Winterstoke Hundred Academy

Career Talk on Environmental Assessment

By Mabel Muñoz-Devesa and Bryony Stocking

July 2021

Outline

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- Environment Discipline overview
- Environmental Assessment
  - What is it?
  - Why is it carried out?
  - Who is involved?
- Case studies
- Courses and degrees
- Early career programmes in industry
- Q&A

Bryony Stocking

Associate at WSP in the UK

- ✓ Joined a Graduate programme in Consultancy in 2007
- ✓ 15 years' experience:

  Consultancy: RSK, AECOM and now WSP (>2 years)

  Public sector: South West Water, Environment Agency, Welsh Water (secondment) and Welsh Government

  Developer: Horizon Nuclear Power

EDUCATION

Advanced GNVQ Science/ A-Level Biology

BSc (Hons) Marine Biology and Coastal Ecology, University of Plymouth

MRes Environmental Biology – University of St. Andrews

Certificate in Environmental Assessment, Oxford Brookes University

PROFESSIONAL MEMBERSHIPS

Chartered Environmentalist (CEnv)

Institute of Environmental Management and Assessment (MIEMA)

Mabel Muñoz-Devesa

Associate Director at WSP in the UK

- ✓ Lucky encounter with environmental related modules!
- ✓ Six -month work experience as part of my MSc
- ✓ Over 20 years' experience in Environmental Consultancy industry

Specialisation in Environmental Impact Assessments (EIAs) – variety of project types – Combe Down Stones Mines; Panama Canal Expansion.

Current role: Local Government sector lead for Environment.

EDUCATION

BSc (equivalent) Geography, Universitat de Valencia, Spain. Final year at Leeds University (School of Geography)

Environmental Strategies and Management, Universitat de Valencia, Spain (MSc)

Certificate in Environmental Assessment, Oxford Brookes University

PROFESSIONAL MEMBERSHIPS

Chartered Environmentalist (CEnv)

Institution of Environmental Sciences (MIEnvSc)

Practitioner under the Institute of Environmental Management and Assessment (PIEMA)

Registered Environmental Impact Assessor under IEMA scheme

WSP are...

— A leading global provider of design and consultancy services to the built and natural environment. Comprised by engineers, designers, consultants and planners

NET REVENUES	GLOBAL FOOTPRINT	STAFF	BUSINESS SECTORS
$8bn	**Over 500 offices in 50 countries in six continents**	**54,000**	**Earth & Environment** **Transportation & Infrastructure** **Property & Buildings** **Power & Energy** **Resources** **Industry**

2021

Most Sustainable Company in the Engineering Industry
World Finance Magazine

Landmark Projects – client examples

Infrastructure & Development

HS2, UK

22 Bishopsgate, UK

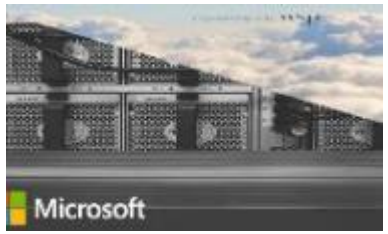
Government

WMCA, UK

Smart Whale, Canada

Industrial

BASF MacIntosh, US



Microsoft, US

Power & Energy

HyNet North West, UK

Kathu Solar Park, S Africa

Resources

Gaspé Mine, Canada

CODELCO Mine, Chile

Environment Discipline Overview

NO. 1
Global Environmental Consulting Firm

>$2bn
Revenue


Climate, Resiliency
& Sustainability


Impact Assessment
& Planning


Geotechnical/
Ground Engineering

14,000
Environmental Staff


Site Assessment
& Remediation


Natural Resources
Management


Waste Management

40
Countries


Environmental Management
& Compliance


Mining


Strategic Advisory

Environment Discipline Overview - our services

Environmental Consulting
Compliance Assurance
Planning and Permitting
EH&S Consulting and Auditing
Industrial Hygiene
Air and Noise Services
Impact Assessment and Planning
Due Diligence
Human Health, Risk Assessment and Toxicology
Emerging Contaminants

