning and development and represents a major departure in the history of primary education in Ireland. The curriculum recognises the uniqueness of the child and acknowledges the child's role in society. An important goal of the curriculum is to enable children to 'learn how to learn'. Social, Environmental and Scientific Education (SESE), which encompasses geography, science and history contributes to the development of the child's awareness and appreciation of the natural, human, social, cultural and historical dimensions of life. The SESE curriculum seeks to enable the child to come to an understanding of the physical world, the relationships of humans with their environment, and the historical process through which that relationship has grown.

The curriculum has a strong focus on integration across subjects, for example those in the SESE area: *'The environments of the child particularly those of a local nature, provide ideal contexts and a compelling impetus for the integration of learning. The subject headings of history, geography and science are used to aid presentation of the curriculum, and an awareness of them is an important part of the child's cultural and intellectual inheritance... However the use of subject division must not negate the effective implementation of an integrated curriculum... many elements from the history, science and geography curricula can be explored concurrently.'*

In the curriculum documents explicit opportunities for integration between subject strands are made, which relate closely to the Heritage Councils remit and are of particular interest in the context of this study.

Geography; Human Environments, History; Local Studies and Science; Living things and materials

- **Geography; Natural Environments ; Science; Living things and Materials**
- **Environmental Awareness and care is a cross curricular strand common to science and geography.**

The Heritage Council seeks to protect and enhance the richness, quality and diversity of our national heritage for everyone. It works with its partners, particularly at local level, to increase awareness of our national heritage and to highlight its importance in public policy and everyday life. The Heritage Council was established as a statutory body under the Heritage Act of 1995. Its role is to propose policies and priorities for the identification, protection, preservation and enhancement of the national heritage. The Council has a particular responsibility to promote interest, education, knowledge and pride in the national heritage. For the purpose of this study the following aspects of heritage are the focus: monuments, archaeological objects, heritage objects, architectural heritage, flora, fauna, wildlife habitats, landscapes, seascapes, wrecks, geology, heritage gardens, parks and inland waterways.

Opportunities exist to deliver part of the Heritage Council remit in respect of awareness through the SESE curriculum with the themes (known as strands) of local studies, living things, human and natural environments, materials and environmental awareness and care emerging as overlapping with the Councils remit. The following matrix outlines the key intersections of the curriculum and the Councils areas of responsibility.

SESE subject areas strands and strand units	Key intersections with areas of the Heritage Councils Remit Aspects of the curriculum highlighted in burgundy are those most clearly relevant to the aspects of Heritage Council's remit considered here. Classes are broken down as follows I = Infants (Junior and Senior). J =Junior (1 st and 2 nd). M = Middle (3 rd and 4 th). S = Senior (5 th and 6 th).												
SCIENCE Skills in Science <i>Working Scientifically</i> Questioning, observing predicting, investigating and experimenting, estimating and measuring, analysing (sorting and classifying), recording and communicating <i>Designing and making</i> <i>Exploring, planning, making</i>													
<i>Living things</i> <ul style="list-style-type: none"> Myself Plants and animals Human Life Plant and animal life 	I/J I/J M/S M/S												
<i>Materials</i> <ul style="list-style-type: none"> Properties and characteristics of materials Materials and change 	I/J/M/S I/J/M/S												
<i>Environmental Awareness and Care</i> <ul style="list-style-type: none"> Caring for my locality Environmental awareness Science and the environment Caring for the environment 	I/J M/S M/S M/S												
CROSS CURRICULAR STRAND													
GEOGRAPHY Skills in Geography <i>A sense of place and space</i> <i>Maps globes and graphical skills</i> <i>Picturing places</i> <i>Geographical Investigation skills</i> Questioning, observing predicting, investigating and experimenting, estimating and measuring, analysing, recording and communicating													
<i>Human Environments</i> <ul style="list-style-type: none"> Living in the local Community People and places in other areas People living and working in the local area People living and working in a contrasting part of Ireland People and other lands County regional and National Centres Trade and development issues 	I/J I/J M/S M/S M/S M/S S												
<i>Natural Environments</i> <ul style="list-style-type: none"> The local Natural Environment Land, rivers and seas of my county Land, rivers and seas of Ireland Rocks and soils Weather, climate and atmosphere Weather 	I/J/M/S M S M/S I/J												

<p><i>Environmental Awareness and Care</i></p> <ul style="list-style-type: none"> Caring for my locality Environmental Awareness Caring for the environment <p>CROSS CURRICULAR STRAND</p>	I/J M/S M/S													
<p>HISTORY</p> <p>Skills in History <i>Working as a historian</i> <i>Time and Chronology, change and continuity, cause and effect, using evidence, synthesis and communication, empathy</i></p>		Monuments	Archaeological objects	Heritage objects	Architectural heritage	Flora	Fauna	Wildlife habitats	Landscapes	Seascapes	Wrecks	Geology	Heritage gardens and parks	Inland waterways
<p><i>Local studies</i></p> <ul style="list-style-type: none"> My family Homes My School Games and pastimes in the past Feasts and festivals in the past Buildings, sites and ruins in my locality My locality throughout the ages 	M/S													
<p><i>Early people and ancient Societies</i> Specifically in relation to homes, settlements, tools and weapon, farming, work and technologies</p> <p>A selection from:</p> <ul style="list-style-type: none"> Stone age peoples Bronze age peoples Early societies of the Tigris and Euphrates valleys Egyptians Greeks Romans Celts Early Christian Ireland Vikings 	M/S													
<p><i>Life, society, work and culture in the past</i> Specifically in relation to homes, settlements, tools and weapon, farming, work and technologies</p> <p>A selection from:</p> <ul style="list-style-type: none"> Life in Norman Ireland Life in medieval towns and countryside in Ireland and Europe Life in the 18th Century Life in the 19th Century Life During World War II Life in Ireland since the 1950s Language and culture in late 19th and early 20th century 	M/S													

		Monuments	Archaeological objects	Heritage objects	Architectural heritage	Flora	Fauna	Wildlife habitats	Landscapes	Seascapes	Wrecks	Geology	Heritage gardens and parks	Inland waterways
<p><i>Continuity and change</i></p> <ul style="list-style-type: none"> Continuity and change in the local environment <p><i>Continuity and change over time</i></p> <p>Possible unit may include</p> <ul style="list-style-type: none"> Food and Farming Clothes Homes and houses Homes, housing and urban development Transport Communications Shops and fairs Schools and Education Caring for the sick Nomadism Energy and Power Workshops and factories Barter trade and money 	<p>J</p> <p>M/S</p> <p>M/S</p> <p>M</p> <p>S</p> <p>M/S</p> <p>M/S</p> <p>M</p> <p>M/S</p> <p>M/S</p> <p>S</p> <p>S</p> <p>S</p> <p>S</p>													
<p><i>Eras of change and conflict</i></p> <p>Specifically in relation to local evidence of changes and conflict</p> <p>A selection from:</p> <ul style="list-style-type: none"> The renaissance The reformation Traders, explorers and colonisers from Europe The Great Famine The Industrial Revolution Changing land ownership in 19th-century Ireland Changing roles of women in the 19th and 20th centuries World War I Modern Ireland 	<p>S</p>													

SECTION 2. EXISTING WEB-BASED HERITAGE RELATED, CURRICULUM RELEVANT RESOURCES

Introduction

There is a large volume of information available on the topic of heritage on the Internet, of varying quality and relevance to the user. In order to refine the outputs of this study while endeavouring to deliver a comprehensive audit within the terms of reference of this study (useful heritage education resources for primary schools) it was decided to:

- Focus on Irish web-based resources
- Differentiate between those resources developed specifically for use by primary schools and suitable for direct use in the class and those resources that provide useful background information, as the former are far more relevant to the target audience.

This section presents the findings of an audit of existing web-based resources, based on:

- An Internet search of key websites and an analysis of the links from these. This process was informed by previous experience working with teachers and schools on heritage and related projects.
- An analysis of websites mentioned by teachers and other stakeholders during the consultation process. The websites which were mentioned most during consultation with teachers and stakeholders include:
 - Scoilnet, NCTEs portal for education resources
 - The PCSP website (Primary Curriculum Support Service)
 - The Forfas Science and Primary Science websites
 - Google search engine and Google Earth
 - The BBC schools website
 - The INTO website
 - The Ask about Ireland website

Web-based resources are presented as follows:

1. **Web-based resources and projects relating to heritage specifically designed for primary schools** (material explicitly linked to the curriculum and ready for use)
2. **Useful websites offering information on aspects of heritage** that could be used by teachers and to a lesser degree pupils, although not specifically designed for primary schools. This includes some museums and county councils
3. **Examples of websites offering more general background heritage information** that may be of general interest, for example government departments,
4. **Some examples of websites offering local heritage information** to demonstrate what may be found through web searching for local information

RELEVANT WEB BASED CONTENT

WEB ADDRESS	CONTENT
1. Web-based resources and projects relating to heritage specifically designed for primary schools	
www.scoilnet.ie	<p>Scoilnet.ie is the official education portal of the Department of Education and Science in Ireland. Launched in 1998, the website is managed on behalf of the Department by the National Centre for Technology in Education. Resources referenced in www.scoilnet.ie mainly comprise lesson plans, interactive and printable worksheets, notes and multimedia content. These are aimed at students, teachers, school managers and parents. Resources are also curriculum focused and have been selected and reviewed by curriculum specialists and teachers. Scoilnet actively promotes the integration of ICT in teaching and learning and as a result has been involved in developing a number of sites with specific relevance to the Irish curricula. Scoilnet.ie also provides a useful Resource Finder which searches an extensive online database of curriculum relevant websites. Searches in the Resource Finder can be conducted according to student level and subject area. However, the website's Search function is also useful for identifying more specific information, as it allows the user to search the database using specific keywords. Further information regarding supports and resources on integrating ICT into teaching and learning is available online through the following video clip ICT in Teaching – Where is the Help? http://media.scoilnet.ie/ncte/support/</p> <p>Examples of some of the Irish SESE resources available would be: History, Local Studies; Irish heraldry, reading census records, the history of Castlebar, my schools history, Cork Past and Present – on-line local studies. Geography; Mapping skills, worksheet quiz on compass directions, Natural environments; Irish waterways puzzle, Coastline of Ireland worksheet, Investigating rivers Science; Living things; Frogs - a Lesson plan with wordsearch activity, which aims to teach children about the metamorphosis and development of an amphibian – from tadpole to frog. What do plants require to grow? – a project requiring children to observe plants in different environments and deduce what elements are required for plant growth.</p>
www.teachnet.ie	<p>TeachNet Ireland is an initiative of St Patricks College Drumcondra, run in association with the Teachers Network New York. It is predominantly funded by the Citigroup Foundation, with additional funding from the National Centre for Technology in Education, Microsoft Ireland and The Ireland Funds. The programme seeks to improve student learning by helping primary and post primary teachers to integrate web-based resources into their instructional practice. Teachers are given access to curriculum resources, curriculum and technical specialists, grants and a supportive network to further develop their skills. The Teachnet Ireland website, www.teachnet.ie, provides a useful online database of Curriculum Resources, including innovative projects and websites that relate to the primary school curriculum. Many of these links relate to Ireland's heritage, including downloadable printable materials, interactive worksheets and multimedia content. For example, Flora and Fauna Around You by Vincent McMahon provides lesson plans for experiments and field excursions that may be carried out by primary schools interested in exploring fauna and flora within their locality. TeachNet Ireland also funds innovative Irish teachers throughout Ireland to publish curriculum units that demonstrate the integration of ICT into classroom teaching in a meaningful and practical way. Details of the Innovative Teachers Programme can be found in the Innovative Teacher section of the site.</p>
www.pcsp.ie	<p>The purpose of the Primary Curriculum Support Programme is to mediate the Primary School Curriculum for teachers towards enabling them to implement it in their schools. This website aims to inform teachers, parents and management of the workings and structures of the Support Programme throughout the implementation period and beyond. Each curricular area contains useful downloadable resources. In relation to SESE the site provides not only resources for activities in geography, including photos, history and science but also guidance on planning. There are also resources to assist in integration of the SESE subjects on themes such as clothes, homes, my county and Egyptians. There is also five minute outdoor task on the local environment.</p>
www.blackrockec.ie	<p>The Blackrock Education Centre provides support for teachers and others involved in education in Dun Laoghaire/Rathdown County, part of South County Dublin and North County Wicklow. It is financed by the Department of Education and Science and by contract work undertaken by the Centre, frequently by way of joint publications. The Centre's website, www.blackrockec.ie, provides a useful resource for primary school teachers, as it lists many of the national programmes related to primary education. The Prof Dev section of the site also lists the websites for all 21 Education Centres around the country and provides information on funding for Teacher Professional Networks. The Curriculum Resources section provides a range of activities for primary schools, eg. the downloadable Make and Do Environmental Activities, School Garden Activities and Something Fishy pack and website. The ICT Advisor section of the site addresses practical subjects such as Internet Safety, whilst highlighting relevant educational online portals.</p>
www.somethingfishy.ie	<p>The Something Fishy website was developed by Blackrock Education Centre and, the Central Fisheries Board and Dun Laoghaire Institute of Art and Design. It has on-line resources for teachers, pupils and parents, which explore water as a habitat through Bradán, the Salmon.</p>
www.trails.ie	<p>This website by Marian Rollins and Paddy Madden contains lessons and tools to assist the user in trails. The creating a successful trail. A sample trail provides some ideas. The forum allows trail builders to consult and collaborate.</p>

