FOREWORD TO THE VISITOR'S BOOK (1957-1982)

for

THE PEATLAND EXPERIMENTAL STATION GLENAMOY CO. MAYO

P.J. O'Hare (Retired Assistant Director, Teagasc)

How the idea of Glenamoy developed

General M.J. Costello was appointed M.D. of the Irish Sugar Company in 1946 by Mr. Séan Lemass, Minister for Industry and Commerce in the Irish Government. At that time there were four Sugar Factories in Ireland, viz. Carlow, Mallow, Thurles and Tuam. The Tuam factory handled the beet from approximately 8,000 acres but General Costello argued that 10,000 acres would be required to make the factory viable. The first initiative was an effort to rent the 2,000 acres from farmers in Connaught, but this ended in failure. General Costello then decided that the only way to reach the target of the extra 2,000 acres was to reclaim a large area of high bog at Gowla, near Ahascragh, Co. Galway. Using techniques developed by Bord na Mona for the drainage of bogs, preparatory work began at Gowla in the late 1940's. The two Agricultural Graduates in charge were Gerry Fitzsimmons and Tom Keane.

Though the ground conditions were quite soft, and the peat up to 20 feet in depth, it was comparatively easy to establish a good grass sward of Tall Fescue provided lime and the required major and minor elements were supplied. Tall Fescue (Festuca arundinacea) had already been shown experimentally to be a grass suitable for intensive forage production on peat. All of this development required the modification of existing farm machinery to operate on the very soft bog surface. The machine workshop at Tuam Sugar Factory provided essential back-up to the development and adaptation of tractors and machines for use on the bog surface.

With the establishment of the grass sward as a preliminary step to the amelioration of the peat as a medium for sugar beet, utilization of the grass posed greater problems. Sheep were considered suitable

because of their light weight, but the losses in open drains were excessive and grazing had to be abandoned around 1951.

At this time, however, there was a good market for grassmeal for inclusion in pig and poultry rations and a decision was taken to erect a grass-drying plant at Gowla. Special harvesting machines and modified trailers were developed to bring the grass to the drying plant and the plant opened in 1952. Mr. Lemass performed the opening ceremony and was obviously very interested in what was a remarkable transformation of the quaking bog. He enquired from those of us on duty, could a scheme such as this be established on the shallow blanket bogs of North Mayo where Bord na Mona considered many areas too shallow for the extraction of peat as fuel? Already General Costello had organised the laving down of small pots of grass at Dooleeg near Crossmolina and these gave considerable encouragement to the possibility of establishing a large Grassmeal Factory in North Mayo. I understand that Mr. Lemass initially asked the Department of Agriculture to take responsibility for the grassmeal project but their scientific officers felt enough basic information was not yet available to justify State investment in the project. It was felt considerable research would be required into the nutrition and maintenance of a grass sward, intensively farmed on peat, before a large scheme could be undertaken.

Mr. Lemass, however, was very concerned at the unemployment position in North Mayo at that time and was determined that the new grassmeal project should go ahead even with what information was then available. I understand he then approached the Directors of the Grass Drying Association in Ireland with a proposal to fund the initial capital development of the project. The firms involved in grass drying at that time did not think there was a market for the expected increased output of the new grassmeal plant and were therefore not interested in the development proposed. Mr Lemass was not to be thwarted in proceeding with his plans for North Mayo. In 1953 he set up, by legislation, Min Fheir Teo (The Grassmeal Company) with a capital of £163,000 to acquire and develop 2,000 acres of blanket bog in North Mayo for the establishment of a grass drying plant. A Board of six Directions was appointed and a Manager, Mr. Con Murphy M Sc. And P.J. O'Hare B. Agr, Sc. Assistant Manager appointed. A survey of suitable areas in North Mayo was undertaken starting on 1st September 1953 and Glenamoy was selected by the end of November 1953. A physical survey of bog depths and floor contours began on 4th December 1953 to enable a drainage plan to be developed. The first of the drains at 100 ft. apart were opened in early April 1954 and later intensified to

50 ft. apart. In the early months of 1954, a technical group were considering the most suitable grass drying equipment to purchase and install and visited grass drying plants in the U.K. and Germany. A decision was taken to place an order for a Buttner drying plant and a deposit was paid by Min Fheir Teo.

