

APPENDICES



APPENDIX I

LANDMAP Results

KEY

Outstanding: areas of international and national importance

High: areas or sites of regional/ county importance

FEATURES

V Visual or sensory

VE Vegetation and habitats

GE Geology

GM Geomorphology

H Historic

C Cultural associations, including artistic associations and folklore

a) Vegetation and Habitats

AREA	TYPE	STATUS	
		OUTSTANDING	HIGH
Edem marshland (SSSI)	VE	✓	
Western slope of Gam Boduan	VE		✓
Gwylwyr Carreglefaen	VE		✓
Tyddyn Uchaf	VE		✓
Pont Rhydau, Llithfaen	VE		✓
Mynydd Camguwch	VE		✓
Grasslands Yr Eifl to A499	VE		✓
Yr Eifl (SSSI)	VE	✓	
Gallt y Bwlch (SSSI)	VE	✓	
Tan y Bwlch/Moel Gwym	VE		✓
Above Nant Gwyrtheym	VE		✓
Carreg y Llam (SSSI)	VE		✓
Coed Elemion, Trefor	VE	✓	
Cappas Lwyd, Trefor	VE		✓
Cwmgwared Tree Plantation	VE	✓	
Tan y Bwlch, Capel Uchaf	VE	✓	
Aberdaron shores	VE	✓	
Porth Meudwy	VE	✓	
Gwylan Islands, Aberdaron	VE	✓	
Mynydd Ystum, Aberdaron	VE		✓
Porth Ysgo, Aberdaron	VE		✓
Mynydd Penarfynydd	VE	✓	
Mynydd Rhiw grasslands	VE		✓
Soch River valley	VE		✓
Nanhoron Woods	VE		✓
Rhos Botwnnog	VE		✓
Rhos Ddu	VE	✓	
Edem marshland	VE		✓
Gam Fadrun	VE		✓
Soch River floodplain	VE		✓
Cliffs and boulder clay at Porth Neigwl	VE		✓
Porth Neigwl sand dunes	VE		✓
Llyferin marshland	VE	✓	
Penrhyn Du and Porth Bach	VE		✓
Porth Ceiriad (SSSI)	VE	✓	
Tywyn y Fach dunes	VE		✓
Abersoch Golf Club grasslands	VE	✓	
Mynydd Tir y Cwmwd	VE	✓	
Ty'n Towyn Quarry	VE		✓
St Tudwal's Islands	VE		✓
Penhyddgan wetlands	VE		✓
Gam Fadrun grasslands	VE		✓
Gam Bach	VE		✓

Source: Gwynedd Landscape Strategy, 1999.

b) Historical

AREA	TYPE	STATUS	
		OUTSTANDING	HIGH
Edem coastal plateau	H	✓	
Mynydd Nefyn	H		✓
Tre'r Ceiri uplands	H	✓	
Llithfaen	H		✓
Bwlch Mawr and Gym Goch	H	✓	
Coastal quarries and Trefor	H	✓	
Clynnog coastal area	H		✓
Uwchmynydd	H	✓	
The centre of Uwchmynydd	H		✓
Anelog	H		✓
Mynydd Rhiw	H	✓	
Garn Fadrun	H	✓	
Llangian / Llanengan	H		✓
Llanbedrog coastal plain	H		✓
Upland interface, east of Garn Gadryn	H		✓
Nanhoron	H	✓	
Pen Llŷn	H	✓	
Bardsey Island	H	✓	

Source: Gwynedd Landscape Strategy, 1999

c) Culture

AREA	TYPE	STATUS	
		OUTSTANDING	HIGH
Pilgrim route Clynnog to Bardsey Island	C		✓
Trefor	C		✓
Nant Gwrtheyrn	C		✓
Pen Llŷn	C	✓	
Clynnog church to pilgrim route	C		✓