www.askaboutireland.com	Ask About Ireland and the Cultural Heritage Project is an initiative of public libraries, local museums and archives which aims to make local studies and collections available online , thereby creating a national Internet resource for culture. The participating organisations have selected material of particular public interest from their holdings within a variety of common topics ranging from sport, transport and architecture, to flora and fauna and Irish writers. AskAboutIreland.com is managed by An Chomhairle Leabharlanna , supported by the Department of the Environment, Heritage and Local Government , with funding from the Information Society Fund and the Heritage Council. The Ask About Ireland Student Zone is of most interest to primary schools, as the Primary Students area provides activities designed for teaching Geography and History to specific age groups at primary level. This includes a range of interactive online Games and Play areas. The Student Zone Primary School content was developed in consultation with the National Council for Curriculum & Assessment, the National Council for Technology in Education and the Primary Curriculum Support Programme.
www.heritagecouncil.ie	The Heritage Council was established as an independent statutory body under the Heritage Act in 1995. Statutory functions include proposing policies and priorities for the identification, protection, preservation and enhancement of Ireland's National Heritage. The Council also has a particular responsibility towards promoting education, knowledge, interest and pride in the National Heritage. The Heritage Council's website, www.heritagecouncil.ie, provides information on all aspects of the organisation's activities, including educational programmes such as the popular Heritage in Schools Scheme . This Scheme offers a panel of heritage specialists who will, at the request of a teacher, visit a primary school to work directly with the children. Specialists are listed in the Heritage in Schools Directory , which can be downloaded in the Education section of the site. The primary aim of the Scheme is to raise awareness of the natural and built heritage among children, teachers and parents. The Scheme supports the stated aims and objectives of the SESE Curriculum and provides a valuable educational tool for teachers. Administered by INTO, visits are part funded by the schools, with remaining fees and expenses funded by the Heritage Council. The Heritage Council also funds other educational initiatives through its Grants Scheme. More information about projects that have received funding is given in the Grants section of the site.
www.antaisce.org	An Taisce , The National Trust for Ireland, is a Prescribed Body under the Planning Acts that seeks to educate, inform and lead public opinion on the environment. A range of education projects, including the Blue Flag, Green Schools, Coastcare, The Green Coast Award, Learning About Forests and the National Spring Clean , provide opportunities for participation by interested primary schools. Information on these projects is given in the Education/Projects and Students section of An Taisce's website, www.antaisce.org. Other sections of the site, although not specifically targeting schools, provide up to date information on Ireland's environmental affairs, eg. the Press Centre, Your Area, Campaigns, Our Environment, What You Can Do, Resources & Links and Training & Events .
www.birdwatchireland.ie	Birdwatch Ireland is a registered charity dedicated to the conservation and protection of Ireland's wild birds and habitats. It has over 10,000 active members and supporters, with a network of 20 branches throughout the country actively promoting conservation issues and the importance of birdlife. The organisation's website, www.birdwatchireland.ie, provides a useful educational section, which includes a FAQ page, a Downloads link and Bird Fact Sheets . There are also links to two designated school websites, Bird Migration and Working with Birds . These sites have been specifically designed with primary schools in mind, providing teaching materials and ideas for projects that can be easily carried out in the classroom. Content is relevant to the SESE Curriculum Living Things Strand, with some projects related to Geography, Art and Maths curricula. Skills developed through activities provided by this website include observing, investigating, designing, making and experimenting.
www.irishseedsavers.ie	The Irish Seed Savers Association (ISSA) is a voluntary organisation dedicated to the location and preservation of traditional varieties of fruit and vegetables. The organisation's website, www.seedsavers.ie, provides information on all aspects of the ISSA's activities, including educational programmes that aim to promote awareness of agricultural biodiversity, e.g. the ISSA Education Project . This Project is particularly relevant to primary schools, as it was developed with the SESE curriculum in mind. Details of this project can be found on the Education section of the site. Other relevant educational resources highlighted in this section of the website include the Stone Wall Work Pack , which has been designed particularly for national schools as participatory material for both teachers and pupils. Though designed with the limestone walls of the west of Ireland in mind, the theme and the pack, with slight modifications to take account of local conditions, may be applied to any part of the country.
www.ipcc.ie	The Peatland Conservation Council is an independent conservation charity, which campaigns for the conservation of a representative sample of living intact Irish peat lands as part of Ireland's heritage. The Bogs in the classroom section of the site provides resource material for all three SESE subjects and specifies curriculum links
www.sci-spy.ie	Sci-spy is a Scoilnet and RTE website with quizzes, fact sheets and video clips covering 30 topics relevant to the four strands of the primary science curriculum. For example: Setting Up Our Oyster Farm Children in Clarinbridge set up an oyster farm near their school with the help of BIM and the local co-op. Here they explain some of the science involved in maintaining their oyster farm.
www.epa.ie	The Environmental Protection Agency has a section for Primary schools on it's website providing teachers notes, worksheets and background materials for a range of investigations in the classroom and locality. The resources are divided into five packs on the topics of Nature, Impacts and pollution, Caring for the environment, Natural resources, and Waste. Curricular links are specified and there are resources for a range of activities using the local environment. There is also an interactive on-line game for children to calculate their ecological footprint called the Catulator.

www.coillte.ie	Coillte is a State owned company operating in forestry, land based businesses and added-value processing operations. The site invites the user to learn all there is to know about forests, trees and timber'. On the home page is an easy to navigate path to resources for students broken down into infants, junior, middle and senior classes and a section on teacher's notes that correspond to the student resources. The student worksheets can be downloaded and for junior classes cover topics such as Parts of a Tree; Growing seeds; Tree experiments; Food for wildlife; Food Chains and Field trips. This move on to topics for older classes such as How trees work; Trees and climate; Trees and woodland and How to make a nature trail. The teachers notes are well laid out and easy to find. They provide explanatory details and background information for each module covering topics form practical work with fruit and seeds to looking at trees as homes. This section also outlines the aims of the resource material and information on links to the curriculum.
www.treecouncil.ie	The Tree Council of Ireland is a voluntary non-governmental organisation which was formed in 1985, to promote the planting, care and conservation of trees in both urban and rural areas.It is the umbrella body linking together 50 organisations connected by their appreciation of trees, and it aims to foster a tree and wood culture among Irish people. The website provides worksheets for all classes at primary level with teachers notes and supplementary information about trees. Trees and placenames, stories and folklore surrounding trees as well as facts about trees and their significance for wildlife are covered.
www.enfo.ie	ENFO is a public service, which provides easy access to wide-ranging and authoritative information on the environment, incl. sustainable development. Enfo was established in 1990 by the Department of Environment Heritage, and Local Government . The website provides a library database and information on publications, events, exhibitions and workshops for schools. There are fact sheets, activity sheets and colouring sheets for download on a range of environmental topics.
www.ecosensorweb.dcu.ie	The Eco-Sensor Network is located at the National Botanic Gardens in Dublin. Researchers from the National Centre for Sensor Research at DCU have developed mini-weather stations to keep an eye on conditions inside the Great Palm House, the Cactus House and the Orchid House at the Botanic Gardens. Each of the tiny "mote" sensor-boards has sensors to monitor temperature, humidity, light levels, atmospheric pressure and oxygen levels in the air. The network of sensors sends real-time environmental data to the interactive website, eco-sensor web. You can take a look at this data on the graphing page. There is also a bank of hands-on activities to try in the classroom or at home and notes for teachers on curriculum links.
www.lec.ie	Archaeology in the classroom was developed by Limerick Education Centre , in co-operation with the Department of the Environment, Heritage & Local Government and the Primary Curriculum Support Service . This is comprehensive new resource to support the history element of the SESE Curriculum. This resource pack is designed to use archaeology as a theme in teaching the Social Environmental and Scientific Education (SESE) curriculum in an integrated manner. The main subject area covered is history with strong links to geography and science within the SESE framework. The pack is divided into twelve modules and contains source material, Health and Safety Guidelines, Glossary and a general introduction to Irish archaeology and artefacts. Reviews by teachers have been very positive concluding that archaeology is a very easy to teach, practical, hands-on subject to teach and that pupils of all ages and abilities readily engaged. Mary Sleeman, one of the Heritage in Schools specialists was very involved in this project.
www.goldeneagle.ie	The Golden Eagle re-introduction project , run by the Irish Raptor Study Group and part funded by the Government. The project objective is to re-establish a viable Golden Eagle breeding population in the northwest of the Republic of Ireland. The website provides downloadable brochures for different primary school class levels and information on sightings and the released birds progress.
www.greenwave.ie	It is said that if from outer space a green wave is visible moving up across the continent of Europe in Springtime. This is caused by the buds on the trees and hedges opening. Tthe Green Wave begins in the south of Europe in February and moves up across the continent as temperatures rise. It is said to move at approximately 160 kilometres per week and if this is true, it should take about three weeks to move across Ireland from Mizen Head to Malin Head. Discover Science & Engineering (Forfas) invited all the schools registered for Discover Primary Science to become involved in a pilot mass experiment which sets out to see if this is true. In 2006 all schools participating in Discover Primary Science were asked to submit observations of the budding of certain species, such as horse chestnut, in their local area and the data was mapped on the website where for users to view.
www.planataqua.ie	The Planet Aqua project is part of a larger international initiative called Planeta Azul (Blue Planet in Portuguese). Different but related events and resources will be developed in Ireland, Portugal and France, for primary school children highlighting the importance of protecting and saving the environment on land, at sea, and in space. Planet Aqua, a new non-profit initiative, will provide a website, teacher's manual & pilot exhibition for the primary education community in order to promote the vital role of each individual to protect & conserve our planet's aquatic resources, locally and globally. The website includes sections for teachers, pupils, parents and the public. There is also a virtual tour of the exhibition, a regional directory of organisations involved with aquatic environments and opportunities to showcase pupils work. There are also a series of resources related to SESE.
www.ncte.ie/sligoec/sss/	'From Skerrydoo to Carrickfadda, a Study of Sligo's Coastline' is a schools heritage and ICT project, which seeks to promote high levels of awareness and understanding of seashore heritage amongst participants. The project ran in 12 Primary Schools in Sligo in 2001-2. The project was coordinated and supported by staff from The

