

ANNUAL REPORT ENVIRONMENT SCIENCE IN IRELAND: THE ENVIRONMENTAL AND CULTURAL HERITAGE OF THE IRISH LANDSCAPE BIRR, CO. OFFALY, IRELAND 2019 FIELD SCHOOL

Directors: Dr. Stephen Mandal and Prof John Feehan



Mapping Devonian Sandstones in the Glenbarrow River

This is unapologetically a teaching focused program, aimed at giving students a deep understanding of the landscape, from the bedrock up.

Students were given the training and tools to allow them to view the landscape in a holistic manner, regardless of the background of their studies to date. We examined the bedrock geology that literally forms the foundations for the topography, the glacial and post-glacial geomorphology, ecology, archaeology and history of three diverse and distinctive landscapes – the Irish Midlands, the Burren and Clare Island.

Due to the small number of students on the program, we enjoyed great flexibility in how the program is managed. A typical day comprises lectures / workshops in the morning followed by fieldwork, and students really valued the opportunity to be introduced to a subject in the morning and then go into the field and see it.

Our lab sessions were also organized such that we examined our own samples from the field.

Examples of this included:

- Learning about the formation of sandstone in a vast river system some 425 million years ago and then going to record it in the field, in a current river system. This allowed the students observe on-going riverine processes and compare them to the bedrock formed in the Devonian Period.

- Recording cross sections through quarry-cut eskers, having just seen images of the formation of modern eskers in the morning lecture
- Exploring our commercially exploited peat bogs, where we could see the marls that formed in the post-glacial lakes (and the individual shells that compose it), and how these marls sealed the lake bottoms and led to peat formation.
- How flora has diversified and adapted to the different environments of Ireland and how they attract pollinators.
- The differences in invertebrate fauna in different micro-environments and environmental conditions (water quality).
- The human impact on the environment – how people have interacted with a changing environment since their arrival in Ireland some 12,500 years ago all the way through to the present day.

In terms of research, the program continued the work undertaken in the first season (2018), carrying out invertebrate sampling at different locations in the town of Birr, feeding into the baseline data for the town with regard to the well-being of the local environment, in particular through the river surveys.

The value of the program to the students is best described in their own words, in prose and poetry:

I realized this morning, that the biggest thing I took away from my Ireland adventure is that I'm not afraid of dying. I'm afraid of not living the rest of my life ...

The experience taught me so many things, tangible and intangible, but I feel different now. I know there is a place where I completely feel at home, people that are genuine, kind, and happy; a landscape that evokes respect and awe.

I've made new friends, found a kindred spirit and a reason to continue on my educational path without being discouraged by the current state of affairs in America. The world is bigger than us, folks, and there are a lot of people who live every single day using reusable bags to shop and hybrid cars and never even notice.

Thank you Stephen Mandal, for the trip and experience of a lifetime. I hope to see you again very soon!

- Kaycie, August 2019

Éire, éire, éire mo chroí
 My ancestors ghosts called to me
 Fields of green and ocean of blue
 That land in my heart, I always knew
 Éire, éire, éire mo chroí
 A more beautiful land will I never see
 My journey is started and I must return
 That love in my heart forever will burn
 Éire, éire, éire mo chroí
 Without you I never would be
 For from that land my great gran traveled
 And many a people's life unraveled
 Éire, éire, éire mo chroí
 Without you I would never be me
 - Kat August 2019

(*Éire mo chroí* translates as *Ireland my heart*)