Engineering and Design
Sustainable Infrastructure
Remediation Systems
Geotechnical/Geoenvironmental
Construction Engineering and Specifications
Construction Materials and Testing
Civil and Ground Engineering
Decommissioning and Demolition
Pipeline and Linear Infrastructure
Tunneling
Mine Design

Resources Management
Natural and Cultural Resources
Impact Assessment and Planning
Water and Wastewater Treatment
Surface/Storm Water Management
Coastal and Marine
Dams and Hydropower
Solar and Wind
Renewables

Strategic Advice
Environmental, Social and Governance
Specialized Digital Solutions
Data Management
M&A Transactional Advisory
Divestments and Bankruptcy Planning
Environmental Liability Valuation and Reserves
Sustainability and Product Lifecycle
Business Decision Analysis
Climate Resilience and Sustainability

Environmental Assessment

- What is it?
- Why is it carried out?
- Who is involved?

What is Environmental Assessment?

- An assessment of the impact of planned activities on the environment including:

Land

Geology and Soils

Biodiversity

Landscape

Archaeology

Flooding

Water

Geology

Marine/ freshwater biodiversity

Seascape

Underwater noise

Marine Archaeology

Air

Air Quality

Greenhouse Gas Emissions

Climate

People

Human health

Noise

Public access

Socio-economics

Visual

Cultural heritage

Why do you conduct an Environmental Assessment?

- All **development** (human) has an impact on the surrounding natural and built environment.

- Our job is to predict any effects through surveys, analysis, best practice and professional judgement to ensure **harmful effects are eliminated, minimised, mitigated (introducing more protection) so they are not significant**.

- STAGES: **Screening** (EIA needed?) – **Scoping** (key issues) – **Assessment** – **Reporting** (Environmental Statement/ Report)

- Assessment predicts these effects in **phases**:
  - Construction
  - Operation
  - Decommissioning (taking down)

- Our involvement starts at feasibility or early design stage – **influence**

Who is involved? – Career paths

- **The Client** – Public or Private sector
- **Design Team**:
  - Engineers – structures, highways, bridges, drainage, mechanical & electrical, industrial …
  - Architects & designers
- **Planners** – to guide through the policy and planning system to obtain necessary consents and permits
- **Environmental & Sustainability Team** – EIA, ecologists, acousticians, air quality specialists, archaeologists, geologists, hydrologists, greenhouse gases, resources and materials …
- **Statutory consultees / bodies** – local planning authorities, Environment Agency, Natural England, Historic England (equivalent bodies in Wales & Scotland)
- **General public** – local communities in particular

wsp

Environmental Assessment

CASE STUDIES

Case Study 1 – EIA Screening

To EIA or not to EIA?

A regulatory EIA might be required depending on:

a) **Scale and nature** of the project

b) **Location** (sensitive areas)