	<p>Heritage Office, Sligo County Council and Sligo Education Centre. Students studied a number of topics relating to their local shoreline including animals, habitats and plants, geology, history and folklore, and man and the sea. Schools were provided with resource material and computing equipment including digital cameras, scanners and sound recorders. Following fieldwork by students the heritage of the Sligo seashore was recorded and presented through multimedia presentations, artwork, and photographs. The website contains resources, which link to the SESE curriculum and assists teachers in investigating the seashore, identifying coastal flora and fauna and also features work by the children involved in the project.</p>
<p>2. Websites offering useful information on aspects of heritage although not specifically designed for primary schools</p>	
<p>www.heritageireland.ie</p>	<p>The Heritage of Ireland website, www.heritageireland.ie, is an online resource designed to introduce people to the rich and varied attractions of Ireland's heritage. Set up by the Office of Public Works and the Department of Environment, Heritage and Local Government, the site includes information about National Monuments, historic houses, Parks and gardens that are in State care. Visitor information for each heritage site is listed according to region in the Parks and Gardens and Historic Sites web pages, including opening arrangements, facilities, special needs considerations, contact details and availability of guided tours. Education facilities for each site are also highlighted. This website is most useful as a reference database for heritage related visits or school trips.</p>
<p>www.buildingsofireland.ie</p>	<p>Buildingsofireland.ie is the website of the National Inventory of Architectural Heritage (NIAH), which is a section within the Department of the Environment, Heritage and Local Government. The work of the NIAH involves identifying and recording the architectural heritage of Ireland, from 1700 to the present day. Although not aimed at primary schools, www.buildingsofireland.ie provides some useful information for teachers that may be interested in organising school trips or projects relating to architectural heritage. The Gardens section of the site is especially useful as it provides information on historic gardens by region, including a Search facility and downloadable maps for each garden. Similarly, the Building Surveys section provides information on historic buildings by region, enabling the teacher to research architectural heritage within the school's locality. Publications on Ireland's architectural heritage are also listed in the NIAH Publications and Resources section of the site.</p>
<p>www.irishsealsanctuary.ie</p>	<p>www.irishsealsanctuary.ie is the official website for the Irish Seal Sanctuary, a non governmental organisation that aims to provide shelter, treatment and rehabilitation for rescued marine wildlife found in difficulty around Ireland's coast. The Sanctuary regularly rehabilitates seals for release back into the wild and seal release dates are announced in the Events section of the website. The site has several links that provide information about seals, including advice on what to do If You Find a Seal Pup and Guidelines for Seal Encounters. Content is related to the SESE Curriculum Living Things Strand.</p>
<p>www.burrenbeo.com</p>	<p>This site is an interactive interpretative centre for the Burren area. This is an excellent site with information on archaeology, landscape, flora, fauna, community, agriculture and climate. It has interactive maps and an interactive timeline stretching from carboniferous times to modern day. There are also quizzes games and nature trail information.</p>
<p>www.crann.ie</p>	<p>Crann is a voluntary, non-profit organisation dedicated to planting trees and protecting Ireland's woodlands. The organisation's website, www.crann.ie, provides some useful information on planting trees in the Tree Info section which may be of interest to schools with wildlife gardens. More information on this subject is provided in Crann's booklet; the ABC of Planting Trees. There is also an interesting Crann Cookbook section, which highlights recipes and medicinal uses for some common Irish trees and hedgerow flora. All the resources on this site are designed for an adult audience and information would need to be interpreted by the teacher for use in the classroom.</p>
<p>www.heritagedata.ie</p>	<p>Similar to www.heritageireland.ie, www.heritagedata.ie, provides information on the heritage sites managed by the State. However, this site does not provide tourist or general information, nor does it offer browsing or viewing facilities. Rather, it aims to provide a simple way of accessing heritage data and information that would be of interest to researchers, academics, consultants, planners or developers. This includes information on the Sites and Monuments Record, the Recorded Monuments Record, Monuments in State Care, Natural Heritage Areas, Special Areas of Conservation, Special Protected Areas (Birds' Directive), Nature Reserves and National Parks. Some of the spatial datasets require GIS software (eg. ArcExplorer) in order to be downloaded. Technical information on downloading datasets is given in the News section of the site.</p>
<p>www.burrenlife.com</p>	<p>The BurrenLIFE Project, is a partnership-based 'Farming for Conservation' project which aims to develop a new model for sustainable agriculture in the Burren. The project's website, www.burrenlife.com, provides information on all aspects of the Project activities, including the Project's Heritage Education Programme, designed to target primary and secondary schools in the wider local community of the Burren in North Clare and South Galway. General information on the ecology and habitats of the Burren (targeting an adult audience) may be found in the Burren Habitats section of the site.</p>
<p>www.irishbirdimages.com</p>	<p>Irish Bird Images.com is a website that is dedicated to images of Ireland's bird life. All the photographs on the site have been taken by Paul and Andrea Kelly, a husband and wife team, who are both keen birders and digital photographers. The site includes a comprehensive Gallery of images and there is also a useful Species Index, which provides profiles and general information on many of Ireland's bird species. A total of 552 species is covered on the site. It should be noted that all the digital images are copyright of the web masters of Irish Bird Images.com and downloading for unauthorised use is forbidden unless prior permission is sought.</p>

www.rte.ie/radio/mooneygoe swild	The Mooney Goes Wild Radio Show is a popular wildlife programme on RTE Radio 1. The core of the programme is an 'ask about wildlife facility' in which phone-in queries, letters and e-mails are answered live in studio by a regular panel. The Programme also travels frequently with live, and recorded, on-location sessions from all over Ireland. Natterjack Toads on the Maharees peninsula, Slow worms on the Burren and Seal releases on the east coast have all featured. The Programme's website, provides a number of educational features suitable for use in primary schools. These include regularly updated Factsheets , Features and Competitions that are generally suitable for a younger audience. Of most interest, perhaps, are the Mooney Cam and Nestwatch 2006 pages, which provide unique online video footage of blue tits and kingfishers feeding.
www.irishhistorylive.com	This is the website of Irish History Live, where Michael Moylan, a Heritage in Schools scheme specialist , explains how he presents history shows, story telling, science for schools, museums, festivals, libraries and special events.
www.biology.ie	This website was created by Paul Whelan in January 2006 to develop an awareness among the public of the close relationship between all elements of the natural world; plants, animals, climate and the physical elements of the Irish landscape. Users can submit observations and view maps of the distribution of different species
www.iwdg.ie	The Irish Whale and Dolphin Group is dedicated to the conservation and better understanding of cetaceans (whales, dolphins and porpoise) in Irish waters. The Group was founded in 1990 to establish an Irish stranding and sighting scheme and to campaign for the declaration of Irish territorial waters as a whale and dolphin sanctuary. The website provides useful information including species profiles with photos, current research and whale watching.
www.ecounesco.ie	ECO-UNESCO is Ireland's only national environmental organisation for young people specialising in environmental education. The aims of ECO-UNESCO are to raise environmental awareness, understanding and knowledge of the environment among young people, to promote the protection and conservation of the environment and to promote the personal development of young people through practical environmental projects and activities. The website gives details of events, workshops and publications available by order. The Young Environmentalists Awards are also profiled on the site.
www.naturesweb.ie	This is a newsletter for children, featuring informative news on nature and the environment. It is produced by Sherkin Island Marine Station and sponsored by Pharmachem Ireland.
www.googleearth.ie	Google earth is part of the Google pack and using satellite imagery, allows the viewer to look at images at country and city level. The images are searchable by address. There is a free version and more complex versions can be purchased.
www.greenwave.ie	It is said that if we look at Europe from outer space a Green Wave is visible moving up across the continent in Springtime. This is caused by the buds on the trees and hedges opening. The Green Wave begins in the south of Europe in February and moves up across the continent as temperatures rise. It is said to move at approximately 160 kilometres per week and if this is true, it should take about three weeks to move across Ireland from Mizen Head to Malin Head. Discover Science & Engineering Programme at Forfas invited all the schools registered for Discover Primary Science to become involved in a pilot mass experiment which sets out to see if this is true.
www.marinedimensions.ie	Sarah Varian, who is one of the specialists from the Heritage in Schools scheme , runs this website and is providing a range of teaching and training activities for schools and interest groups that are interested in Marine Biology and Ecology. Emphasis is on Walk and Talk style field trips to the seashore and outdoor education, although indoor presentations and slide shows are also a popular option. The site includes a Kids Zone, a gallery of photographs of marine life and an education and awareness page.
www.batconservationireland.org	Bat Conservation Ireland is a Charity dedicated to the conservation of Ireland's bats, which promotes conservation of bats by disseminating educational materials, giving talks and leading bat walks, carrying out nationwide surveys and monitoring of bats, acting as an umbrella group for the local bat groups and providing a central repository for bat records. The website provides details of events and publications as well as factual information on Ireland's bats
www.cvi.ie	Conservation Volunteers Ireland (CVI) aims to provide practical opportunities for groups and individuals to protect and enhance our natural and cultural heritage through projects, training courses and educational initiatives. The website provides details of the Wildlife Gardens in Schools initiative and Green Owl Nature Studies programme. This uses 'hands on' activities to familiarise the children with the animals and plants they can encounter in their everyday lives and is aimed at fourth class.
www.irishmegaliths.org.uk	This website provides a county by county guide to Irish megaliths including photos and information on megaliths including court passage and portal tombs, Ogham stones and stone circles.
www.iwt.ie	The Irish Wildlife Trust website has fact files on fox, badger, hedgehog and shrew as well as information sheets