Source: Gwynedd Landscape Strategy, 1999

APPENDIX 2

Llŷn Wells

Wells outside the AONB

NAME OF WELL	LOCATION	NAME OF WELL	LOCATION
Badrig	Sarn Mellteym	Fedwnant	Pwllheli
Cawrdaf*	Abererch	Felin Fach*	Pwllheli
Cadfarch	Abererch	Gwynedd	Rhos-fawr
Cybi Bach	Nefyn	Odo	Rhoshirwaun
Dudwen	Llandudwen	Pant yr Esgob	Bodferin
Fair	Bryncroes	Trefgraig Bach	Bodferin
Fair*	Nefyn	Tyddyn Ffynnon	Llwyndyrys

Source: A Study into the Condition of Wells within the Pen Llŷn AONB (2005)

Wells that could not be found

WELL	LOCATION
Ffynnon Fedwnant	Pwllheli
Ffynnon Cefnydd	Pistyll
Ffynnon Odo	Llaniestyn
Ffynnon Odo	Uwchmynydd
Ffynnon Tudwal	Llanengan
Ffynnon y Filiast	Llaniestyn
Pistyll y Garn	Llaniestyn
Ffynnon Cae Dŵr	Bardsey Island
Ffynnon Tan Radell	Bardsey Island
Ffynnon Ddefaid	Bardsey Island
Ffynnon Owen Rolant neu Owen Robert	Bardsey Island

Source: A Study into the Condition of Wells within the Pen Llŷn AONB (2005)

APPENDIX 3

Details of agricultural activity within the AONB

Cattle, calves and pigs in wards in the AONB in 1993 a 2000

SMALL AREAS	DAIRY CATTLE		BEEF CATTLE		SUCKLERS & CALVES		PIGS	
	1993	2000	1993	2000	1993	2000	1993	2000
Aberdaron	474	607	598	881	4,157	4,380	169	18
Tudweiliog	486	373	700	886	4,241	4,380	75	0
Botwnnog	811	955	805	639	5,436	4,249	0	0
Llanbedrog, Abersoch, Llanengan	200	-	415	710	2,823	3,352	0	0
Efailnewydd, Buan, Pwllheli N & Llannor	1,141	1,145	1,050	1,181	7,940	7,137	895	0
Clynnog, Llanaelhaearn, Pistyll & Nefyn	652	623	1,938	1,762	7,280	6,767	38	0
Total	3,764	3,703	5,506	6,059	31,877	30,265	1,177	18

Source: GI Services Branch Aberystwyth, 2003

Sheep and lamb totals in AONB wards in 1993 and in 2000

SMALL AREAS	BREEDING FLOCK		TOTALS - SHEEP AND LAMB	
	1993	2000	1993	2000
Aberdaron	19,603	18,145	37,332	33,562
Tudweiliog	12,783	15,874	25,130	30,771
Botwnnog	14,020	12,749	25,756	23,323
Llanbedrog, Abersoch, Llanengan	15,349	13,349	31,029	26,573
Efailnewydd, Buan, Pwllheli N & Llannor	21,437	20,839	44,757	42,443
Clynnog, Llanaelhaearn, Pistyll & Nefyn	35,063	25,088	69,653	52,189
Total	118,255	106,044	233,657	208,861

Source: GI Services Branch Aberystwyth, 2003

Crops (hectares)

SMALL AREAS	TOTAL - CROPS AND FALLOW LAND		CROPS		TOTAL - MARKET GARDENING	
	1993	2000	1993	2000	1993	2000
Aberdaron	189	183	186	127	0	0
Tudweiliog	213	175	198	164	0	0
Botwnnog	347	199	313	146	0	0
Llanbedrog, Abersoch, Llanengan	229	182	187	148	0	0
Efailnewydd, Buan, Pwllheli N & Llannor	340	245	253	183	0	0
Clynnog, Llanaelhaearn, Pistyll & Nefyn	186	146	165	78	0	0
Total	1,504	1,130	1,302	846	0	0