c) **Potential for significant environmental impacts**

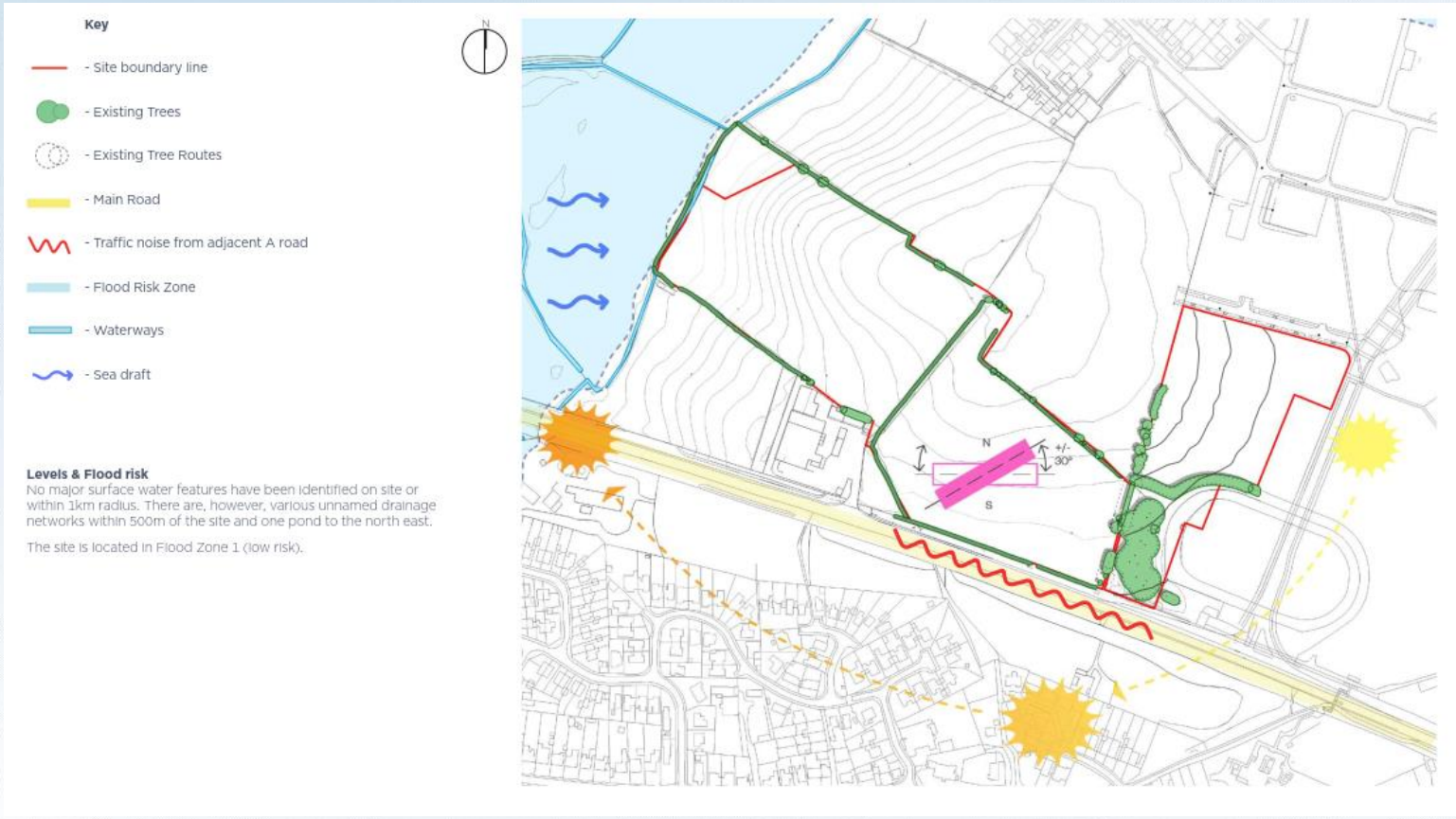
Images source: WSP, Ravenslade, AHR (October 2020) Winterstoke Hundred Academy Expansion, Stage 1 Report.

Case Study 1 – EIA Screening

EIA or not EIA?

Environmental and Social context

Collection of baseline information
Mapping – Geographical Information Systems (GIS)



Plus:

Heritage
Potential traffic issues
Greenhouse gases
Population & Health

Images source: WSP, Ravenslade, AHR (October 2020) Winterstoke Hundred Academy Expansion, Stage 1 Report.

Case Study 1 – EIA Screening

EIA or not EIA?

Winterstoke Hundred Academy Expansion:

a) School for 900 pupils; 8.8 hectares; environmental measures embedded in the design

b) Location - not located within a sensitive area as per the EIA Regulations

c) Potential for significant environmental impacts? What impacts could we expect?

But not to be considered in isolation...