	on the common lizard and details of their services to schools under their ecology and education programme.
www.marine.ie	The Marine Institute have developed Follow the Fleet , an innovative interactive computer-based learning package that allows schools across the country to navigate the world from their desktops. It brings many elements of the school curriculum together for school children providing real-time information on the Irish merchant shipping fleet, where goods are produced and how they make their way around the world by sea. The site also explains The "Explorers" programme, which aims to integrate marine themes as closely as possible with lessons already taught in national schools through the Social, Environmental and Scientific Education (SESE) curriculum and other cross curricular subjects. In the Galway area, the "Explorers" programme is facilitated through the Marine Institute, between educators in the Galway area including the Galway Education Centre, Galway Atlantaaquarium, Galway-Mayo Institute of Technology and the Connemara Environmental Centre at Letterfrack.
www.gsi.ie	The Geological Survey of Ireland website has a Simple Geology section and a simplified map of the countries bedrock for download in the schools section.
<p>www.primaryscience.ie</p> <p>Discover Primary Science Centres</p> <p>Discover Primary Science is a programme run by Forfas as part of the Discover Science and Engineering programme to promote science in primary schools by supporting teacher in teaching science in the curriculum. The website has a lot of downloadable resources for in-class science, focussing on the physical sciences. The website also offers links to a range of accredited Discover Primary Science Centres that offer school workshops and fieldtrips many of which have a 'living things' aspect and in some cases resources for download.</p> <p>www.airfield.ie</p> <p>The Airfield Trust is a registered charity that was set up with the aim of promoting and furthering the advancement of education in Ireland. The Trust's education programme is primarily based around Airfield, an urban farm that provides learning activities and events for adults and children. Public workshops and exhibitions are designed to raise awareness about the environment, farming and food issues. Airfield's website, www.airfield.ie highlights these activities, whilst also providing two sections that provide information for schools, i.e. the Education and Community page and the Activities for Children page. These pages highlight Airfield's Discover Primary Science Centre and the Nature and Farm Studies Programme. Both programmes are relevant to the primary school Science and Geography curricula, with emphasis on observing, investigating and recording in outdoor habitats. The programme is adapted according to the ages and abilities of the children partaking with information and activity sheets available for students. These materials are not currently available as downloadables on the website.</p> <p>www.knocksinkwood.org</p> <p>Knocksinkwood.org is the website of the National Environmental Education Centre (NEEC), which is based in Knocksink Wood Nature Reserve in Co. Wicklow. The NEEC is a partnership project of the National Parks and Wildlife Service, FAS and the Dublin Institute of Technology. The goal of the NEEC is to 'Bring Environmental Science to Life' by using the natural resource of Knocksink Wood to explain the wider environment, providing environmental education to a wide range of visiting groups. Information on the Centre's facilities and education programme is given on the website, in the Who we are, What we do, Our setting and Facilities section of the site. Conservation projects and art workshops are highlighted in the Practical Conservation and Art Naturally sections of the site. An online resource bank of education material to help classes of all levels understand more about ecology, conservation and the environment is planned for the future.</p> <p>www.birrcastle.com</p> <p>Birr Castle is the home of Lord and Lady Rosse in Birr, Co. Offaly. The Birr Castle Demesne website, www.birrcastle.com, is based around the lives and achievements of the Parsons family over the last four hundred years and their contributions to astronomy, photography, engineering and botany. There is a wealth of information on the site, including sections on Astronomy, Botany, Photography and Engineering. The Castle Demesne's role as a Discover Science Centre is most relevant for primary schools, with information on the Discover Primary Science Programme (DPS) given in the Schools and Teachers section of the site. The DPSP Worksheets may also be downloaded in this section of the site. There is also a comprehensive educational section on the Science Centre, including useful sections on the Historic Science Centre, Irish Scientists & Engineers, Student Science Notes and Links and Credits. However, this information is aimed at a senior level audience and would need to be interpreted by the teacher for use at primary level.</p> <p>http://homepage.tinet.ie/~knp/</p> <p>Situated close to the most westerly point in Europe, Killarney National Park covers over 25,000 acres of mountain, moorland, woodland, waterways, parks and gardens. The Park's website, http://homepage.tinet.ie/~knp/, provides general information on the rich and diverse ecology of the area, including sections on Bird Life, Red Deer, Lakes, Oak Woods, Yew Wood and Rhododendron. There are also sections on Muckross House and the Cultural Heritage of the area. It should be noted that this information is designed for an adult audience and would need to be interpreted by primary school teachers for use in classes. Primary school visits are encouraged through the Park's Discover Science Centre and details of the Discover Primary Science Programme are given in the Killarney National Park Education Centre Primary Schools section of the site. The National Park's Nature Day includes a range of activities, such as Food Chain Games, Tree Identification and Small Mammal Capture.</p> <p>www.nationalaquarium.ie</p> <p>Galway Atantaquaria, the National Aquarium of Ireland, is an aquarium situated on Ireland's west coast. The aquarium is home to 150 species of marine fauna and in addition to regular school tours, there is a dedicated Science Workshop provided for primary schools through the Discover Primary Science Programme. The Aquarium's website, www.nationalaquarium.ie, provides information for school visits in the Schools and Plan Your Visit sections of the site, with downloadable DPS teaching materials available online and details of the Aquarium In The School project. The Species section of the site provides useful notes for teachers on local marine wildlife.</p> <p>Other Centres include: www.discoverlismore.ie www.dublinzoo.ie</p>	

www.fotaisland.ie
www.irishnationalstud.ie

Museums

www.irishmuseums.org/links

www.clarelibrary.ie/eolas/claremuseum/
Clare Museum, Tours, events, teachers guide, quizzes

www.dublinia.ie

Dublina & The Viking World, Exhibitions about history of Dublin City and its inhabitants. Tours and events programme, teachers resources and workshops

www.museum.gaa.ie/

The GAA Museum
The GAA Museum was established to commemorate, recognise and celebrate the GAA's enormous contribution to Irish sporting, cultural and social life since its foundation in 1884. Located in Croke Park.

www.huntmuseum.com/

The Hunt Museum was established to house an internationally important collection of approximately 2000 works of art and antiquities formed by John and Gertrude Hunt during their lifetimes. Tours and events programme, teachers resources and workshops

www.imma.ie

Irish Museum of Modern Art. Tours and events programme, teachers resources and workshops

www.nationalgallery.ie

National Gallery of Ireland. Tours and events programme, workshops

www.museum.ie

National Museums of Ireland. Tours and events programme, workshops

www.cbl.ie

The Chester Beatty Library, one of Ireland's National Cultural Institutions, was created by Sir Alfred Chester Beatty and bequeathed by him for the benefit of the public. The Library is both an art museum and library, housing an outstanding collection of early papyri, early Christian and Islamic manuscripts, Chinese, Japanese, Indian and other Oriental art. Early papyri, including some of the earliest texts of the Bible and other early Christian manuscripts complete what is one of the richest collections of its kind in the world. The Library's website, www.cbl.ie/education/, provides information on the services and projects available to the visiting public, including a **Permanent Exhibitions** and **Facilities** section. The **Education Services** section of the site provides information on the Library's public programme, which includes talks and demonstrations that cater for visiting primary schools. The Library hosts a series of monthly workshops for 7-11 year olds.

Local Authority websites with content for children or for schools

(All Local Authority websites are listed in Appendix 6)

Cork City Council <http://www.corkcity.ie>: Just for kids web page

Cork County Council <http://www.corkcoco.ie>: Detailed heritage web pages, schoolhistoryproject.com

Dun Laoghaire Rathdown <http://www.dlrcoco.ie>: Kids Council Web Pages

Dublin City Council <http://www.dublincity.ie>: Kids Plus Web Pages

Fingal County Council <http://www.fingalcoco.ie>: Kids Stuff Web Pages

Galway County Council <http://www.galway.ie>: Website developed for schools on birds. CD on 12 Bens geology

Kerry County Council <http://www.kerrycoco.ie>: Kids Section games. Kerry Heritage.ie website in development- no children's content

Kilkenny County Council <http://www.kilkennycoco.ie>: Heritage webpage in development with children's section

Mayo County Council <http://www.mayococo.ie>: Kids Section

3. Some examples of websites with more general background heritage information

www.science.ie

The website of Forfas Discover Science and Engineering programme, has some content on natural heritage

www.met.ie

The website of Met Eireann the meteorological service. Data on climate and weather is available here.

www.viron.ie

Department of Environment and Local Government is responsible for protection of the environment and heritage, infrastructure provision, balanced development and good local government.

www.osi.ie	The Ordnance Survey website. This gives details of how to access maps and of Trailmaster, a DVD based PC compatible interactive mapping application, which allows users to work with OSI data from around Ireland.
www.nra.ie	National Roads Authority, weather station data is available here as well as information on archaeological digs relating to excavations along roads.
www.npws.ie	The National Parks and Wildlife Service manages the states nature conservation responsibilities.
4. Some examples of websites offering local heritage information	
www.tallaght4kids.ie	The Tallaght 4 Kids website has been developed as a companion for the recently published children's activity book "Proud to Live in Tallaght, which has been sent to every senior primary school in Tallaght. There is information on the website about the history, nature and buildings of Tallaght.
www.kildare.ie/local-history/	County Kildare Federation of Local History Groups was formed in 1999 in order to optimise the resources of local groups and foster communications, exchange ideas, and generally raise the awareness of local history groups within the county as well as improve accessibility and representation on relevant county committees and associations
www.corkpastandpresent.ie/	Cork Past and Present is an online service of Cork City Libraries, providing information on Cork's history, culture, places, people, and events. The site focuses on Cork city and its surrounding areas, providing new textual material as well as digital images, including local photographs, drawings, maps, and advertisements. This continually expanding site, which began in 2004, has approximately 200 pages and about 300 images.
www.aughty.org	The aughty.org website aims to provide a focus for information and discussion about the Slieve Aughty uplands in Counties Clare and Galway in the west of Ireland. The site was launched on Earth Day, April 22 2006 at a gathering in Crusheen called Aughty People and Earth Day , hosted by Heritage Inchicronan. People from around the region and further afield explored ways in which the heritage of the Aughties could be recorded, protected and enhanced by considering the region as a whole. The website has information on archaeology, biodiversity and the culture and traditions of the area.

SECTION 3. CONSULTING TEACHERS AND STUDENTS

Introduction

The following research was conducted to inform this study:

- **Two focus groups** with teachers who have received visits under the Heritage in Schools Scheme, one in Limerick(6 teachers) and one in Dublin(5 teachers).
- **A Postal questionnaire** was sent to 100 teachers who had visits from a Heritage in Schools specialist since the beginning of January 2006.
- **Interviews** were conducted with:
 - Teacher of third class in North Dublin National School Project, Glasnevin, Dublin
 - Teacher of senior infants who is also an ICT/ co-ordinator post holder in the school, in North Dublin National School Project, Glasnevin, Dublin
 - A parent that Home Schools and represents the Home Education Movement
 - A group of teachers in St Paul's Youth Encounter Project for marginalized students.
- Two teachers of third and sixth classes in North Dublin National School Project, Glasnevin, asked their pupils to brainstorm what they would like on a website relating to SESE subjects during lessons on SESE. It was considered that this would be an effective way of hearing student's views, as they would be in the frame of mind for thinking about the subject area during a lesson.

FOCUS GROUPS AND INTERVIEWS

The focus groups and interviews were conducted to assist in research into the primary education sector's needs regarding online heritage materials that relate directly to the remit of the Heritage Council and the development of effective web resources for use within the three subjects of science, history and geography.

The focus groups and interviews sought to

- Outline current access to and use of IT
- Identify information on resources being used and resource gaps
- Devise a 'wish list' of new materials/resources that teachers would like to see provided
- Make recommendations in relation to on-line heritage materials most useful to the primary education sector.

A facilitator (Fran McVeigh) was engaged to conduct the focus groups. The agenda of the focus groups (appendix 2) outlined the desired outcomes, content and process for the session. Following a short introductory exercise the participants focussed on current usage, gaps, wish lists and priorities. The interviews addressed the same issues. The results of which are outlined below.

CURRENT USAGE OF THE INTERNET

Dublin focus group

Very little use of the Internet was reported but participants do use Heritage Council specialists – though it was noted that it was getting increasingly difficult to make bookings due to high demand. Specialists mentioned are outlined in appendix 3. Websites crashing can be a problem and connections can be down when required.

Involvement in Green Schools and other awards programmes has encouraged the development of school gardens, where issues such as maintenance, watering during holidays and the replacement of plants were causes of concern. Information relating to gardening such as seasonal aspects of gardening, common Irish species of flora and fauna was a priority for this group. The local environment is seen as a great teaching resource. The Internet is also used as a resource in acquiring information for school tours.

Limerick focus group

The group use the Internet – but there is limited use in class as in most cases there is only one computer in each class. Broadband has made a difference, all of the group have such connections in school, teachers can now get information e-mailed to the classroom. One teacher described usage as *'like having an encyclopedia in the classroom, if we need information we Google for it'*. Children are using the web for research but often have difficulty reading information, as it is too wordy. Teachers use the web to prepare and research in advance of covering a topic in class. General comment about finding suitable materials related to the length of time it takes to undertake a search. Sorting through a lot of websites to find what one wants was considered off-putting and time consuming. Teachers felt they had limited time to access and process information.