However, the Fianna Fail government was defeated in the Spring election of 1954 and John A. Costello, Fine Gael, became Taoiseach. Mr. William Norton took over from Mr. Lemass as Minister for Industry and Commerce and on the 12th June 1954 instructed the dissolution of Min Fheir Teo and a halt to all development at Glenamoy. Min Fheir lost the deposit they had paid on the new grass drying plant.

There followed a year of discussions at Government level — what to do with 2,000 acres acquired at Glenamoy. In August 1955 a decision was taken that 1,100 acres would be taken over by the Forestry Section of the Department of Lands for commercial tree-planting. The remaining 900 acres was taken over by the Department of Agriculture for the development of a 100 acre experimental farm and a research programme to meet the technical requirements of plant and animal nutrition on Peatland. This on-going research and experimental programme was taken over by An Foras Taluntais (The Agricultural Institute) in 1959 and continued until the Station was closed in 1982.

In 1977 Dr. Tom Walsh, Director of An Foras Taluntais, set up a Review Group to 'review and advise on the scientific contribution the Peatland Experimental Station has made and can continue to make to the corpus of scientific knowledge on peatland'. I was a member of the seven man Review Group under the leadership of Professor Pat Fottrell U.C.G. See summary recommendations page 4.

The review was intended to provide information to assist in determining what future scientific role the Station might have and what steps might be taken toward realizing this role. The Report of the Review Group was an internal report of An Foras Taluntais ref: 63 (417.3) and published in December 1978. The report contained a list of some of the publications on Studies at Glenamoy 1954 – 1975 and this list with additions is appended to this note for reference. In addition, the Annual Research Reports of An Foras Taluntais over the period when the Station was operating contain summarized accounts of all on-going research. Much of the research had great relevance to the overall research programme of An Foras Taluntais. It was an honour for the Staff at Glenamoy that the fundamental on-going research was chosen as Ireland's contribution to the International Biological Programme in 1966.

Report of the Glenamoy Review Group December 1978

Summary Recommendations

- 1. The Glenamoy Experimental Station should be maintained and operated as a national scientific research centre.
- 2. The blanket peat resource in its natural and developed states should form the prime activity focus
- 3. The main programme themes should relate to:
 - a) The production of biomass from blanket peat.
 - b) The development of a field study centre.
 - c) Research on fascioliasis, and
 - d) Environmental monitoring and meteorological recording.

 The aforementioned activities should be complemented by revenue generating farm activities.
- 4. Emphasis within themes should be placed on the more fundamental longer-term aspects
- 5. Programme activities should be structured to attract international interested collaboration;
- 6. Collaborative research with commercial interests should be encouraged where such activities can be fitted into the programme and resources.
- 7. The Station should be administered as an independent or autonomous centre, either within AFT or under a special board of trustees. As a first step a suitably qualified station director should be appointed
- 8. There should be an immediate 3-pronged approach to funding:
 - i. Intensify commercial activities at the station.
 - ii. Establish a sponsoring agency to organise the funding of different sections of the programme, and
 - iii. Approach external (i.e. extra national) agencies to promote possibilities for contract research

Because of the severe financial pressures imposed on An Foras Taluntais in the late 1970's and early 1980's, the recommendation in this excellent Report did not receive adequate study to merit decision on the future of the Glenamoy Research Facility. The harsh financial environment demanded investment of available research funds in projects with an 'immediate' economic response in national terms. The Centre closed in 1982.

Comment

I am indebted to Mary Ruane, the wife of the last Officer in Charge. Michael Ruane, of the Peatland Experimental Station, Glenamoy, who allowed me to look over the Visitor's Book in the Spring of 2005. It brought back many memories of the sense of 'mission' of all the staff at Glenamoy who brought the work of the Centre and their scientific achievements to a worldwide audience. I counted the names of scientists in the Visitors Book from no less than 34 countries outside Ireland and Great Britain, extending form Chile to China and from Iceland to the Falklands. Many of these scientists, from countries with famine problems, took great encouragement from the methodology developed in the production of food in an environmentally harsh area of Ireland. But perhaps, of even greater importance was the sociological impact of the local employment of some 40 workers from the Glenamov area to service research officers in carrying out their programmes. Many of these men had worked not only in Great Britain and America but as far away as New Zealand and Australia. They were a highly intelligent work force with a great love for the county of their birth. The status of the Research Centre owed much to their loyalty and commitment and to their sense of 'mission'.