Images source: WSP, Ravenslade, AHR (October 2020) Winterstoke Hundred Academy Expansion, Stage 1 Report.

Policy and Planning context

Concept included as part of the Locking Parkland development immediately to the north and east. Subject to EIA and outline planning permission granted.

Case Study 1 – EIA Screening

EIA or not EIA?

EIA Screening Outcome: As already considered in the Locking Parklands EIA plus site specific supporting environmental studies – **No EIA** Required.

Images source: WSP, Ravenslade, AHR (October 2020) Winterstoke Hundred Academy Expansion, Stage 1 Report.

Case Study 2 –

Panama Canal Expansion

LENGTH	CAPACITY INCREASE	WATER REUSED
80.5 km	100%	60%

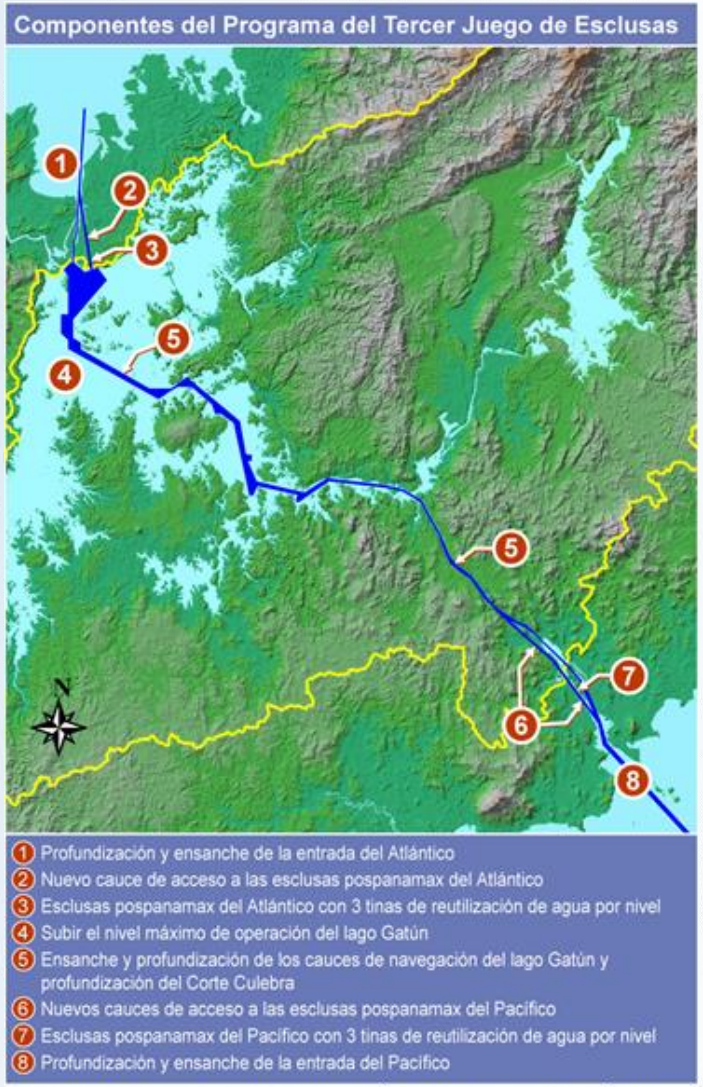
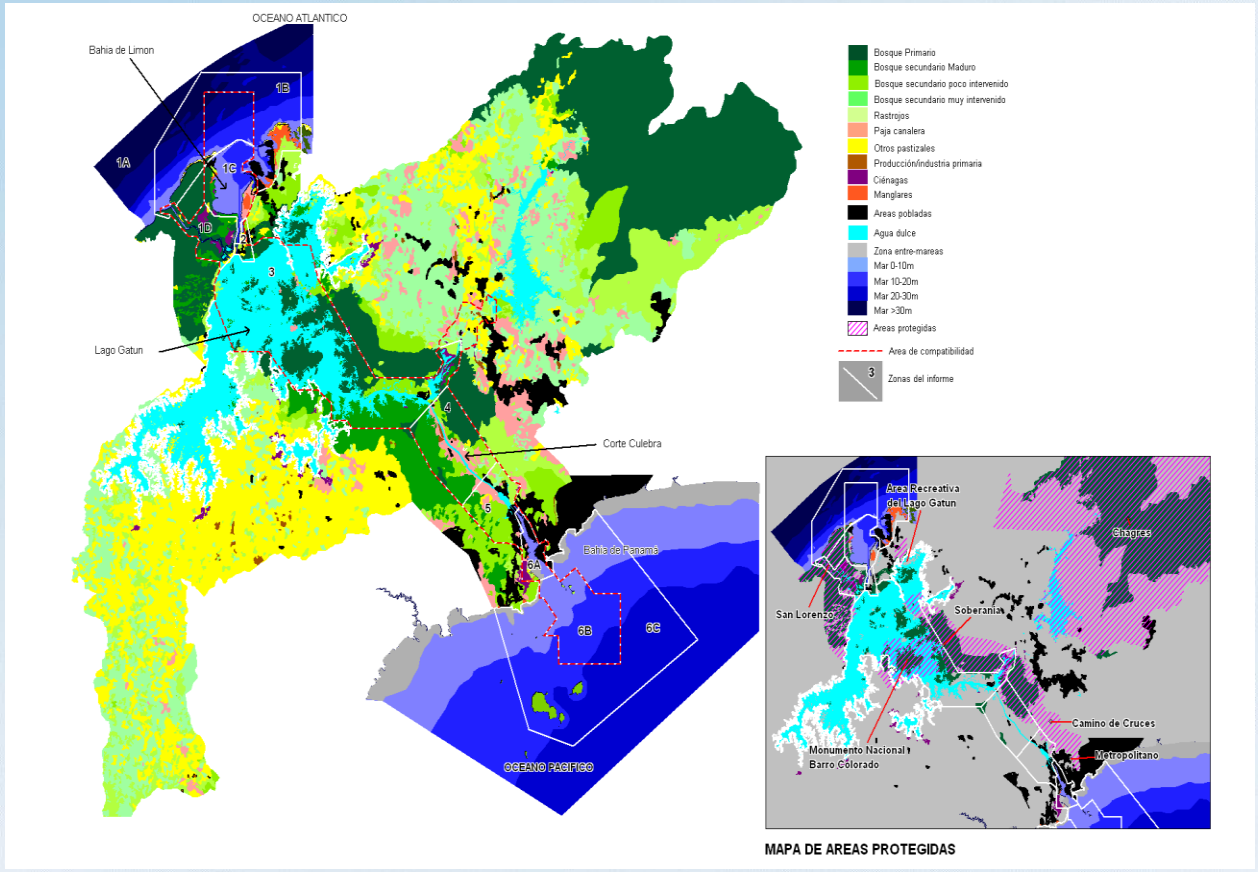