Source: GI Services Branch Aberystwyth, 2003

APPENDIX 4

Economic, social and cultural facts

Llyn AONB – Key facts

Administration	
Area of AONB	15,000 ha
Local Authority	Gwynedd Council
Community Councils within or partly within the AONB	10
Land Ownership	
The National Trust	14 sites 964.1 ha
Nature Conservation	
Sites of Special Scientific Interest (SSSIs)	13 sites 2081.54ha
National Nature Reserves (NNRs)	1 sites 206.8ha
International Sites:	
Candidates for Special Areas of Conservation(cSAC)	2 sites 1066.9ha
Special Protection Areas (SPA)	1 sites 373.55ha
RAMSAR Sites	0
Land Under ESA or Tir Gofal Agreement	
Tir Gofal	996.3ha
ESA [Environmentally Sensitive Areas]	9518.93ha
Built Heritage and Environment	
Number / Area	
Scheduled Ancient Monuments (SAM)	74
Listed Buildings : Grade I	5
Grade II*	7
Grade II	223
Conservation Areas	9
Parks and Historical Gardens	1
Historical Landscapes	1
Leisure and Access	
Number / Area	
Public Footpaths	720 / 278.85km
Bridle Paths	22 / 10.84km
Cycle Paths	No specific paths
Roads used as public paths	25 / 12.45km
By-ways	18 / 6.10km
Common Land	30 sites
Visitors	
Number	
Total Visitors	436,746
Day Visitors	164,010
Staying Visitors:	
Short Stay (1-3 days)	71,040
Long Stay	201,696

Economically active – Communities within the AONB

	AGE 16-74	ECONOMICALLY ACTIVE (%)	ECONOMICALLY INACTIVE (%)
Aberdaron	731	59.37	40.63
Botwnnog	702	58.55	41.45
Buan	338	65.09	34.91
Clynnog	640	57.03	42.97
Llanaelhaearn	708	54.66	45.34
Llanbedrog	661	48.71	51.29
Llanengan	1471	58.67	41.33
Nefyn	1817	57.51	42.49
Pistyll	350	55.71	44.29
Tudweiliog	599	58.43	41.57

Source: 2001 Census

Second homes and holiday homes

	WITH RESIDENTS	%	EMPTY	%	SECOND/ HOLIDAY HOME	%
Aberdaron	420	75.40	28	5.03	109	19.57
Botwnnog	393	90.34	21	4.83	21	4.83
Buan	185	84.86	19	8.72	14	6.42
Clynnog	369	77.04	53	11.06	57	11.90
Llanaelhaearn	446	86.10	37	7.14	35	6.76
Llanbedrog	389	69.59	24	4.29	146	26.12
Llanengan	916	57.97	79	5.00	585	37.03
Nefyn	1124	77.95	90	6.24	228	15.81
Pistyll	203	73.29	30	10.83	44	15.88
Tudweiliog	354	81.19	48	11.01	34	7.80

Source: 2001 Census

Welsh language in the AONB

	PEOPLE AGED 3 AND OVER	% ABLE TO SPEAK, READ AND WRITE	% ABLE TO SPEAK AND READ BUT NOT WRITE	% ABLE TO SPEAK BUT NOT READ OR WRITE	% ABLE TO UNDERSTAND ORAL WELSH	% WITH ANOTHER COMBINATION OF SKILLS	% WITH NO KNOWLEDGE OF WELSH
Aberdaron	990	67.98	1.41	5.66	4.85	1.62	18.48
Botwnnog	926	73.22	0.86	3.02	3.35	1.19	18.36
Buan	452	65.93	1.99	5.53	6.42	1.11	19.03
Clynnog	824	62.01	1.58	3.88	6.31	1.82	24.39
Llanaelhaearn	1036	72.10	2.51	4.92	3.38	1.54	15.54
Llanbedrog	999	46.75	1.90	3.50	3.60	0.80	43.44
Llanengan	1960	53.01	1.63	3.98	5.51	1.17	34.69
Nefyn	2552	71.79	1.61	4.39	3.45	0.82	17.95
Pistyll	475	68.21	2.32	2.95	3.79	1.47	21.26
Tudweiliog	789	70.60	0.38	3.17	3.17	0.89	21.80