North Mayo is blessed with some of the most beautiful land and seascapes in the country. I sincerely hope that the recent developments relating to the Corrib Gas Terminal on the perimeter of what was formerly the Peatland Experimental Station; will not damage this unique and very special environment.

P.J./O'Hare March 2006

PUBLICATIONS ON STUDIES AT GLENAMOY 1954-75

Armstrong, J.J., Burke, W. Quinn, E. 1960

A new drainage plough for peatland Dept. Agric. J. 57:149-152.

Blackith, R.E, 1974

The ecology of Collembola in Irish blanket bogs. Irish contribution to International Biological Prog. Proc. Royal Irish Acad. 74, Sect. B (16) 203-226.

Blackith, R.E., Speight, M.C.D., 1974 Food and feeding habits of the frog Rana temporaria in bogland habitats in the West of Ireland.

J. Zool., London 172: 67-69

Burke, W., 1961

Drainage investigation on bogland. The effects of drain spacing on ground water

levels.

Irish J. Agric. Res. 1:31-34

Burke, W., 1963

Drains increased yields on peat.

Farm Res. News 4 (4) 65.

Burke, W., 1963

The drainage of blanket peat at

Glenamoy.

Intern. Peat Cong. Leningrad.

Burke, W., 1965

Some effects of drainage on peat.

Welsh Soils Disc. Group. Rep. (6) 46-55.

Burke, W., 1967

Principles of drainage with special

reference to peat

Irish Forestry 24 (1) 2-8.

Burke, W., 1968

Basic principles of drainage on peat. Proc. Symp. On Peatland Forestry,

Edinburgh

Burke, W., 1969 Effects of drainage on crop yield on blanket peat. Ir. J. Agric. Res. 8: 229-238 Burke, W., 1972 Aspects of the hydrology of blanket peat in Ireland. Intern. Smyp. On Hydrol. Of Marsh-ridden areas. Minsk July 1972. 3-16. Burke, W., 1973 Effects of drainage and nitrogen application on ryegrass yields on blanket peat. Ir. J. Agric. Res. 12: 159-166 Burke, W., 1973 Effect of drainage on the hydrology of blanket peat. Ir. J. Agric. Res. (14) 2. 145-162 Burke, W., 1975 Fertilizer and other chemical losses in drainage water from blanket bog. Ir. J. Agric. Res. (14) 2. 163-178. Burke, W., Problems of peatland. O'Hare, P.J., 1962 Intern. Soil. Conf. New Zealand. Trans. Com. IV and V of Intern. Soil Sci. Soc. 3 -11. Collins, D.P., 1961 Sheep production on Peatland and mountain. Agric. Rec. 17: 3-8. Collins, D.P., 1961 The establishment of grass-clover swards on bogland by surface seeding. Ir. J. Agric. Res. 1: 21-30 Collins, D.P., 1962 Surface seeding of bogland. M. Ag. Sc. Thesis U.C.D. Faculty of Agriculture.

Collins, D.P., Burning of native vegetation for surface O'Toole, M.A., 1962 seedina. Ir. J. Agric. Res. 165-171 Collins, D.P., Surface seeded bog carries many more O'Toole, M.A., 1962 sheep Farm Res. News. 3 (4):64-67 Collins, D.P., The animal factor in establishment and O'Toole, M.A., 1963 production from a surface seeded pasture on bogland. Ir. J. Agric. Res. 2: 225-241 Cooke, F., 1961 Problems of peat achievements of the Irish Peatland Research Station. World Crops (13): 381 **Dowling, P., 1972** Decay patterns and processes on the I.B.P. site at Glenamoy, Ireland. Contribution to I.B.P. Proc. 1972 Tundra Biome Symp. Lake Wilderness Centre, Univ. of Washington 128-131. Ennis, M.T., 1962 Some copper-complexing properties of peat. Ir. J. Agric. Res. 1:139-146 Ennis, M.T., 1962 The chemical nature of the copper complexes in peat. Ir. J. Agric. Res. 147-155