Home schooling parent

The Internet is a brilliant resource and is used often; it has been a great advance for home educators. While the Home School Movement (HSM) does not work through a subject-based curriculum they are aware of the subject areas of science, geography, and history. The HSM currently ties in visits to heritage sites with information they find on the web. Again information is often too detailed and the language can be difficult for children. Materials have to be engaging not prescriptive.

St Paul's Youth Outreach Project

Three out of four teachers said they used the Internet a lot to download resources. These include worksheets, flashcards, puzzles, word searches all of which appeal to the type of marginalised pupil the school caters for. One teacher tended to produce his own worksheets but would still use suitably pitched resources if available.

Class teachers/ ICT Co-ordinator in NDNSP, Glasnevin

Both teachers have access to the Internet in the computer room where they would conduct lessons with their classes. One Teacher uses the computer in the classroom to prepare classes. One teacher reported finding information by searching through Google, this seems to have given very few Irish links. The ICT co-ordinator has added links on to their own homepage to make it easier for children to visit chosen websites as typing in URLs

can be time consuming. ICT is no longer a novelty; it should be used as a tool to conduct a class on part of the curriculum. Many children are skilled and do not need to use a PC for the sake of it. A lot of what is on the web is not accessible to younger children, as the language is not appropriate. There is a lack of Irish information but foreign sites should not be discounted as there are many good ones. Teacher awareness of resources is key to uptake

Overview of usage

There would appear to be limited usage of the Internet due to the time it takes to sieve through the amount of information available on-line. Relevant, age appropriate resource materials for the particular age groups within the Primary education sector are particularly difficult to access, as are Irish based sites with information specific to Ireland. The limited time to develop a wide knowledge of what is available prompts the need for a one stop shop, possibly a Heritage Council web page with links to other relevant site particularly indigenous ones. Resources that cater for pupils outside the mainstream need to be considered.

GAPS IN RESOURCES AND OTHER ISSUES

- Irish sites – ‘we need materials relevant to us (not just UK or US sites)’
- Useful pupil materials, assisting children in researching for themselves
- Local history information. Pictures/photographs of different types of artefacts, archaeological sites, local areas, historical maps, aerial photos. ‘Local environment is vital’.
- Opportunities to share local information gathered and contribute to a website
- Age appropriate materials, with simple language, catering for varying ages and levels of literacy. Consider different learning styles, learning support teachers would have views on this
- Interactive materials are very appealing to children
- Finding resources which can stimulate interest before places are visited
- Links to different websites with guidance on the information available there to cut down on web-searching time.
- Information (general & specific) about all topics should include alternative ideas/innovative ideas to enhance teachers own presentation of the subject
- Information on specialist topics, relating to the heritage specialists visits
- Books online as PDFS

RESOURCES TEACHERS WOULD LIKE MOST

- Make sure it is relevant to us – “it has to have meaning”
- Website should facilitate the process – “the process is the product”

Finding information on-line

- Marketing to teachers will be key, lack of awareness of what is available is a big determinant of usage.
- Portal to different sites, not too many, but the most useful ones.
- Links should be categorised into those for teachers and those for kids

Content that should be available

Information relating to the Heritage in Schools Scheme

- List of all specialists – details of bookings/ availability.
- Online help line/ experts to answer queries

Information relating to flora and fauna/ natural heritage

- Identification keys for animals and plants (birds, seashore life and trees-leaves & fruit) - also in Irish. Information on seasonal changes, migration etc.
- Gardening related resources. Seasonal details – what to plant in the garden during each season. Details of what to avoid using in the garden (alternatives to chemicals & weed killers).
- Mini beasts, visual resources to use in the classroom.
- Water conservation, things that link to green schools

Information relating to History/geography, particularly in a local context

- Local History information for different areas (a series of maps, possibly in layers allowing you to pin point differences over time), timeline of different areas, schools should be able to contribute to this and share information through a searchable archive of information.
- Local Area information – relevant place names, old street names (differences in streets over the years)
- Information on local archaeological digs
- At geography in-service teachers took local photos for geography, could these be shared?
- Castles (pictures, how they were built)
- Stories of how things were done in the past
- Photographs of old objects (irons, fires in the classrooms, lights, ink wells)
- Photographs of all types of buildings
- Photographs of people e.g. nuns (images of the recent past)
- Information/Articles from local historians
- Warfare
- Guidance on how to access and use archives in local libraries or from local historians

Other Desirable Resources

- Information/scripts of guided tours of heritage sites (for use in advance of visits). Materials that can be printed off before visits with details of specific things to lookout for – prepared worksheets (not check lists).
- Ability to borrow artefacts – Bank of resources, perhaps at Education Centres/Libraries
- List of people willing to talk in schools (Grandparents for example)
- Web cam (virtual tours of heritage sites)
- Traditional crafts
- Photographs which could be downloaded and used as screen savers
- Video clips of people telling their stories(both real and characters from history)
- Participants would like information on how to get the best out of what the Heritage Council offers
- Ideas – providing Dressing up/ acting out opportunities e.g. child prisoners in Kilmainham Gaol
- Lists and information on the skills & tools of the Historians & Archaeologists

- Maps & games
- Gallery section – display of pupils work
- Books on-line, PDFs

Desirable formats or approaches to providing the information

- Age appropriate materials for primary pupils. Pupils it was felt would like interactive elements, photographs, simple text, 'keep it simple and visual, around 6 sentences - Click and drag' User-friendly language, language orientated not content specific works better for younger children in particular. Use large text and use icons. How information is organised and how user-friendly material is are key concerns
- Stimulating materials (sometimes resources are for passive recipients). Avoid being overly prescriptive.
- Interactive elements with feedback are good; surprise elements and additional levels for brighter pupil are useful. A problem solving not knowledge-based approach is preferable
- Remember that children recognise sites as educational not entertainment (this is not a game boy!)
- Pupils love interactive aspects of sites, matching, constructing, word searches
- It should be very clear from the first page what the site provides
- Break the resource into the four class levels (infants, Junior, Middle and Senior)
- Must be additional materials, not repetition
- Worksheets – suitable for those who may have literacy difficulties, there is a need to cater for children with special needs
- Register to get updates
- Website needs not only to inform but also encourage pupils to get up and go out and visit heritage sites
- Clear curriculum links

PRIORITIES IDENTIFIED IN FOCUS GROUPS

- Easily accessible relevant information local information e.g. maps, photographs, common species
- Ideas for curriculum links and integrated approaches to SESE, focus on a number of strands
- Link to top ten websites with heritage information for schools
- Templates for local projects
- On-line facility to request information from an expert
- Facility to display/share SESE work
- Access to artefact bank in Education Centre

Other interesting comments

Suggestions made to carry out another School connections survey, which asked questions about everyday life. The Folklore Commissions/UCD carried one out in 1930. Should there be a 2006/7 version?

STUDENTS VIEWS

The pupils of third and sixth classes in NDNISP were asked by their teachers what they would like to see on a website related to SESE and the following are their responses that relate to the Heritage Councils remit:

- Fact sheets about different topics
- Information on Irish animals, plants, birds, rivers and mountains

- Video clips of people giving their accounts of their role in historical events
- Myths and legends
- The history of music
- Interactive games
- The 1916 Rising
- War
- Famous writers and poets and their work
- An interactive globe
- Experiments you can do at home
- Famous experiments
- Irish history in relation to Britain
- Word searches
- Crosswords
- Programme for drawing/constructing your own landscape where you can click and drag different features onto your map.
- Pictures of extinct animals
- Competitions

TEACHER QUESTIONNAIRE RESULTS

INTRODUCTION

A postal questionnaire was sent to 100 teachers who had visits from a Heritage in Schools specialist since the beginning of January 2006. A stamped addressed envelope was included in the mailing and a 33% response rate was achieved. The data gathered is summarised here.

On-line resources were used for teaching SESE frequently by 27% of teachers and occasionally by 61% of respondents. Of those who never used on-line resources (12%) reasons given were no broadband connection until September 2006, time constraints, lack of computers or internet in classroom, lack of awareness of relevant sites or a tendency to use resources provided by the school instead.

Websites/resources used by respondents

When asked to identify websites or on-line resources that they have used or that their pupils have used teachers reported the following:

Websites mentioned by more than one teacher	Reported Teacher Usage	Reported pupil usage
Scoilnet.ie	12	8
PCSP.ie	6	2
BBC.co.uk/schools	5	1
Science.ie	4	2
Primary Science.ie	4	1
Google search engine	4	6
Google earth.ie	4	2
Into.ie	3	1
Askaboutireland.ie	2	3
Sci-spy.ie	1	2
Met Eireann		2

It is clear that the most popular sites with respondents are Scoilnet and the Primary Curriculum Support Programmes website. The Forfas Discover Science and Engineering Programme Websites, Science.ie and Primary Science.ie were also popular. Searching topics through Google was also common among teachers and pupils. The BBC website for schools, the Irish National Teachers Organisation website and the Ask about Ireland were also mentioned more than once. Appendix 4 gives details of other websites mentioned by only one teacher.

On-line resources that teachers regard as currently unavailable but most useful

Respondents were asked to comment on this in relation to science, geography and history and the following is a summary of the feedback. Some priorities emerge as follows:

- Irish/ local information across all SESE subjects from species and habitats to local history information to maps is required
- Child friendly presentation to facilitate pupils researching topics for themselves
- Curriculum relevance

See details below broken into subject area and comment.

Science (22 respondents offered comments)

• Simple experiments	9
• Simple information on:	
• Identification of plants, animals	9
• Habitat study	1
• Weather	2
• Biogs of inventors	1
• Gardening/indoor planting /how to compost	2
• Sites that support the curriculum	1
• Child friendly information	1
• Template for recording findings	1

Geography (25 respondents offered comments)

• Maps (local, national and European)	21
• Information on local area for children (Incl. maps)	
• Aerial photos/photos	6
• Trails	3
• Information on towns, counties, and countries suitable for children (those suggested in curriculum)	2
• Local and Irish rivers, mountains, rivers	2
• Orienteering guide	1
• Curriculum Strand specific information	1
• Child friendly information	1
• Interactive work on volcanoes/geographical features	1
• Up to date approach to geog of developing world	1
• Quizzes	1
• Local experts	2
• Lessons/worksheets	1

History (26 respondents offered comments)

• Local History Information	14
• Old photos, (houses, people, artefacts, local area)	7
• Biographies of famous people	4
• How to read local and understand historical records	1
• Census from long ago	1
• Certificates, baptismal, marriage	1
• Festivals and celebrations	1
• Women and blacks in history	1
• More Irish focused on sites	1
• Digs in Ireland and abroad	1
• Sites in Ireland	1
• Child friendly links to information on:	
o more unusual topics such as native Americans, Aborigines	1
o important events and people	1
o local history	
• Blank timelines	1
• Info on churches/houses/roads	1
• Worksheets	1

Types of on-line resources would teachers like to see provided

When asked to rate how likely they would be to use the following on-line resources with their class on a scale of 1 to 5, 1 being very likely to use, 5 being very unlikely to use teacher rated the items listed as follows:

A concise list of the most useful web based information relevant to primary schools

Rated 1 or 2 by 85% of respondents

Information on the Heritage in Schools scheme (directory of specialists, availability etc.)