Source: 2001 Census

APPENDIX 5

Llyn AONB's special qualities – activities and pressures

Environmental resources

The activity / pressure

ACTIVITY/ PRESSURE	EFFECT	TYPE OF EFFECT	LOCATION WITHIN THE AONB	CHANGES THAT WOULD BENEFIT THE AONB
Quarrying.	Re-opening quarries would change the form of the landscape, creating noise and dust.	Negative	Tyddyn Hywel, Nant Gwrtheym, Carreg y Llam, Gwylwyr and Tan y Mynydd quarries.	Ensure that former quarries cannot be re-opened without planning permission which would include an assessment of environmental effects.
New static caravan sites and extensions.	Structures are visible on the landscape affecting the appearance and natural scenery.	Negative	Mainly southern coastline apart from Tudweiliog, Nefyn and Pistyll areas.	Limit new permissions for caravans, raise awareness, take enforcement action regarding landscaping and too many units.
New touring caravan and camping sites and extensions.	Structures are visible on the landscape affecting the appearance and natural scenery.	Negative	Mainly southern coastline, also including Tudweiliog and Gyrn Goch.	Limit new permissions for caravans, raise awareness, take enforcement action regarding landscaping and too many units
New agricultural sheds and structures.	Visible on landscape and affecting the undeveloped nature of the area.	Negative	Throughout the area.	Appropriate siting, design, colouring and landscaping.
Land drainage and cultivation, re-seeding.	Creates a more uniform landscape.	Negative	Wetlands and hillsides.	Restrict these type of developments and increase membership of agri-environment schemes.
Demolishing field boundaries and widening gates.	Creates a more uniform landscape.	Negative	Most areas, however some have been well maintained e.g.Uwchmynydd.	Seek specialist advice, restrict these type of developments, support measure to sustain and repair boundaries, record field names.

Building new houses in the countryside and on village outskirts.	Impairs open nature of rural areas.	Negative	Houses are permitted here and there.	Implement national and local planning policies. Adopt Guidelines on building and design.
New housing, improvements and extensions, unsuitable in terms of size, scale and design.	Urban designs, excessive in terms of scale and size. Impairs character of the landscape or the townscape.	Negative	Throughout area.	Implement national planning policies. Adopt Guidelines on building and design.
New roads and improvements.	Creates urban environment and they are prominent in the landscape.	Negative	2 main new roadways- Plas yn Rhiw on the A499. A number of small improvements being done.	Limit new roads and significant improvements, ensure appropriate planning and design.
Additional signage and new lights.	Creates urban environment in the countryside and rural villages.	Negative	Throughout area.	Limit signs, lights and road markings, assess need for signs and lights, use enforcement to eradicate unlawful signs, appropriate siting and design of new signs.
Telegraph poles, masts and cables.	Prominent and unnatural feature that impairs the scenery and creates negative visual affect.	Negative	Poles have been present for a long time by now however new masts are erected regularly. Nearby masts also have an effect.	Undergrounding phone and electricity cables, landscaping or disguise existing phone masts.
Felling conifer trees.	Not native to the area however, by now, are a part of the landscape resulting in bare and exposed areas when felled.	Negative	The main conifer plantations.	Effective management of conifer plantations, gradual introduction of broadleaved trees.
Failing to maintain and manage sites and beauty spots.	Shabby sites in the countryside and in villages impairing scenery and character of area.	Negative	Some areas in the countryside and in the villages.	Public and private bodies to programme effective and adequate maintenance work, raise awareness and provide guidance on the care and maintenance of land.
Fly tipping.	Negative visual impact on the landscape and creates pollution.	Negative	Some hidden spots by roadsides in the countryside and by sea cliffs.	Raise awareness and improve understanding, enforcement.
Rubbish and dog foul.	Creates negative visual impact and health risks.	Negative	View points, paths and beaches.	Raise awareness and improve understanding, enforcement and control on dog access.
Trimming road verges.	Flailing can damage trees and plants, there is often inadequate clearing up or none.	Negative	The area's road verges.	Review existing guidelines and arrangements, research best practice and new machines.
Natural erosion.	Loss of land and land, paths and property at risk.	Negative	Porth Neigwl and a number of areas on the north coast.	Review situation, consider options.
Maintain and restore vegetation / habitats and historical features.	Reintroduce traditional habitats and re-establish traditional field boundaries and other features.	Positive	Much of this already underway in Llŷn – through high membership of ESA and Tir Gofal etc.	Raise awareness of the benefits of agri-environment schemes.
Traffic and transportation.	Creates noise and pollution.	Negative	Pwllheli, Nefyn and Abersoch mainly and the main roads to the area – A499 and A497.	Raise awareness and promote more sustainable means of travelling and traffic management.
Sewage output into the sea.	Creates pollution and effects water quality.	Negative	Some areas along the coast.	New treatment plants to cease the practice of disposing raw sewage into the sea.
Artificial fertilizers, weedkillers and pesticides.	Effects water quality and creates pollution if overused. They can also effect wildlife.	Negative	Most agricultural holdings in the area.	Reasonable use of fertilizer and chemicals. Raise awareness of more sustainable farming methods.
Acid rain.	Pollution effects from other parts of the UK and Europe.	Negative	Affects rivers and lakes.	Raise awareness, research.
Noisy sports such as shooting and motorbikes etc.	Creates noise which affects the area's tranquil character.	Negative	Sites in the countryside, heathlands and the seaside.	Carefully manage noisy sports in the AONB through planning policies etc.
Military aircraft practice flight paths.	Low flying – creates noise and disturbance.	Negative	This low flying takes place over much of the area.	Decrease the frequency of low flying over the area.