Depth of water table in a Picea

Irish Forestry 31 (1): 36-45.

blanket peat.

sitchensis fertilization experiment on

Farrell, E.P.,

O'Hare P.J., 1974

Fleming, G.A., O'Hare, P.J., 1968	The integrated use of Peatland. Proc. Tress on Peat Symp. Nature conservancy Edinburgh.
Forbes, T.D.A., Lance, A.N., 1976	The contents of fox scats from Western Irish blanket bog. J. Zool., Lond. 179: 224-226
Galvin, L.F., 1969	Some principles and practical applications of drainage. Trans. Inst., Eng. Irl. 96 (2): 15:25
Galvin, L.F., 1972	Reclamation of Irish peats for agricultural development Proc. 4 th Intern. Peat Congr. I-IV Helsinki 425-434
Galvin, L.F. Hanrahan, E.T., 1967	Steady state drainage flow in peat. Highway Res. Rec. 203: 77-90
Galvin, L.F., Hanrahan, E.T., 1967	The effects of different drainage depths on the water table drawdown curve in and on the permeability of peat soils. Proc. Nat. Read. Sci.U.S.A. Washington
Gilsenan, B., (Editor) 1971	Int. Biol Programme. Ir. Contribution Interim Report publ. by R.I.A., 19, Dawson St. Dublin 2
Grennan, E.J., 1964	Response to fertilizers on blanket peat at Glenamoy. Farm Res. News 5 (5): 108-111.

Grennan, E.J., 1964

Effect of crop rotation on the nutrition and lime status of blanket peat. 8th Intern. Cong. Soil Sci. Bucharest, Romania IV: 659-699

Copper deficiency in pasture on blanket Grennan, E.J., 1966 peat. Ir. J. Agric. Res. 5:147-153. The liming of blanket peat soil. Grennan, E.J., 1966 M.Arg.Sc., Thesis U.C.D. The nutrient requirements of pasture on Grennan, E.J., 1972 blanket peat. Potassium Inst. Ltd., Collog. Scotland Performance of arable crops under Grennan, E.J., varying manurial treatments on blanket Mulqueen, J., 1962 peat. Ir. J. Agric. Res. 1: 251-266. Grass production on blanket peat 1. Grennan, E.J., Prosphorus requirements. Mulqueen, J., 1964 Ir. J. Agric. Res 3: 37-49 Grass production on blanket peat 2. Grennan, E.J., Potassium requirements. Mulqueen, J., 1964 Ir. J. Agric. Res 3: 51-61 Grass production on blanket peat 3. Grennan, E.J., Nitrogen requirements. Mulqueen, J., 1964 Ir. J. Agric. Res 3: 211-222 Pasture establishment and maintenance Grennan, E.J., on blanket peat soil. O'Toole, M.A., 1966 Proc. Xth Intern. Grassl. Cong. Sect. 4, Paper 8. 842-845.

Factors affecting strength and

Hanrahan, E.T., 1954

Hanrahan E.T., Galvin, L.F., Reardon, B.C. 1972 Transient flow in peat. 4th Intern. Peat. Cong. Helsinki 255-263.

Hope Cawdery, M.J., 1972

Observations on the use of emetine hydrochloride against Fascioliasis in cows.

Ir. Vet. J. 26: 99-100.

Hope Cawdery, M.J., 1972

The effects of regime therapy in fascioliasis 1. The effects of therapy on the prevalence of fascioliasis and on fertility in ewes maintained in one paddock over a period of four years. It. Vet. J. 26: 118-127.

Hope Cawdery, M.J., 1972

The effects of regime therapy in fascioliasis 11. The comparison of four drugs in ewes.

Ir. Vet. J. 137-143

Hope Cawdery, M.J., Ruane, M., 1970 An observation on the recovery of the mud snail <u>Lymnaea truncatula</u> from organic soil debris by acid flotation. Vet. Rec. March: 327-328

Hope Cawdery, M.J., Ruane, M. 1970 Modification of the AMS 111 method of recovering schistosome eggs for use in the diagnosis of fascioliasis.

Lab. Practice 19 (115): 1025-1028.