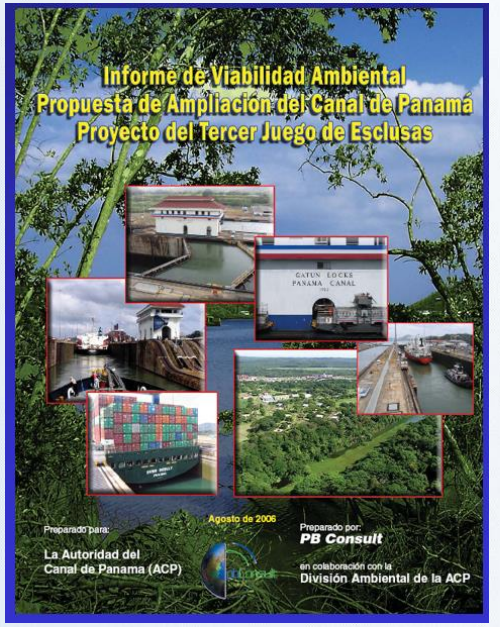
Figura 2-1 *El programa de ampliación incluye la construcción de esclusas en el Atlántico y el Pacífico, la excavación cauces de acceso a las nuevas esclusas y el ensanche de los cauces existentes. Además incluye la profundización de los cauces de navegación del Lago Gatún y del Corte Culebra y el aumento de su nivel máximo de operación.*