Wildlife

Land drainage and cultivation.	Loss of natural habitats e.g. wetlands, heathlands.	Negative	Wetlands and hillsides.	Raise awareness of more sustainable farming methods.
Remove hedgerows, 'cloddiau' and stone walling.	These boundaries are important habitats, some of which are centuries old.	Negative	Throughout area, but has slowed down by now.	Raise awareness of more sustainable farming methods.
Single stock farming.	A tendency to concentrate on one type of stock restricts habitat variety.	Negative	Throughout area.	Ventures to assist traditional mixed farming, organic farming.
Over and under-grazing.	Grazing is important for proper management of natural habitats and to avoid invasive species.	Negative	Parts of the area.	Promote continued grazing of key habitats and manage over-grazing.
Reduction in crop growing.	Smaller area and variety of crops – restricts habitats especially for bird species.	Negative	Throughout area.	Ventures to assist traditional mixed farming, organic farming and new crops.
Diseases such as sudden oak death.	Affects quality and number of broadleaved trees.	Negative	The disease is scarce in the area.	Raise awareness and provide advice.
Invasive species such as Japanese Knotweed, Rhododendron, fern and gorse.	Intrusive species which spread and affect vegetation and native habitats.	Negative	Roadside land, forests, heathlands and highland.	Raise awareness, promote management and good practice and eradication projects.
Leisure activities i.e. walking, horse riding, motor bikes etc.	Affects habitats and species.	Negative	Sand dunes near Abersoch and heathlands mainly.	Raise awareness, promote management.
Agri-environment schemes.	A means of maintaining and improving habitats for a variety of species.	Positive	Much of this has already occurred in Llŷn – high ESA membership.	Ensure continuation of work carried out through new schemes and more sustainable farming methods.
Organic farming.	Wildlife benefits from absence of artificial fertilizer, pesticides and weedkillers.	Positive	Low Organic Farm Scheme membership in Llŷn.	Raise awareness of the opportunities offered by the Organic Farming Scheme.
Lobster, salmon and sea trout fishing.	Important species under threat of over-fishing.	Negative	Relatively heavy fishing in some areas – a detailed assessment of situation is needed.	Ascertain the true facts of the matter, control over-fishing of some species.

The historical environment

Failing to maintain and preserve archaeological remains, field boundaries, industrial remains and buildings.	All these historical features are under threat. Dilapidated building structures losing value.	Negative	Throughout area.	Raise awareness of grants available and provide guidance on maintenance of historic buildings and structures. Research condition and implement improvement schemes.
Developments effecting remains, buildings or structures and historical features.	Remains, buildings, structures and features are lost or damaged.	Negative	Throughout area.	Implement planning control and consult with bodies such as Gwynedd Archaeological Trust.
Inappropriate maintenance.	Historical buildings and features damaged.	Negative	Throughout area.	Raise awareness and provide information.
Unsuitable extensions and modifications.	Affect character and look of individual buildings or conservation area.	Negative	Throughout area.	Raise awareness and provide information.
Visitor pressure.	Mainly eroding archaeological remains.	Negative	Tre'r Ceiri fortress especially.	Raise awareness and provide information.

Culture and community

High house prices.	Local residents find it hard to compete in the market.	Negative	Throughout area however problem is worse in some southern areas.	Measures to assist local people to compete in the housing market, affordable housing available to buy and/or let.
Out migration of local young people.	Affects population structure, loss of native people who are aware of the language and culture.	Negative	Throughout area.	A combination of economic opportunities and good facilities needed, and opportunities to acquire homes.
Older people and families migrating to the area.	Affects population structure, increase in people from outside the area who are not familiar with the language or culture.	Negative	Throughout area.	Ventures to introduce incomers to the area's history and culture and promote Welsh language learning.
Farm amalgamation.	Loss of traditional units and less families able to make a livelihood thus affecting the economy.	Negative	Throughout area.	Raise awareness and encourage owners to sell farms as units.
A reduction in services and amenities.	Less services and amenities locally for the community, causes problems and increases the need to travel.	Negative	Throughout area, especially villages and westerly areas of the peninsula.	Commitment and support to the continuation of services and assistance to re-establish services.
Public transport – weak provisions.	Restricts people without cars, doesn't provide alternative means of travelling for residents and visitors.	Negative	Weak provisions in some rural westerly areas of the peninsula.	Raise awareness of the service and research methods of improvement.

Access and enjoyment

Lack of maintenance work.	Rights of way closed due to lack of maintenance work.	Negative	Exists throughout area.	Raise awareness and contact owners and land managers.
Conflict between users i.e. paths and beaches.	Dangers from conflicts on beaches and rights of way.	Negative	The busiest beaches are Abersoch, Machroes, Aberdaron, Porthdinllaen, Morfa Nefyn, Nefyn and Trefor.	Clearly display intended path users, assess parking arrangements, effective beach management.
Green Coast Scheme.	Improvements to facilities, access and signing beaches, improve management for visitors and conservation.	Positive	Trefor, Abersoch, Machroes, Porth Neigwl, Porthor and Aberdaron.	Support the scheme, promote similar schemes.

The economy

Fishing.	Continuous traditional activity.	Positive	Llanbedrog, Abersoch, Aberdaron, Porthdinllaen, Trefor.	Promote fishing on a sustainable level and fishing as a leisure pursuit.
Agriculture.	Continuous traditional activity – with changes.	Positive	Throughout area.	Suitable diversification schemes to sustain farms and families. More sustainable methods of farming, agri-environment and organic schemes.
Forestry.	Continuing to make a small contribution to the economy.	Positive	Conifer plantations.	Additional emphasis on establishing indigenous woodlands and effective management of conifer plantations.
Quarrying.	Traditional activity by now on a small scale.	Positive	Limited activity for local market.	Continuance of existing quarries to meet local need.
Tourism.	Contributes extensively to the economy and creates employment.	Positive	Throughout area.	Research the area's capacity to deal with the industry. Promote sustainable ventures (environmental and social).