Rated 1 or 2 by 78% of respondents

Lesson plans and activities that can be downloaded

Rated 1 or 2 by 88% of respondents

Worksheets for children

Rated 1 or 2 by 94% of respondents

A facility to ask an expert a heritage question

Rated 1 or 2 by 73% of respondents

Information on places to visit with students

Rated 1 or 2 by 70% of respondents

Information for students researching projects/topics

Rated 1 or 2 by 88% of respondents

As can be seen downloadable resources to print and use are still popular with teachers. They would also like a short list of the most relevant websites and access to experts. When asked if there are any other on-line resources they would like to see provided to support teachers teaching SESE:

- Two of the four respondents to this question wanted lessons showing integrated themes.
- local competitions, winners projects to be viewed on line
- More easy to read information for junior and infant classes

KEY OUTCOMES OF TEACHER CONSULTATION

Based on an analysis of perceived gaps in resources and what teachers say they would find useful, the following emerge as priorities:

- Specifically local and Irish information e.g. maps, photographs, information on common species, is needed
- Resources must have clear curriculum links to strand level and delineation by class level is useful
- Provide templates for projects that offer integrated approaches to SESE subjects
- Link to best websites with heritage information suitable for schools with a guide to what sites provide to cut out time wasted searching the internet as this is a big issue
- Provide a facility to display/share SESE work, schools should be able to contribute to a website
- Provide child friendly resources to facilitate pupils conducting their own research and cater for different abilities
- Interactive aspects of website are appealing to children but teachers still find 'download and print resources' useful
- Teachers will obviously only use resources they are aware of so promotion will be key
- Teachers would like to have access to experts through the site to answer queries
- Heritage sites suitable for tours could be featured to encourage interest in visits
- Teachers would like access to a bank of artefacts to borrow and use for hands on work

SECTION 4. CONSULTATION WITH OTHER STAKEHOLDERS IN THE EDUCATION AND HERITAGE SECTOR

Introduction

A variety of stakeholder in the primary education, heritage and ICT sectors were consulted as part of this scoping study as follows:

- Primary Curriculum Support Service (PCSP)
 - Valerie O'Dowd, out going Assistant National Co-ordinator was interviewed
 - A workshop was held with the Cuiditheoirí at their meeting in Athlone in December 2006.
- National Council for Technology in Education (NCTE)
 - Mike O'Byrne, Scoilnet, National Co-ordinator (by phone)
 - Anne White, Digital Content, National Co-ordinator
- Seamus O'Canainn, Director, Blackrock Education Centre
- John Brennan, Professional Development Officer, Blackrock Education Centre
- ICT Advisors at the Education Centres (e-mail questionnaire)
- Heritage Officers (e-mail questionnaire)
- Heritage in School Specialists (e-mail questionnaire)

The following is a summary of these inputs followed by an outline of the key issues identified.

Primary Curriculum Support Service

The launch of the revised Primary School Curriculum took place in September 1999. It was the culmination of many years of development and planning by the Department of Education and Science and the National Council for Curriculum and Assessment (NCCA) that involved all the partners and interests in primary education. The Primary Curriculum Support Programme (PCSP) was established prior to the launch of the revised curriculum. The purpose of the PCSP is to mediate the Primary School Curriculum for teachers towards enabling them to implement it in their schools.

Valerie O'Dowd, Assistant Co-ordinator (meeting)

- It is vital that any resources developed link very explicitly to the curriculum and relate to specific objectives down to strand unit level.
- Including opportunities for integration of Science, Geography and History or across the SESE curriculum is a focus for the PCSP at the moment and thus should be aimed for. An example of this would be an environmental audit of the local area. This provides opportunities for work in all three subject areas.
- Encourage planning
- Linking to visits by specialists and providing additional on-line elements would be very desirable, demonstrates joined up thinking in the approach.
- Encourage archiving of local studies information and research, as so much of it is lost when a class moves on. Facilitate schools uploading their SESE work to the site.

- Have links to the best websites (not every heritage site on the web) with explicit instructions as to where to look in the site and with a review by a teacher of the website.
- Libraries with good local studies sections and information available from the heritage officers or county councils on a county by county basis should be linked to the site
- Focus on developing the site for teachers in the first instance and when it is established consider expansion to include a children's section.
- Materials should stick to the short and clear approach demonstrated on the www.primaryscience.ie website and should be adaptable for different class levels.

Cuiditheoirí (meeting), Ciara O'Donnell, Jim Kavanagh, Margaret Shaehan, Mary England, Maire Boyle Eleanor Fahy

The Regional Curriculum Support Service (RCSS) is part of the PCSP service for schools. Cuiditheoirí operate at local and regional level in co-operation with the Education Centre Network. They can provide school visits, drop-in sessions and afternoon/evening workshops in Education Centres countrywide.

On-line resources recommended to schools by the group

- Ask about Ireland, for photos and history
- National Library of Ireland, Lawrence collection of photos
- Irish images, photos of the local area long ago
- Archaeology in the classroom, Limerick Education Centre and Mary Sleeman. This is a paper-based pack too and gives some very good web links.
- www.PCSP.ie
- www.Science.ie
- www.Trails.ie
- Primary Science.ie (encourage schools to enter Awards programme)
- National Roads Authority (weather station data, archaeological digs along motorways)
- MET Eireann
- BBC interactive and science clips websites
- Beaumex of Walkinstown stock the popular 'Counties of Ireland DVDs', which provide information on geology and geography of each county have been well received. These provide aerial photos and geological and geographical information. See www.beamax.com in the product section for details
- Another very useful resource is the Ordnance Survey Trailmaster Education and Training version, which allows users to work with OS data and maps. This DVD based resource is available on DVD from <http://www.osi.ie/trailmaster/education.asp>
- Some schools have very good local history information on their own websites

Gaps in resources

- There are a lot of gaps in resources relating to Geography, particularly in a local context.
 - There is very little Irish information available
 - Simple geological maps for children would be useful

- o There is often confusion between geological features and habitats e.g a woodland is not a geographical feature.
- Inventories of archaeological monuments and local features as opposed to just the sites with high national profiles e.g. Newgrange.
- Photos and documentary evidence over time, how to source these
- Integrated approaches to the three SESE subjects would be welcome

How schools use IT

- Interactive aspects of websites are accessible to schools that have networked PCs in a computer room, where each child can be involved.
- Most schools are working toward this scenario (or laptops for teachers) but some schools still have one machine in the classroom and use it like an encyclopaedia.
- Teachers often ask if material is quick and easy to download, time taken to access material is critical
- A good search function is essential to aid teachers in finding the material they want quickly, some sites have great information but are not easy to navigate. It is important to realise that some teachers still have forty pupils in their class

What would be most useful?

- Geographical features, very clearly explained using simple child friendly language with Irish examples. Some simple prompt questions for teachers to use such as how the feature was formed would also be useful. Background information for teachers would also be useful.
- A simple child friendly geological map (TCD have produces a very good rock pack for schools, perhaps this could tie in?)
- The PCSP had a seasonal scavenger hunt, which worked well and provided a focus and information on what to look for and when. This was a popular resource and provided a good starting point for schools.
- It would be very desirable for schools to be able to contribute to a heritage website by submitting their work, linking their own websites or uploading information.
- Lists of local history groups would be useful, could Heritage Officers provide this on a county by county basis? Teachers are not always from the area they teach in and the school can be overly dependent on the one teacher who may have local knowledge. Local experts are very welcome.
- Interviewing is a methodology the PCSP encourage, accounts by people of their lives in the past or interviews with characters from history could appears as video clips, possibly filmed at appropriate heritage sites (e.g Bunratty Castle, the Heritage Park in Ferrycarraig)
- Information on sites of natural interest that are protected in a schools local area
- Integrated approaches to the Science of History looking at the preservation of monuments, how acid rain can affect old buildings; the solstice at Newgrange demonstrates how light travels in straight lines, our ancestors understood this; How pulleys were used to build the pyramids. These science aspects are not always obvious and may need some explanation. Maybe a joint project with Discover Primary Science could promote this approach?
- The UCD folklore study of the 1930s should be available on the web, consideration could be given to doing this again, the children involved in the initial project could be interviewed now.

- Minimum set up time to use on line resources is crucial
- A combination of printable/interactive/downloadable aspects is desirable so no one is alienated. This can develop over time as usage patterns change
- Computers are not a novelty item but a teaching tool. ICT usage should enhance all other skills like literacy and numeracy
- On-going maintenance of the site will be important

Priorities

- Physical geography resources
- Local history information and how to access it
- Integrated SESE Project suggestions, generic approaches to local area covering flora and fauna, buildings and archaeological sites and geographical features. An example would be a project on bridges as they are common, identifiable features.
- Having access to artefacts (perhaps a bank of these could be held in Education Centres?)
- Age appropriate, delineated approaches to facilitate spiralling approaches to teaching about heritage
- A facility for schools to contribute to the website
- An incentive or heritage awards programme like the Green Schools or the Awards of Science Excellence with a heritage theme could be established to encourage schools

National Council for Technology in Education (NCTE)

The National Centre for Technology in Education (NCTE) was established under the auspices of the Department of Education and Science in 1998. As the Government's agency on the use of information and communications technology (ICT) in education it plays a central role in helping to maximise the benefits for learners and teachers in using ICT. At the time of its formation, the NCTE was charged with managing the implementation of Schools IT 2000. This role has now evolved with the core work areas of the NCTE today including:

- Providing advice and developing policy proposals for the Department of Education and Science (DES) on issues related to the development and use of ICT in the Irish education system
- Developing and maintaining an educational website portal - Scoilnet

Mike O'Byrne, Scoilnet, National Co-ordinator (by phone)

- Look at what is already there on the web and what is useful, new resources MUST be additional to existing resources.
- Go through what is available on the www.scoilnet.ie website and identify gaps
- Categorise teacher information by strand of curriculum
- Integration across the curriculum is important
- Content must be built to an IT standard that makes it sharable across operating systems. NCTE/Scoilnet can advise on this and would wish to be consulted in this regard.
- Opinions on what should be available and what teachers will use can vary

- Aim to provide good material in one place that is easily accessible
- Children can differentiate very well between resources that are educational or for entertainment.
- Use IT technology, make any web based resource interactive, not simply print material for download
- Phase development and implementation as IT in schools improves and use grows.

Examples of good websites would be: <http://www.sci-spy.ie/>, www.artist.ie , <http://www.greenwave.ie/>

Blackrock Education Centre

Blackrock Education Centre (BEC) - one of 21 such full-time Centres throughout the country - provides support for teachers and others involved in education in Dún Laoghaire/Rathdown County, part of South County Dublin and North County Wicklow. This region has approximately 250 schools, both Primary and Post Primary with over 5000 teachers. It is financed by the Department of Education and Science (DES) and by contract work undertaken by the Centre, frequently by way of joint publications. The Centre is managed by a committee elected annually at the Centre's AGM. Day-to-day management and administration are the responsibility of Director Séamus Ó Canainn and staff.

Included in the Curriculum Resources of the Centres website are a range of environmental project resources including all of the following:

- 'Make and Do' Environmental Activities: imaginative, activity-based approach to environmental education using everyday materials.
- School Garden Activities: what to do and how to do it for every month of the year.
- Something Fishy: explore water as a habitat and the life of Bradán, the salmon. Also deals with nutrition and provides an introduction to angling. Tá leagan iomlán Gaeilge ar fáil.
- Ringo: Recycling Project for Schools. Ringos are the plastic holders for can/bottle multipacks, known in the trade and Hi-cone rings. This project is suitable for fifth class in primary schools.
- Trails: explore and map a local environment. How to create a structured walk, focussing on points of interest. Topics may include Environmental Studies, History, Geography, Science, Mathematics, Technology and the Arts.

Seamus O'Canainn Director and John Brennan, Professional Development officer , Blackrock Education Centre(meeting).