Case Study 2 –

Panama Canal Expansion



MAPA DE AREAS PROTEGIDAS



Gaps identified and addressed:

- ✓ Atmospheric emissions assessment
- ✓ Noise and vibration assessment
- ✓ Water Quality (above and below ground)
- ✓ Areas of Unexploded Ordnance Survey
- ✓ Cumulative socio-economic effects
- ✓ Disposal of materials

- ✓ EIA Feasibility Study:
- ✓ To review the environmental feasibility of the project
- ✓ Review and summary of environmental studies carried out between 1998 – 2006
- ✓ Summary key issues
- ✓ Act as guide for the full EsIA for the project

Environmental Assessment

COURSES AND EARLY CAREER PROGRAMMES

Courses required (sample):

University	Degree	Entry requirements	Subjects
Bangor	BSc Environmental Science	80-112	Subjects not listed
Brighton	BSc Ecology and Conservation	A-Level BCC-CCC (104-96) BTEC Extended DMM-MMM IB – 26	Subjects not listed
Exeter	Conservation Biology and Ecology	A Level – AAB – ABB IB – 34-32 BTC – DDD/DDM	Science subject
Oxford	BSc Biology	A*AA IB – 39 (min)	A* required in Science/ Mathematics. A level Biology (or equivalent) will be required and a second A-level must be in Chemistry, Physics or Mathematics.
Oxford Brookes	BSc Biological Sciences	A Level - BCC IB – 29 BTEC - DMM	Subjects not listed
Plymouth	BSc Conservation Biology	A Level – 112-128 IB – 30 BTC/ National Diploma: 128-144	Biology/Environmental Science/Environmental Studies and a second relevant subject (Mathematics, Physics, Chemistry, Geography, Geology, Environmental Science or Environmental Studies, Applied Science, Marine Science, Psychology, Science in Society, Use of Maths) at grade C.

Courses (sample):

Specialisation	Degrees	A-levels
Ecology / biodiversity	BSc Biology	Biology, chemistry, geography, English literature
Air quality / Noise & vibration	BSc Environmental Sciences BSc Acoustics BSc Technology	Maths, physics, chemistry, biology, earth sciences
Landscape & Urban Design	BSc Hons / MA – Landscape Architecture	Humanities & Sciences: Geography, art/design, English, history, maths, biology. IT/Media and vocational courses in computer programming, /BIM/CAD
Heritage	BA or BSc in Archaeology	Ancient History, Geography and English
Geology / Hydrogeology	Geology (BSc or MSc)	Geography, geology, chemistry

Skills we need in our EIA roles

It's not just about your education:

- Good communication including very good writing skills
- Being able to communicate technically/ non technically
- Enjoying working collaboratively
- Hard working
- Adaptive and resilient to change
- IT Skills
- Be willing to travel - Driving (non essential)

Most important:

- Passionate – practice what you preach!

Early Career Programmes

Join our Graduate Programme

Find out more about our Graduate Development Programme and life as a graduate at WSP.

Read more

GRADUATES RECRUITED PER YEAR

250

Learn and earn through an apprenticeship

Find out more about Apprentice and Degree Apprentice Development programmes.

Read more

APPRENTICES RECRUITED PER YEAR

80

Get ahead with a university placement

Click below to find out more about our placement opportunities and to make an application.

Read more

CURRENT GRADUATES AND APPRENTICES

1,000

https://www.wsp.com/en-GB/careers/early-career

Thank you

Any questions?