Hope Cawdery, M.J., Ruane, M. 1971 Sedimentation method for the demonstration of the eggs of <u>Fasciola Hepatica</u> in faeces.

Lab. Practice 20 (119): 935-939

Hope Cawdery, M.J., Moran, M.A., 1971 A method for estimating the level of infection of fascioliasis to which sheep are exposed.

Br. Vet. J. 127: 118-124.

Hope Cawdery, M.J., Grennan, E.J., 1972

Observations on the use of calcium cyanamide as a molluscicide against the snail Lymnaea truncatula.

Ir. Vet. J. 26: 128-130

Hope Cawdery, M.J., Donnelly, W.J.C., 1972 The effects of regime therapy in fascoiliasis 111. The comparison of four drugs in wethers and wether lambs on the basis of mortality and production. Ir. Vet. J. 26: 163-170.

Hope Cawdery, M.J., Ruane, M., McDonald, G., 1973 Quantative method for collecting and processing soil samples for estimating the population density of the mud snail Lymnaea truncatula (Muller), on reclaimed western blanket peat.

Lab Practice 22: 32-34.

Lance, A.N., 1971

Tracking Irish red grouse by radio. Farm and Food Res. 2(6): 135-136.

Lance, A.N., 1972

Red Grouse in Ireland: A summary of research up to 1972.

In 'Research in Animal Production and Food – An Foras Taluntais 1958-1972' Ed. L.B. O'Moore, A.F.T. Dublin.

Lance, A.N., 1973

Numbers of woodmice (<u>Apodemus</u> <u>sylvaticus</u>) on improved and unimproved blanket bog.

J. Zool., London 172: 471-473

Lance,	A.N.	. 1974
--------	------	--------

Release of pen-reared red grouse (<u>Lagopus L. Scoticus</u>) to restock breeding populations in Ireland.
Tranx. XI Intern. Cong. Game Biol. Stockholm, Sept. 1973. 225-229

Lance, A.N., 1975

Clutch characteristics and chick development in a marginal red grouse population. Subm. To XII Intern. Cong. Game Biol. Lisbon 1975

Lance, A.N., Mahon, G., 1975 Foods of a marginal red grouse population in Western Ireland. J. Wildlife Manag. 39: 183-187

Lance, A.N., Phillips, J., 1975 Responses of red grouse to serial heather burning in eastern Ireland. Subm. To X11 Intern. Cong. Game Biol. Lisbon 1975

Lance, A.N., Triggs, R., 1974 Managing hill bogland for the joint benefit of grouse and sheep. Farm and Food Res. 5 (6): 135-136

Moore, J.J., Dowding, P., Healy, B., 1975 Glenamoy, Ireland, Rosswell, T., and Heal,. O.W.,(eds) 1975 Structure and function of Tundra ecosystems. Ecol. Bull (Stockholm) 20: 321-43

Mulqueen, J., Walshe, M.J., Fleming, G.A., 1961 Copper deficiency on Irish blanket peat Sci. Proc. R.D.S. Ser. B. 1 (4) 25-35

O'Hare, P.J., 1966

Research on red grouse Farm Res. News 7 (4) 76-78

O'Hare, P.J., 1967	A. Leader growth and foliar composition in Sitka spruce (<u>Picea sitchensis Carr.</u>) in relation to fertilizer application on blanket peat. Proc. Colloq. Forest Fert. Finland 111-121.
O'Hare, P.J., 1967	B. Leaching of nutrients by rainwater from forest trees – a preliminary study. Proc. Coloq. Forest Fert. Finland: 122-130
O'Hare, P.J., 1968	Reclaiming peatlands for agriculture Span 11 (3).
O'Hare, P.J., 1970	A comparison of the effect of young forest and grassland on the water table in blanket peat. Research Papers in Forest Meteorology. Aberystwyth Symp.
O'Toole, M.A., 1963	Winter housing of pregnant ewes on slatted floors. Ir. J. Agric. Res. 2(2): 217-224.
O'Toole, M.A., 1965	Increased output from hill-land by surface seeding. Biatas 18 (7): 440-443.
O'Toole, M.A., 1965	Nitrogen requirements for establishment of surface seeded pasture on peatland. Ir. J. Agric. Res. 4 (1): 13-18.
O'Toole, M.A., 1965	Residual effects of paraquat on peat soil. Ir. J. Agric. Res. 4 (2): 231-233.