- Blackrock Education Centre would be open to being a partner in developing a heritage resource on-line.
- Schools should be able to contribute to the website
- The focus should be on hands-on learning and active engagement with the environment and heritage, not just data gathering. The process is the important thing, not the product
- Consider what level of maintenance will be required and make sure the human resources and budget are available to continually maintain any web-based initiatives. Forums can be particularly resource intensive to maintain and support.

- The SHEER survey of Heritage and Environmental Educational resources, a full colour guide to sites and resources in Ireland compiled by BEC for ENFO and the Heritage Council could be considered for use.
- Across the Education Centre Network, it may be possible to set up groups of teachers with a Heritage Officer/specialist to tackle the initial phase of collating information, developing content and setting up web structures in the different areas of the project, i.e. assign a project / subject area to a particular Centre. From this initial development phase, the project can begin to unroll and make content available to schools nationwide and it can continue to be developed. Attention can be turned then to 'local issues' as they relate to the project. Essentially, the project should be viewed as a process in itself that can provide professional development opportunities for teachers through the development and testing of materials. What is needed to begin with is an operational template that could be adopted by Education Centres.

ICT Advisors

ICT advisors play a key role in supporting the use of ICT in schools. There is a network of 20 regionally based ICT advisors - one located in each of the full-time education centres.

As only three of the Advisors responded to the questionnaire e-mailed to them this may not reflect the view of the group and that should be borne in mind. The respondents had the following comments:

- In terms of usage old equipment and slow connections are still a problem.
- Childrens usage is more likely to be printing out information and images rather than interactive use.
- It would be most useful to provide details of Irish resources
- Available websites need to be categorised and mapped. Often the information is there but finding it is the problem.

Heritage Officers

County Heritage Officers are employed by Local Authorities in partnership with the Heritage Council under the auspices of the Heritage Officer Programme. The Programme has developed from an initial intake of three County Heritage Officers in 1999 to twenty five officers today. Heritage Officers manage the heritage function within a county in a strategic and co-ordinated manner. They adopt an integrated approach, which envelopes all aspects of heritage within the overall heritage service. They aim to promote enhanced levels of understanding, conservation and preservation by improving the status and perception of heritage in their local area. Heritage objectives are identified and prioritised in Local Heritage Plans that are formally adopted by Local Authorities.

The view of the Heritage Officers network was sought by an E-mail questionnaire. Responses were received from seven of the Heritage officers. Where they specified web-based resources that they provide these were added to the websites collated for the audit of on-line resources in section 2. Some resources specifically for schools have been developed and other information on local heritage made available on the web could be useful to schools.

Heritage in School Specialists

An e-mail was sent to the database of Heritage specialists from the Heritage in Schools Scheme provided by INTO. In all 15 specialists responded and some of these already have their own websites, some funded by the Heritage Council. One specialist has worked with an Education Centre to develop an on-line Archaeology resource. Another specialist is even planning some of the web-based resources that teachers have indicated they would like (an on-line identification key). Others would be open to participating in a pilot exercise to develop web based aspects of the Scheme or other aspects of a heritage council website for Primary schools (see appendix 4 for details). It is clear that there would be opportunities to collaborate to extend the success of the scheme through the web, although a small number said they do not use computers. Some specialists identified opportunities to link to or fund development of existing web-based resources rather than starting from scratch.

It was clear that Specialists would need to be paid for time and expenses if participating in a pilot phase or website content development.

KEY OUTCOMES OF STAKEHOLDER CONSULTATION

- There are a lot of resources already available on the web, but there is a lack of awareness of what is available, avoid duplication of what exists.
- Time spent on finding and accessing resources is an issue for teachers
- Materials must be curriculum relevant and explicitly linked to strand level
- Integrated approaches across all SESE subjects are desirable
- Relevant Irish heritage information is needed in particular relating to local geography and history
- Link to Specialists visits to schools and add value
- Schools should be able to contribute to a website, the work should focus on hands on active engagement with heritage, not just data gathering
- Content should be built to an ICT standard that makes it sharable (NCTE would like to be consulted in this regard. They can also advise on digital content)
- Phase development keeping track of advances in ICT use in schools and inviting teacher feedback
- Consider the human resource and budget implications of on-going maintenance when planning
- Blackrock Education Centre are open to working in partnership on development of on-line heritage resources and have a wide range of experience
- There may also be opportunities to work with Teachnet and the Digital Hub who already work with NCCA to identify and fill on-line resource gaps (see Teachnet input in section 6).
- PCSP would be happy to give comments on plans.

SECTION 5. TEACHERS USE OF AND ACCESS TO THE INTERNET

Introduction

The main part of this section relates to the NCTEs 2005 census of ICT infrastructure in Schools. There is a short piece from the postal questionnaire sent to teachers as part of the study.

COMMENTS BY RESPONDENTS TO TEACHER QUESTIONNAIRE

On-line resources were used for teaching SESE frequently by 27% of teachers and occasionally by 61% of respondents. Of those who never used on-line resources (12%) reasons given were no broadband connection until September 2006, time constraints, lack of computers or internet in classroom, lack of awareness of relevant sites or a tendency to use resources provided by the school instead.

About half of teachers access resources both at home and in school with 15% doing so at home only and 18% doing so in school only. About two thirds of pupils use the Internet in school for SESE work. About 60% use computers in the classroom and 18% do so in the school computer room, so some do both.

Among teachers consulted through focus groups and interviews issues raised relating to usage of the internet included the time it takes to sieve through the amount of resources available on-line. Relevant, age appropriate resource materials for the particular age groups within the Primary education sector are particularly difficult to access, as are Irish based sites with information specific to Ireland.

SUMMARY OF RESULTS OF THE ICT INFRASTRUCTURE IN SCHOOLS CENSUS BY THE NCTE IN RELATION TO PRIMARY SCHOOLS

The 2005 census was the fourth in a series that began in 1998. At the time that the survey was being conducted schools were availing of grants for IT from the Department of Education and Science for networking of computers in schools. The 2005 census reflects the situation in schools in May/June. 90% of primary schools responded to the census. Here are some key findings relating to primary schools:

ICT Equipment

- The pupil-computer ratio is 9.1
- About one third of computers in primary schools are more than six years old. Only about 21% of computers are less than two years old
- 44% of computers are in classrooms and 27% are in computer rooms
- 78% of schools have digital cameras, 83% have scanners, 2% have interactive whiteboard systems, 36% have data projectors.

Networking and web access

- 45% of computers are networked, 39% of schools have no network installed.
- 46% of computers have Internet access. This breaks down into 62% of computers in computer rooms having Internet access. 41% of those in general classrooms have Internet access.

- Half of small schools but only 15% of large schools have no network

ICT planning and Co-ordination

- About three quarters of schools have an ICT co-ordinator
- 89% of schools have an ICT plan. But only 49% update this plan regularly
- About 62% of schools with ICT Plans reported covering curricular use of digital content in their plan

Priorities

- Replacing old equipment is a high priority as is acquiring additional equipment and accessing technical support and maintenance
- Nearly 70% and 43% of schools respectively, indicated additional computers in classrooms and the computer room as a priority.
- Areas prioritised to a lesser degree include providing on-line content to staff and pupils
- One third of schools had facilitated ICT training for staff in the preceding two years, this was more common in large schools.

Internet, E-mail and On-line content

- One quarter of schools have websites, school profiles, students work and news and events are the most common types of content (ranging from 69-71% of schools). A further one third indicated that it would be a priority for development.
- Only about 30% reported having curricular materials on their website and only 8% having a teachers resources area.
- The average number of hours on-line per week was 5.8.
- About one third of schools provide teacher with e-mail accounts
- About 6% of schools purchased on-line content, half of this was reference content, one third subject specific and a further third was access to educational portals and databases.
- By comparison DVD and CD Rom based reference materials, and subject specific content was purchased by 74% and 80% of clients respectively.
- 18% of schools participated in on-line projects.

Additional funding for hard and software and upgrading of equipment was called for, often in the context of the rollout of Broadband. Technical support is needed and schools proposed that this be provided through Education Centres and that small schools be clustered for the purpose. Slow dial up speeds can cause frustration and hamper teachers during lessons. It is clear from the census that a lot of progress has been made but there is a long way to go in integrating ICT use across the curriculum.

THE SCHOOLS BROADBAND PROGRAMME

The Schools Broadband Programme will provide first and second level schools in the Republic of Ireland with broadband access and associated services (controlled Internet access, secure email, security services etc.) from 2005 until approximately December 2007.

As part of the Schools Broadband Programme a new broadband router will be installed in all schools that join the programme. These new broadband routers will be connected to the Schools Broadband Network, making

it available for use by the school. A Service Desk providing information, advice and support in relation to the Schools Broadband Network will also be provided under this programme.

SECTION 6. CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

- Huge potential exists to promote heritage education within the revised curriculum, in particular through integrated SESE projects at a local level that explore heritage. The success of the Heritage in Schools scheme demonstrates this. Web-based resources could be a useful addition, but much will depend on how this process is approached. To be worth the investment resources will not only need to be new (not a re-iteration of what is available), appealing to the target audience and highly relevant to the curriculum, but they will need to be used.
- There are already a lot of web-based resources available, but in many cases there is not a high level of awareness of the existence of these, nor high levels of usage. Teachers are extremely busy delivering a full and diverse curriculum, and have a range of non-internet based resources available to them including prescribed texts. Devoting a lot of time to looking for web-based resources is not a realistic option for most teachers. Any attempt at providing heritage education resources on-line needs to be based in an understanding of this context. Only well organised and accessible information will appeal to the target audience. Effective promotion of resources will be key to uptake.
- There is a perceived lack of information (particularly of a child friendly nature) specific to Ireland e.g. common species, geographical features, maps, photos and local history information. In particular this seems to relate to geography and history. Science would appear to be catered for to a greater extent, although in relation to the living things strand of the curriculum there are perceived gaps e.g. identification keys.
- The most useful resources will be explicitly linked to the curriculum down to strand level and will be delineated by pupil age/class, and will provide scope to cater for differing ability levels.
- There are varying levels of usage of IT in schools and varying types of access. Interactive web-based resources will work best in computer rooms where each child has access to a networked computer. Many schools are working toward this but in the interim, resources that can be printed or downloaded for use off-line still seem to have a role. Many schools have digital cameras, scanners and other equipment that could be used for heritage projects. Resource development should take account of this and facilitate uptake by different types of user. Well designed, educational, interactive elements are very appealing to children.
- Teachers would like access to artifacts, information on heritage sites to visit (the SHEER CD produced by the Heritage Council and ENFO could be used here) and experts to answer questions, the internet may have a role in this.
- Schools want opportunities to contribute to websites and share their work.

- It would be very useful to create opportunities for children to research their own heritage in a suitable safe on-line environment. Well thought out, child friendly, age appropriate, engaging resources that also develop other skills such as literacy will be most appealing.

RECOMMENDATIONS

Strategic considerations

- Consult with and involve teachers and pupils in development of any resource intended for their use, involve them in any pilot exercise to test materials in the classroom as their input will be invaluable.
- Recognise the expertise available through the Heritage specialists network and the potential for promoting a web-based resource the Heritage in Schools Scheme. Involve the Heritage Specialists in development of web-based resources to supplement, not replace, the hands on nature of their current contribution to heritage education through the Heritage in Schools scheme. Specialists can also contribute to the development of templates or 'how to' guides to learning about and experiencing local heritage as not only their heritage expertise but their experience of guiding schools in this process should be utilised.
- Work in consultation with other stakeholders: NCTE, Blackrock Education Centre, Teachnet and PCSP all expressed an interest in hearing more about possible initiatives and some had ideas as to there potential involvement (these are outlined in the section on consultation with stakeholders) The National Council for Curriculum and Assessment should also be contacted as part of this process. Engaging with these key stakeholders will not only bring expertise, but will encourage teacher buy-in and also reduce the likelihood of resources being a repeat of something that already exists.
- Build partnerships/collaborative ventures with other organisations engaging with schools in the area of SESE. For example, Forfas runs Discover Primary Science, for which over 2500 primary schools have registered. A 'science in history' initiative could dovetail with this existing successful initiative and promote a new heritage resource to the target audience. This could for example explore 'the science behind the building of Newgrange' or 'the effects of weather on monuments and old buildings'. The INTO are already a valuable partner of the Heritage Council and their contact with their members through channels such as the Intouch magazine could be important in promoting new initiatives.
- It may be useful to consider developing a programme to reward schools that demonstrate an interest in heritage through some form of Heritage Awards scheme. The Green Schools and Awards of Science Excellence demonstrate the popularity of this type of approach.
- Consider feasibility of working with the Heritage Officers, Education Centre Network, local heritage groups, libraries and museums to facilitate a county-based approach to provision of local information.

