Theme Site No.	Site Name	County	Sheet No. 6 inch	Sheet No. 1:50,000	Easting	Northing	Principal characteristics Critical feature(s) key words	Townland(s)/district	Grid Ref.	Nominated by or ex-ASI site?	Summary description	definite NHA	NHA?	Definite CGS	Key references	IGH Theme - Primary	IGH Theme - Secondary	IGH Theme- Tertiary	pNHA Sitecode	SAC Sitecode	SPA Sitecode
IGH 1	**Karst**																				
IGH1-50	Portraine Shore	Dublin - Fingal	8, 12	43, 50	326000	250200	Ordovician palaeokarst	Portraine Demense, Quay	O 260 502	Dublin #18	Ordovician palaeokarst (karstic doline in the cliffs infilled with younger sediment) related to sea-level fall in the Hirnantian. (Also Early Pleistocene (?) relict caves and sediments).	IGH1-50 IGH2-15				IGH1 Karst	IGH2 Precambrian - Devonian Palaeontology	IGH4 Cambrian-Silurian	Portraine Shore 1215; adjacent Rogerstown Estuary 208; adjacent Malahide Estuary 205;	adjacent Malahide Estuary 205;	
IGH 2	**Precambrian to Devonian Palaeontology**																				
IGH2-13	Lambay Island	Dublin - Fingal	9	43	332400	250200	Fossiliferous limestones (Kiln Point) and shales (Heath Hill)	Lambay Island, Portraine	O 324 502	Dublin #6	Ordovician succession dated by graptolites, shelly faunas and corals (Ashgill).	IGH2-13				IGH2 Precambrian - Devonian Palaeontology			Lambay Island 204	Lambay Island 204	Lambay Island SPA 4069
IGH2-15	Portraine Shore	Dublin - Fingal	8,12	43, 50	325500	251400	Ordovician shelly faunas in reef limestones	Portraine Demense, Quay	O 255 514	Dublin #18	Caradoc and Cautleyan shelly faunas in Portrane Limestone Fmn	IGH1-50 IGH2-15				IGH1 Karst	IGH2 Precambrian - Devonian Palaeontology	IGH4 Cambrian-Silurian	Portraine Shore 1215; adjacent Rogerstown Estuary 208; adjacent Malahide Estuary 205;	adjacent Malahide Estuary 205;	
IGH2-29	Fancourt Shore	Dublin - Fingal	5	43	321700	262750	Most complete Irish Silurian sequence (Llandovery - Wenlock) dated by its graptolite fossils	Kilsough North; Balbriggan	O 2170 6275		Moffat shale sequence (Silurian slate, greywacke sandstone), volcanics and turbidites with well sampled graptolitic data. (North limb of syncline only)	IGH2-29			Rickards, R.B., Burns, V. and Archer, J. 1973. The Silurian sequence at Balbriggan, Co. Dublin. Proceedings of the Royal Irish Academy B73, 303-316.	IGH2 Precambrian - Devonian Palaeontology	IGH4 Cambrian-Silurian				
IGH 3	**Carboniferous to Pliocene Palaeontology**																				
IGH3-20	Curkeen Hill Quarry	Dublin - Fingal	5D	43	325800	257800	Lower Carboniferous mudbank limestone fossils	Dellabrown, Ballykea	O 255 585	Dublin #13	Disused quarry exposing Late Tournaisian-Lower Viséan carbonate mudbank facies with diverse fauna. Quarry mostly backfilled/landfill site but one face left by negotiation. Of some historical interest.		NHA?		Marchant, T.R. (1978) The stratigraphy and micropalaeontology of the Lower Carboniferous (Courceyan-Arundian) of the Dublin Basin, Ireland. Unpubl. Ph.D. Thesis, University of Dublin. Matley, C.A. & Vaughan, A. (1906) The Carboniferous rocks at Rush, (County of Dublin). Quarterly Journal of the Geological Society London, 62, 275-323.	IGH3 Carboniferous - Pliocene Palaeontology	IGH8 Lower Carboniferous				
IGH3-21	Feltrim Quarry	Dublin - Fingal	12C, 15A	50	320300	244400	Waulsortian mudmound complex with diverse fauna	Rahulk, Feltrim	O 19 45	Dublin #14; Feltrim Hill pNHA	Large working quarry (active since 18thC) within Waulsortian mudmound complex with diverse macro- and microfauna; type locality for some fossil species.		NHA?		Hahn, G. & Brauckmann, C. (1973) Lower Viséan trilobites from Feltrim, Ireland. Palaeontology, 16, 391-397.	IGH3 Carboniferous - Pliocene Palaeontology	IGH8 Lower Carboniferous		Feltrim Hill 1208		
IGH3-22	Malahide Coast	Dublin - Fingal	12, 15	50	324830	245030	Fossiliferous Lower Carboniferous limestones	Robswalls and Carrickhill Tds, Malahide district	O 24 46	Dublin #9; pNHA and SAC (Malahide Estuary - 205)	The Portmarnock to Malahide coast is made up of foreshore exposures showing the only continuous section through the fossiliferous Lower Carboniferous rocks in the Dublin basin		NHA?		Marchant, T.R. (1978) The stratigraphy and micropalaeontology of the Lower Carboniferous (Courceyan –Arundian) of the Dublin Basin, Ireland. Unpubl. Ph.D. Thesis, University of Dublin. Nolan, S.C. (1986) The Carboniferous Geology of the Dublin Area. Unpubl. Ph.D. Thesis, University of Dublin. Smyth, L.B. (1920) The Carboniferous coast-section at Malahide, Co. Dublin. Scientific Proceedings of the Royal Dublin Society. 16, 9-25.	IGH3 Carboniferous - Pliocene Palaeontology	IGH8 Lower Carboniferous		Malahide Estuary 205	Malahide Estuary 205	
IGH3-23	Skerries to Rush	Dublin - Fingal	5, 8	43	326700 to 326600	258600 to 253700	Coastal section Lower Carboniferous rocks showing sedimentary, tectonic structures and important fauna.	Rush, Loughshinny, Skerries (numerous)	O 272 542	Dublin #3	The shoreline along the Rush-Loughshinny-Skerries area consists of foreshore and cliff sections exposing a unique series through Lower Carboniferous rocks. It is also the type locality for a goniatite species.		NHA?		Mamet, B. (1969) Microfaunal zonation of the Lower Carboniferous Rush Slates and Conglomerate (Eire). Scientific Proceeding of the Royal Dublin Society 3, 237-245.	IGH3 Carboniferous - Pliocene Palaeontology	IGH8 Lower Carboniferous		Loughshinny Coast 2000; adjacent Rogerstown Estuary 208	adjacent Rogerstown Estuary 208	
IGH 4	**IGH4 Cambrian - Silurian**																				
IGH4	Ardgillan House boulder	Dublin - Fingal	5A	43	321984	261143	Ordovician pillow lavas	Ardgillan Demesne, Kilmainham			Excellent Ordovician pillow lavas, showing concentric weathering pattern, displayed in large boulder on access path to Ardgillan House from car park.			CGS		IGH4 Cambrian - Silurian					
IGH4	Ireland's Eye	Dublin - Fingal	15, 16	50	329000	241000	Cambrian (Bray Group) greywacke, sandstone and quartzite	Ireland's Eye		pNHA Ireland's Eye	Some of the best exposed cliff sections and inland exposures of Cambrian rocks (Bray Group) in Fingal, showing greywacke, sandstone and quartzite.			CGS		IGH4 Cambrian-Silurian			Ireland's Eye SPA 203	Ireland's Eye 2193	Ireland's Eye 4117
IGH4-4	Shenick's Island	Dublin - Fingal	5D	43	326971	259738	Ordovician volcanics and shales overlain by unconformable, undated red breccia.	Skerries	O 270 597	Dublin #34	Angular unconformity between inverted late Ordovician volcanics and red breccias (probably Lower Carboniferous) Good examples of trace fossil Beaconites barretti reported.			CGS	Brück, P. M. and Kennan, 1970. The Geology of Shenick's Island, Skerries, Co. Dublin. Scient. Proc. R. Dubl. Soc., 3A, 323 – 333. Brück, P. M. 1987. A note on the trace fossil Beaconites barretti in the Old Red Sandstone of County Dublin, Ireland. Proc. Geol. Ass., 98, 259 – 263.	IGH4 Cambrian-Silurian			Skerries Islands 1218		Skerries Islands 4122
IGH4-5	Lambay Island	Dublin - Fingal	9AC	43	331000	251000	Lambay Volcanics:Upper Ordovician andesite and associated volcanic rocks	Lambay Island, Portraine	O 31 51	Dublin #6	Major exposure of Lambay Volcanic Formation, an Upper Ordovician (Caradoc – Ashgill) island-arc volcanic succession, with evidence of the build-up of an island volcano on marine muds, with fringing carbonate reefs. The intrusive Lambay Porphyry is an internationally known rock type.	Internation al			Stillman, C.J. 1994. Lambay, an ancient volcanic island in Ireland. *Geol. Today*. **10,** 62-67.	IGH2 Precambrian - Devonian Palaeontology	IGH4 Cambrian-Silurian	IGH11 Igneous Intrusions	Lambay Island 204	Lambay Island 204	Lambay Island 4069
IGH4-6	Portraine Shore	Dublin - Fingal	8,12	43, 50	325500 to 325200	250900 to 249300	Volcanic and limestone formations	Portraine Demense, Quay	O 255 509 - O 252 493	Dublin #18	Whole coast section: Ordovician volcanic lavas, debris flows, slumped limestones, palaeokarstic doline, Silurian sandstones, very small exposure of earliest Carboniferous conglomerate.	IGH1-50 IGH2-15			Parkes, M.A. 1993. Palaeokarst at Portrane Co.Dublin: evidence for Hirnantian glaciation. *Irish Jnl. Of Earth Sciences*, **12**, 75-81. Stillman, C.J. 2001; Caledonian Igneous Activity. In:Holland C.H. (ed) *The Geology of Ireland*. Denedin Academic Press; pp 145-178.	IGH1 Karst	IGH2 Precambrian - Devonian Palaeontology	IGH4 Cambrian-Silurian	Portraine Shore 1215; adjacent Rogerstown Estuary 208; adjacent Malahide Estuary 205;	adjacent Malahide Estuary 205;	
IGH4-7	Bottle Quay	Dublin - Fingal	19B	50	326600	237470	Well exposed sedimentary and tectonic structures in the Bray Group (Cambrian) quartzites.	Howth	O 28 38	pNHA (Howth Head 202)	Cambrian Bray Group (Drumleck Fm) quartzite and mudstone showing tectonic structures and soft sediment deformation.		NHA?		Brück, P. M., Colthurst, J. R. J., Feely, M., Gardiner, P. R. R., Penney, S. R., Reeves, T. J., Shannon, P. M., Smith, D. G. and Vanguestaine, M. 1979. South -East Ireland: Lower Palaeozoic Stratigraphy and Depositional History. In: Harris, A. L., Holland, C. H. and Leake, B. E. (eds), The Caledonides of the British Isles – reviewed. . Geol. Soc. Lond. Spec. Publ. , 8, 533 – 544. McConnell, B. and Philcox, M. E.1994. Geology of Kildare – Wicklow, A Geological Description to accompany the Bedrock Geology 1:100,000 Map Series, Sheet 16, Kildare – Wicklow. Geol. Surv. Ire. Van Lunsen, H. A.and Max, M. D. 1975. The Geology of Howth and Ireland's Eye, Co. Dublin. Geol. J., 10, 35 – 58.	IGH4 Cambrian-Silurian	IGH7 Quaternary		North Dublin Bay 206;adjacent Howth Head 202;	North Dublin Bay 206;adjacent Howth Head 202;	North Bull Island SPA 4006
IGH4-8	Fancourt Shore	Dublin - Fingal	5	43	321700	262750	Most complete Irish Silurian sequence (Llandovery - Wenlock) dated by its graptolite fossils	Kilsough North; Balbriggan	O 2170 6275		Moffat shale sequence (Silurian slate, greywacke sandstone), volcanics and turbidites with well sampled graptolitic data. (North limb of syncline only)	IGH2-29			Rickards, R.B., Burns, V. and Archer, J. 1973. The Silurian sequence at Balbriggan, Co. Dublin. Proceedings of the Royal Irish Academy B73, 303-316.	IGH2 Precambrian - Devonian Palaeontology	IGH4 Cambrian-Silurian				
IGH4	Hill of Howth	Dublin - Fingal	15, 19B	50	328180	237840	Cambrian rocks showing structural deformation associated with faulting.	Sutton North, Howth	O 275 375	existing pNHA and SAC of Howth Head (202)	Cambrian quartzite and mudstone mélange (Drumleck Formation) and polymict mélange (Elsinore Formation). Numerous outcrops showing small and large scale structural deformation associated with faulting.			CGS		IGH12 Mesozoic/ Cenozoic	IGH4 Cambrian-Silurian		Howth Head 202	Howth Head 202	
IGH 7	**Quaternary**																				
IGH7	Bottle Quay	Dublin - Fingal	19B	50	326600	237470	Quaternary section in coastal cliffs	Sutton South	O 28 38	pNHA (Howth Head 202)	10m high cliff section at Bottle Quay, showing Quaternary till overlying glacially sheared Cambrian beds.			CGS		IGH4 Cambrian - Silurian	IGH7 Quaternary		North Dublin Bay 206;adjacent Howth Head 202;	North Dublin Bay 206;adjacent Howth Head 202;	North Bull Island SPA 4006
IGH7	Portraine Shore	Dublin - Fingal	8,12	43, 50	325960	249990	Caves and meltwater	Portraine Demense, Quay		Dublin #18	Caves associated with glacial meltwater.	IGH1-50 IGH2-15		CGS in IGH7	Simms, M.J., Parkes, M.A. and Jones, G.Ll. 1991. The caves and karst of Portrane, Co. Dublin. Irish Speleology, 14, 40-51.	IGH1 Karst	IGH2 Precambrian - Devonian Palaeontology	IGH4 Cambrian-Silurian	Portraine Shore 1215; adjacent Rogerstown Estuary 208; adjacent Malahide Estuary 205;	adjacent Malahide Estuary 205;	

IGH 8	**Lower Carboniferous**																					
IGH8	Balscadden Bay (Howth Section - Balscadden)	Dublin - Fingal	15, 16A	50	328920	239110	Coastal cliffs within a small bay area	Howth	O 275 375		Lower Carboniferous limestone faulted against Cambrian polymict mélange (mixture of rock fragments).			CGS		IGH8 Lower Carboniferous			Howth Head 202;	Howth Head 202;	adjacent Howth Head Coast 4113
IGH8	Claremont Strand (Howth - Sutton)	Dublin - Fingal	15, 19	50	327310	239750	Lower Carboniferous (Waulsortian) limestone.	Burrow, Sutton North, Sutton South	O 26 39	within pNHA of Baldoyle Bay	500m long coastal and foreshore section of fossilferous Waulsortian limestone; also Quaternary section in cliff.			CGS		IGH8 Lower Carboniferous			Baldoyle Bay 199;	Baldoyle Bay 199;	
IGH8	Curkeen Hill Quarry	Dublin - Fingal	5D	43	325800	257800	Lower Carboniferous mudbank limestone facies	Loughshinny	O 255 585	Dublin #13	Disused quarry exposing Late Tournaisian-Lower Viséan carbonate mudbank facies with diverse fauna. Quarry mostly backfilled/landfill site but one face left by negotiation. Of some historical interest.			CGS	Marchant, T.R. (1978) The stratigraphy and micropalaeontology of the Lower Carboniferous (Courceyan-Arundian) of the Dublin Basin, Ireland. Unpubl. Ph.D. Thesis, University of Dublin. Matley, C.A. & Vaughan, A. (1906) The Carboniferous rocks at Rush, (County of Dublin). Quarterly Journal of the Geological Society London, 62, 275-323.	IGH3 Carboniferous - Pliocene Palaeontology	IGH8 Lower Carboniferous			
IGH8	Feltrim Quarry	Dublin - Fingal	12C, 15A	50	320300	244400	Waulsortian mudmound complex	Rahulk, Feltrim	O 201 447	Dublin #14; Feltrim Hill pNHA	Large working quarry (active since 18thC) within Waulsortian mudmound complex and overlying Visean shale.		NHA?		Hudson, R.G.S., Clarke, M.J. & Sevastopulo, G.D.S. (1966) A detailed account of the Fauna and Age of a Waulsortian Reef Knoll Limestone and associated Shales, Feltrim, Co. Dublin. *Scientific Proceedings of the Royal Dublin Society* Series A, **2**. No 16, 251-272.	IGH8 Lower Carboniferous	IGH3 Carboniferous - Pliocene Palaeontology		Feltrim Hill 1208	
IGH8	Milverton Quarry	Dublin - Fingal	5	43	324671	259032	Working quarry in Lower Carboniferous limestone.	Milverton			Lower Carboniferous limestone (Holmpatrick Formation) with karst weathering features.		NHA?			IGH8 Lower Carboniferous					
IGH8	Nags Head Quarry	Dublin - Fingal	4	43	315500	257910	Lower Carboniferous (Loughshinny Formation) limestone	Nags Head	O 155 579		Working quarry exposing Lower Carboniferous Loughshinny Formation with impresssive chevron folding, otherwise only seen on the coast.			CGS		IGH8 Lower Carboniferous					
IGH8	Skerries to Rush	Dublin - Fingal	5, 8	43	326700 to 326600	258600 to 253700	Coastal section Lower Carboniferous rocks showing sedimentary, tectonic structures and important fauna. Conglomerate Turbidite sequence	Rush, Loughshinny, Skerries (numerous)		Dublin #11	The shoreline along the Rush-Loughshinny-Skerries area consists of foreshore and cliff sections exposing a unique series through the Lower Carboniferous, including a conglomerate turbidite sequence: the only exposure of such rocks in Ireland. Spectacular sedimentary structures occur in them, especially at Loughshinny.		NHA?		Matley, C.A. & Vaughan, A. (1906) The Carboniferous rocks at Rush, (County of Dublin). *Quarterly Journal of the Geological Society London*, **62**, 275-323.	IGH8 Lower Carboniferous	IGH3 Carboniferous - Pliocene Palaeontology		Loughshinny Coast 2000; adjacent Rogerstown Estuary 208	adjacent Rogerstown Estuary 208	
IGH 9	**Upper Carboniferous**																					
IGH9	Balrickard Quarry	Dublin - Fingal	4	43	317720	259690	Disused Quarry	Balrickard/Skerries/Naul	O 175 594		Disused quarry with good exposures of Balrickard Formation sandstone and shale.			CGS		IGH9 Upper Carboniferous					
IGH9	Walshestown Stream section	Dublin - Fingal	4	43	317300	258300	Upper Carboniferous (Namurian) shale, sandstone and limestone stream section.	Walshestown, Rowans Little	O173 583		Upper Carboniferous (Namurian) shale, sandstone and limestone stream section of the Walshestown and Balrickard Formations.			CGS	Smyth, L.B. 1950. The Carboniferous System in north County Dublin. *Quarterly Journal of the Geological Society of London* 150, 295-326	IGH9 Upper Carboniferous					
IGH 11	**Igneous Intrusions**																					
IGH11	Rockabill	Dublin - Fingal	5a	43	332213	262623	Two small islands of Caledonian granite.	Skerries			Two islands composed entirely of granite. Analysis of structures within the granite suggests it is of Caledonian age. This means it is closely related to the late Devonian granite plutons of south Dublin and Wicklow, as well as the Kentstown Granite, known from gravity surveys to be buried under County Meath, and a minor granite at Drogheda. The site is a significant outlier of granite from the main Leinster granite plutons.			CGS		IGH11 Igneous Intrusions			Rockabill Island 207		Rockabill Island 4014
IGH 12	**Mesozoic and Cenozoic**																					
IGH12	Hill of Howth	Dublin - Fingal	15, 19B	50	328180	237840	Faulted palaeo-drainage system in Cambrian rocks	Sutton North, Howth	O 275 375	existing pNHA and SAC of Howth Head (202)	Steep sided valley due to large fault plane between the Cambrian Drumleck and Elsinore Fmns which show many structural features. Important teaching example of a faulted palaeo-drainage system. Also specialist research potential for Tertiary landscape evolution. Area already being protected; included within cliff walk and golf course.			CGS		IGH12 Mesozoic/ Cenozoic	IGH4 Cambrian-Silurian		Howth Head 202	Howth Head 202	
IGH12	Portraine Shore	Dublin - Fingal	8, 12	43, 50	326200	250200	Pleistocene/earlier Caves	Portraine Demense, Quay	O 262 502	Dublin #18	Glacial(?) meltwater caves which may have a pre Quaternary origin	IGH1-50 IGH2-15		CGS in IGH12	Simms, M.J., Parkes, M.A. and Jones, G.Ll. 1991. The caves and karst of Portrane, Co. Dublin. Irish Speleology, 14, 40-51.	IGH1 Karst	IGH2 Precambrian - Devonian Palaeontology	IGH4 Cambrian-Silurian	Portraine Shore 1215; adjacent Rogerstown Estuary 208; adjacent Malahide Estuary 205;	adjacent Malahide Estuary 205;	
IGH 13	**Coastal Geomorphology**																					
IGH13	Malahide Point	Dublin - Fingal	12bcd	43, 50	324000	246000	Dune system based on sand spit	Corballis	O 24 46	Dublin #8; surrounded by pNHA and SAC (Baldoyle Bay - 199).	Dune system based on a long shingle spit which is probably the best-developed and most natural one in Ireland.		NHA?			IGH13 Coastal Geomorphology			overlap Malahide Estuary 205; adjacent Portraine Shore 1215	overlap Malahide Estuary 205;	adjacent Broadmeadow/Swords Estuary 4025
IGH 16	**Hydrogeology**																					
IGH16	Mulhuddart Holy Well	Dublin - Fingal	13		306960	241008	Cold spring	Buzzardstown			Cold spring contained within a man-made white washed stone shrine at the roadside.			CGS		IGH16 Hydrogeology					