O'Toole, M.A., 1966 Differences in susceptibility to iron chlorosis of grass species grown on peat. Nature 212 (5058): 213 O'Toole, M.A., 1966 Persistency of paraquat in peat soils. Crop protect. Conf. Dublin: 35-39 O'Toole, M.A., 1968 Grassland research on blanket peat in Ireland. J. Brit. Grassl. Soc. 23 (1) 43-50. O'Toole, M.A., 1968 The establishment and productivity of improved species on peat soil. Proc. Symp. Hill Land Product. Eur. Grassl, Fed. 120-133 Aberdeen O'Toole, M.A., 1970 Grass production on peat soils. J. Brit. Grassl. Soc. 25(2): 131-155. O'Toole, M.A., Interaction of calcium and hydrogen ion Masterson, C.L., 1963 concentration on nodulation of white clover in peat. Ir. J. Agric. Res. 7 (7): 129-131. Renovation of peat and hill land

O'Toole, M.A.,
O'Hare, P.J.,
Grennan, E.J., 1964

Renovation of peat and hill land pastures.
An Foras Taluntais Bulletin, Dublin

O'Toole, M.A.,

Masterson, C.L., 1970

Effects of copper and nitrogen on nodulation and yield of <u>Trifolium repens</u>.

White Clover Res. Occ. Symp. No. 6.

Br. Grassl. Soc. 252-258.

O'Toole, M.A., Murphy, W.E., 1964 Effect of some plant nutrients in maintenance of botanical stability in established pastures on blanket peat (Abstract only).

10th Intern. Bot. Congr. Proc. 439, Edinburgh

O'Toole, M.A. Synnott, D.M. 1971 The bryophyte succession on blanket peat following calcium carbonate nitrogen, phosphorus and potassium fertilizers.

J. Ecol. 59: 121-126

Ryan, M., 1974

Grassland productivity. 1. Nitrogen and soil effects on yield of herbage. Ir. J. Res. 13: 275-292.

Ryan, M., 1976

Grassland productivity. 2. Effect of fertilizer nitrogen on herbage N. yield at 26 sites.

Ir. J. Agric. Res 15: 1-10.

Stoddart, Michael, D., 1973

Population densities of Mountain hares (<u>Lepus timidus</u>) on western Scottish and Irish moors and on Scottish hills.

J. Zool. London, 170; 151-159.

Walsh T., O'Hare, P.J., Quinn, E., 1958 The use of Peatland in Irish Agriculture.
Advance. Sci. 57: 405-16

Walsh T., Barry, T.A., 1958 The chemical composition of some Irish peats.

Proc. Royal Ir. Acad. 59 Sect. B (15) 305-328.

Watson, A., O'Hare, P.J., 1973

Experiments to increase red grouse stocks and improve the Irish bogland environment Biol. Conservation 5. (1) 41-44.

O'Hare, P.J., 1963

Presence of Sohoenus nigricans L. on acid blanket in Western Ireland. Intern. Peat Congr. Leningrad, 1963.

O'Hare, P.J., Fleming, G.A. 1959 The chemical composition of peat supporting Schoenus nigricans in North Mayo. Symp. On production and use of grass. Soc. Of Chem, Industry, Dublin 133.

O'Hare, P.J

Irish Red Grouse – position and prospectus. The Future of Irish Wildlife (Ed. By F. O'Gorman and E. Wymes). PP 39-44 An Foras Taluntais 1973.

Watson, A., O'Hare, P.J., Red Grouse populations on experimentally treated and untreated Irish Bog.
J. Appl. Ecol. 16, 433-452 1979a.

Watson A., O'Hare, P.J., Spacing behaviour of Red Grouse at low density on Irish Bog Ornis Scandinavica 10, 252-261 1979b.

Watson, A., O'Hare, P.J., Bird and mammal numbers on untreated and experimentally treated lrish Bog.
Oikos 33, 7-105 1979c.

Watson A., O'Hare, P.J., 1980

Dead sheep and scavenging birds and mammals on Mayo bog. Irish Birds 1, 487-491.