Developing a web-based resource

- Link to the key existing websites (see Section 2) that provide information specifically for primary schools to avoid repetition. A one stop shop or portal to heritage information would be useful, but the emphasis should be on quality and clarity, not quantity, of links.
- Providing guidance on how to research local history and geography e.g. where to get photos, maps or other documentary evidence will help schools to address local heritage for their own area. A lot of this is already available on Scoilnet in resources like 'my school history', 'reading census records'.
- Be explicit about curriculum relevance down to strand level and delineate by age or class group.
- Be clear about what is for teachers and what is for pupils.
- Work with the heritage specialists and teachers to develop robust templates for approaches to local projects across all three SESE subjects.
- Provide details of the Heritage specialists in the scheme on the website. If possible have facility to ask an expert a heritage question.
- Schools should be able to contribute to a website, the work should focus on show casing hands-on active engagement with heritage, not just data gathering
- Content should be built to an ICT standard that makes it sharable (NCTE would like to be consulted in this regard. They can also advise on digital content)
- Phase development, keeping track of advances in ICT use in schools and inviting teacher feedback
- Consider the human resource and budget implications of on-going maintenance when planning the resource

WEBSITE DEVELOPMENT POINTERS

Specifying an approach, learning from the experience of others

Following consultation with teachers and stakeholders, it was decided to hold a further brainstorming session to identify possible approaches to development of a web based resource by the Heritage Council. The Participants were:

John Hurley, the Digital Hub and Teachnet

Digital Hub is a community of people – artists, researchers, educators, technologists, entrepreneurs and consumers, all working together to create innovative and successful digital media products and services which

support their future. John Hurley works at the Digital Hub with 16 local schools, 11 of which are national schools, on projects using ICT through digital media, animation, pod casting and interactive whiteboard systems.

John is also project Manager of Teachnet. TeachNet Ireland is an initiative of St Patricks College Drumcondra, run in association with the Teachers Network New York. TeachNet Ireland is predominantly funded by the Citigroup Foundation, with additional funding from the National Centre for Technology in Education, Microsoft Ireland and The Ireland Funds.

TeachNet Ireland seeks to improve student learning by helping primary and post primary teachers to integrate web-based resources into their instructional practice. Through TeachNet, teachers have access to curriculum resources, curriculum and technical specialists, grants and a supportive network to further develop their skills. Teachers are trained on how to best disseminate technology integration into classroom teaching and to create interactive curricula for publication on www.teachnet.ie and www.teachnet.org websites. This enables teachers and students throughout Ireland and beyond to benefit from their innovative work. TeachNet Ireland publishes fifty such programs annually.

TeachNet works closely with the NCCA and other relevant support teams to define content gaps and to develop units to meet this need. TeachNet provides a framework for the design and development of quality online resources to support the various DES curriculum support programmes (e.g. Junior Science Support Service, PCSP), while the support programmes assist in the validation of teacher produced resources. TeachNet aims to provide content from teachers across all areas of the curriculum.

Sean Murphy, Xwerx

X-Werx were responsible for website development and design for Discover Primary Science. The resulting website, <http://www.primaryscience.ie/>, supports the Discover Primary Science project. This is a flagship project run by the Discover Science & Engineering (DSE) awareness programme. The programme aims to develop creativity in children, show them how important science is to our everyday lives and more importantly how much fun it can be. A new DPS website was established and piloted in 2005/2006. Teachers were sent e-mailed newsletters four times during the school year with links into the website. This website came up quite a lot in the consultation phase of this study.

Website development pointers

Based on all of the inputs received the following are some practical pointers for development of a website

- A heritage website should provide resources that a teacher can use in the classroom to do a project with pupils in their locality, integrated across all three SESE subject areas
- Some specialists could develop preparatory, supplementary or follow-up materials for schools they visit and perhaps for wider use. This should take place in consultation with a website development agency if the client does not have that capacity in house.

- In the first instance a small selection of Strand Units from across the SESE Curriculum should be selected such as Living Things, Local Studies, Environmental Awareness and Care and Human and Natural Environments.
- A set of Generic project approaches or templates could be devised. These could include basic information on common species, types of buildings, architectural features, building materials or investigating common landscape features such as a river.
- Heritage Specialists expertise could be coupled with teacher expertise (possibly some of the teachers involved in Teachnet or the Education Centre network)) to develop SESE project and lesson plans focusing on investigating in the locality. Themes or strands could be assigned to relevant experts.
- The ICT aspects can then be built in. There would be simple and clear instructions on how to do this. Resources could be a mixture of, for example, photo, video, audio, Powerpoint and some printable resources. For example video clips could include children interviewing older people in their area or characters from stories they have heard about the past, like a child prisoner from the last century. A heritage specialist could point out common architectural features on a building or point out distinguishing features of common species of tree or bird.
- A pilot project would fine-tune the materials and the results could be showcased on the website and inputs from schools could then be invited.
- The website could also provide:
 - A bank of images or data
 - Feedback mechanisms
 - Blogging for teachers
 - Access to Heritage experts to answer questions
 - Information on heritage sites that schools can visit
- The website could add value to visits and link to the network of specialists to promote the website
- The budget and human resources available to set up and maintain the site would need to be specified at the outset. Consideration should be given to translating the materials into Irish at this point.
- PCSP could advise on best practice in child protection policies in relation to the Internet.

APPENDICES

Appendix 1

CONSULTATION WITH PRIMARY SCHOOL TEACHERS

HERIAGE COUNCIL – FOCUS GROUP

Date: 13th November 2006

Venue: Teachers Centre, Drumcondra

Time: 3.30pm – 5.30pm

Facilitators: Sinead Begley & Fran McVeigh

RE: Heritage Council's development of effective web resources for use within the three subjects of Science, History and Geography.

Desired outcomes

- Outline teachers' access to and use of IT.
- Identified information and resource gaps
- Potential value assessed regarding use of existing materials and views on key new materials identified.
- Recommendations on what online heritage materials would be of most use to the primary education sector.

SESSION PLAN			
What (content)	How (process)	Who	Time (minutes)
Welcome & Purpose of Focus Group	Input re Objectives of research, integrated curriculum approach etc	Sinead	10mins
Introduction	Current Access, usage &links with HC (names & discussion in pairs) Feedback	Fran	15mins
Gaps	Information and resources – Brainstorm N/3	Fran	15mins
The Wish List	What would be valuable? Flip chart pages/stickers Collation & Feedback	Small groups	40mins
Recommendations	Priorities	Fran	10mins
Conclusions & Thanks	Evaluation Recognition of the	Fran & Sinead	10mins

	contributions		
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PARTICIPANTS

Focus Groups

1. Dublin Teachers Centre

Number of teachers: 5

2. Limerick Education Centre

Number of Teachers: 6

Interviews

1. Home Education Association

Tracey Culleton

Palatine

Carlow

Tel - 059 9143436

2. St Paul's School (Youth Encounter Project)

Christopher Cox

Main Street

Finglas Village

Dublin 11

Tel: 01 8343692

3. NDNSP

Jennifer Connolly and Evelyn Cushen

Glasnevin

Dublin 9

Appendix 3

Heritage Specialists utilised by focus group participants

Heritage specialists' visits

Rosaleen Dwyer – Mini beasts, Jam making

Paddy Madden – Gardens; worms, animal habitats

Eric Dempsey – Birds

Michael Moylan – Stone Age; 1916

Jeff Hunt – wetlands

Simon O'Dowd – Music

Appendix 4

Other websites mentioned by one teacher	Websites mentioned as visited by pupils only
Factmonster Dke-encyc.com E explore Usborne linked sites Heritage.ie Curriculumonline.gov.uk Enchantedlearning Ellisland.com Schooldiscovery.com Awesomestories.com Limerickcity.ie National museum British Museum British Library Met Eireann Genealogy website Coillte.ie	Planet-science.com Kidscom.com Wikipedia Kidshealth.org Brainpops.com Smmorg/heart Dublinzoo.ie Fotaisland.ie Edusscapes.ie Siteforteachers.com

Appendix 5

Specialists that responded to E-mail questionnaire or expressed an interest in a pilot project

Mary Sleeman

Faith Wilson

Sarah Varian

Kerry Earth Education Project

Mary Flynn

Catherine Daly

Margaret Hedge

Padraig Whooley

Brian Porter

Conor Kelleher

Dale Threadwell

Zachary Silke

Caoilte Breatnach

Geraldine O'Sullivan

Brian Hoban

Tom Varley

Appendix 6

Local Authority websites

Athlone Town Council <http://www.athlone.ie/udc>:
Carlow County Council <http://www.carlow.ie>:
Cavan County Council <http://www.cavancoco.ie>:
Cavan Town Council <http://www.cavanudc.ie>:
Clare County Council <http://www.clare.ie>:
Cork City Council <http://www.corkcity.ie>:
Cork County Council <http://www.corkcoco.ie>:
Donegal County Council <http://www.donegal.ie>:
Dun Laoghaire Rathdown <http://www.dlrccoco.ie>:
Dublin City Council <http://www.dublincity.ie>:
Dungarvan Town Council <http://www.dungarvan.com/udc/>:
Fingal County Council <http://www.fingalcoco.ie>:
Fingal County Enterprise Board <http://www.fingalceb.ie>:
Galway County Council <http://www.galway.ie>:
Galway City Council <http://www.galwaycity.ie>:
Kerry County Council <http://www.kerrycoco.ie>:
Kildare County Council <http://www.kildare.ie/county council>:
Kilkenny County Council <http://www.kilkennycoco.ie>:
Laois County Council <http://www.laois.ie>:
Leitrim County Council <http://www.leitrimcoco.ie>:
Limerick County Council <http://www.limerickcoco.ie>:
Limerick City Council <http://www.limerickcity.ie>:
Longford County Council <http://www.longfordcoco.ie>:
Louth County Council <http://www.louthcoco.ie>:
Mallow Town Council <http://www.mallow.ie>:
Mayo County Council <http://www.mayococo.ie>:
Meath County Council <http://www.meath.ie>:
Monaghan County Council <http://www.monaghan.ie>:
Offaly County Council <http://www.offaly.ie>:
Roscommon County Council <http://www.roscommon.ie>:
Sligo County Council <http://www.sligococo.ie>:
South Dublin County Council <http://www.sdcc.ie>:
Tipperary (NR) County Council <http://www.tipperarynorth.ie>:
Tipperary (SR) County Council <http://www.southtippcoco.ie>:
Waterford County Council <http://www.waterfordcoco.ie>:
Waterford City Council <http://www.waterfordcity.ie>:
Westmeath County Council <http://www.westmeathcoco.ie>:
Wexford County Council <http://www.wexford.ie>:
Wicklow County Council <http://www.wicklow.ie>: