

YEAR 12  
BIOLOGY ECOLOGY TRIP

WITH  
HIGHLANDS SCHOOL & SIXTH FORM



## DAY 1: STREAM ECOLOGY SESSION ON THE RIVER WEY

This session started off with a short introductory talk before heading out to the river. The session looked at the distribution of invertebrates in the river and how this is affected by various environmental factors.

The group collected data on the physical characteristics of the river, including the width, depth and velocity as well as conducting kick samples to investigate the distribution of invertebrates.

The data collected was used to calculate pollution indices (Biological Monitoring Working Party Score), or with Simpson's Index of Diversity.

$$D = 1 - \left( \frac{\sum n(n-1)}{n(n-1)} \right)$$



BMWP = ?



## DAY 2: PSAMMOSERAL SUCCESSION SESSION AT STUDLAND

The heathland sand dune ecosystem is an ideal location for studying the abiotic and biotic factors of succession and the influences that affect this process.

Fieldwork included an interrupted belt transect across the dune system collecting data on height change, abiotic factors and vegetation cover.

There was also the opportunity to do some random sampling within the different zones to use a variety of techniques.

There were also opportunities to study different approaches to sustainable development and how humans impact upon succession. This session lends itself perfectly to Required Practical 12, (investigation of a named environmental factor on the distribution of a given species).





# DAY 2: PSAMMOSERAL SUCCESSION SESSION AT STUDLAND



abiotic &  
biotic factors



## DAY 3: MARINE ZONATION SESSION AT OSMINGTON BEACH

The students looked at horizontal succession using line transects to measure the percentage and/or frequency cover of specific organisms.

Vertical zonation studies can also be carried out covering essentially the same concepts as horizontal zonation, but using a 10 cm quadrant vertically on the rocks to examine changes in species diversity on a small scale.

Students were also able to look at random sampling to compare species population/density in different areas of the rock pools.

Pelagic zone



High intertidal

Oceanic zone



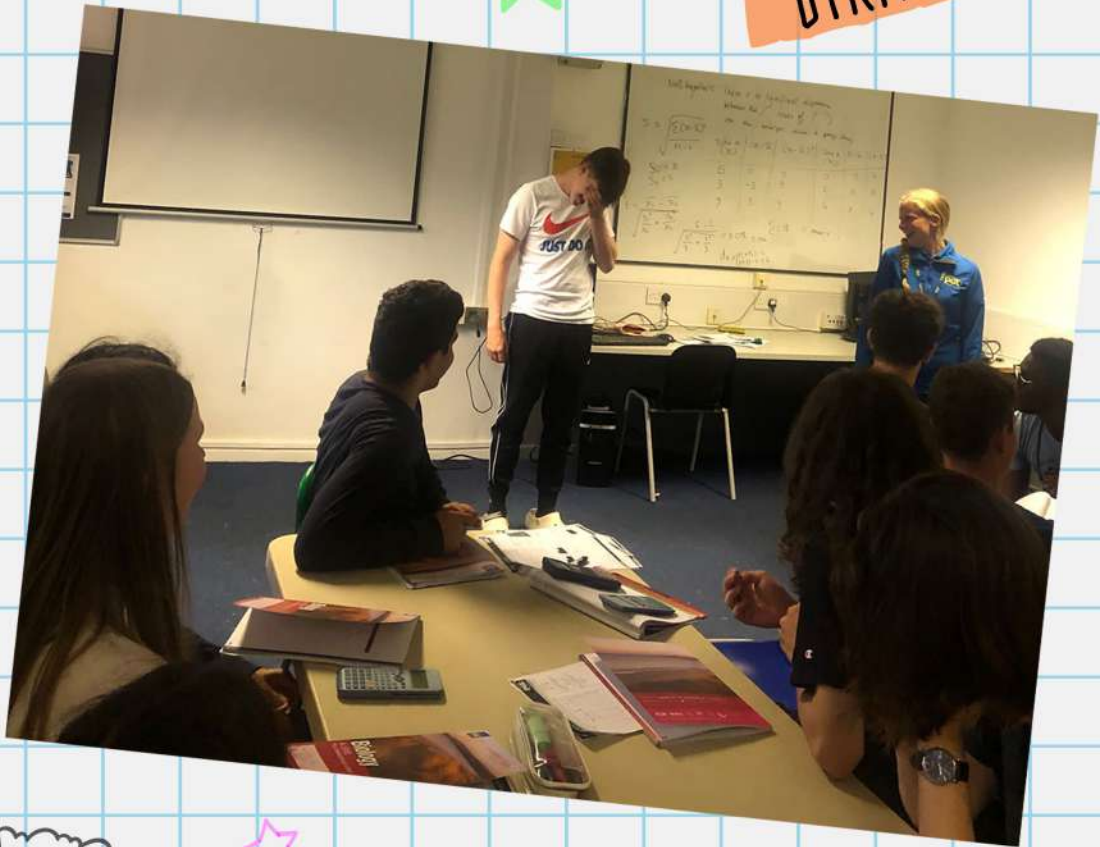
## ALEXANDER'S BIRTHDAY!

While the students and staff embarked on an unforgettable adventure to Osmington Bay, Dorset, they stumbled upon an exciting surprise. It was Alexander's birthday!

The group sang a special edition of happy birthday to Alexander to help celebrate his day!

Happy birthday Alexander, from everyone at Highlands!

HAPPY  
BIRTHDAY!





## TESTIMONIALS

ON BEHALF OF THE ENTIRE YEAR 12 BIOLOGY COHORT, I WANTED TO EXPRESS OUR DEEPEST GRATITUDE FOR THE INCREDIBLE EXPERIENCE YOU PROVIDED US DURING THE THREE DAYS AT OSMINGTON BAY FOR THE ECOLOGY REQUIRED PRACTICAL. WE HAD AN ABSOLUTE BLAST AND CREATED MEMORIES THAT WILL LAST A LIFETIME.

NOT ONLY WAS THE TRIP EDUCATIONAL AND ENRICHING, BUT IT WAS ALSO INCREDIBLY FUN. WE ENJOYED EVERY MOMENT EXPLORING THE DIVERSE ECOSYSTEMS AND LEARNING ABOUT THE INTRICACIES OF ECOLOGY IN SUCH A HANDS-ON MANNER. YOUR GUIDANCE AND EXPERTISE MADE THE LEARNING PROCESS ENGAGING AND CAPTIVATING, AND WE WERE TRULY INSPIRED BY YOUR PASSION FOR THE SUBJECT.

THE SCENERY AT OSMINGTON BAY WAS NOTHING SHORT OF BREATHTAKING. THE PICTURESQUE LANDSCAPES AND STUNNING NATURAL BEAUTY SERVED AS THE PERFECT BACKDROP FOR OUR ECOLOGICAL STUDIES. IT WAS A PRIVILEGE TO WITNESS THE INTRICATE BALANCE OF NATURE FIRSTHAND, AND WE WERE AWE-STRUCK BY THE WONDERS THAT SURROUNDED US.

WE CANNOT THANK YOU ENOUGH FOR ORGANISING AND ACCOMPANYING US ON THIS REMARKABLE JOURNEY. YOUR DEDICATION AND COMMITMENT TO OUR EDUCATION ARE TRULY APPRECIATED. THIS TRIP HAS NOT ONLY DEEPEENED OUR UNDERSTANDING OF ECOLOGY BUT HAS ALSO FOSTERED A LOVE AND RESPECT FOR THE NATURAL WORLD.

ONCE AGAIN, THANK YOU, MS. WILTON AND MS. ALVER, FOR YOUR UNWAVERING SUPPORT AND FOR MAKING THIS EXPERIENCE POSSIBLE. WE ARE INCREDIBLY GRATEFUL FOR THE OPPORTUNITY TO LEARN, HAVE FUN, AND CREATE LASTING MEMORIES TOGETHER.

SYENNA FERREIRA

### DAY 1 - STREAM ECOLOGY EXPERIENCE

ON THE FIRST DAY OF OUR TRIP, WE COMPLETED THE STREAM ECOLOGY PRACTICAL. WE VISITED THREE DIFFERENT SITES WITH VARYING STREAMS OF WATER. WORKING AS A TEAM, WE MEASURED THE WIDTH AND DEPTH OF THE RIVERS, AS WELL AS CALCULATING THE FLOAT FLOW TIME AND TRACER DYE FLOW TIME.

THE BEST PART WAS SEEING THE DIFFERENT ORGANISMS INHABITING THE RIVERS. ALL THE TEAMS MANAGED TO CATCH SMALL FISH IN THEIR BUCKETS, AS WELL HAS LOTS OF TINY SHRIMP! OVERALL, DAY 1 OF THE TRIP WAS BOTH FUN AND EDUCATIONAL.

ZEREN SEGGİN



## TESTIMONIALS

I REALLY ENJOYED THE LAST DAY OF THE TRIP WHEN WE DID MARINE ZONATION. WE HAD TO RANDOMLY SELECT AN AREA TO PLACE THE QUADRAT AND LOOK AT ALL THE DIFFERENT SPECIES IN THE ROCK POOLS AND TRY TO IDENTIFY THEM.

I FOUND THIS REALLY INTERESTING BECAUSE I LEARNT A LOT ABOUT DIFFERENT TYPES OF SEAWEED SUCH AS PEACOCKS TAIL SEAWEED, WHICH IS ENDANGERED IN THE UK, AND THE CRABS AND SEA SNAILS WHICH LIVE ON THE BEACH.

I REALLY ENJOYED THE BIOLOGY PGL TRIP AS IT OFFERED A RANGE OF EXPERIENCES SUCH AS BEING ABLE TO INVESTIGATE ON THE COAST OF ENGLAND WITH OTHER SCIENTISTS AND VIEW MANY DIFFERENT SEA SPECIES THAT WERE FASCINATING TO LEARN ABOUT.

OUR GROUP LEADER SHANNON, ALSO TAUGHT US HOW TO CALCULATE MANY CHALLENGING EQUATIONS TO FIND OUT THE RESULTS WE NEEDED IN OUR PRACTICALS AND MADE SURE WE DID PLENTY OF PRACTICE BEFORE SENDING US BACK HOME.

SHARING A ROOM AND A HALLWAY WITH MY BIOLOGY FRIENDS WAS A MEMORABLE EXPERIENCE BECAUSE AFTER PRACTICALS WHEN WE NEEDED RESULTS URGENTLY WE COULD WALK FOUR STEPS DOWN THE HALL AND ASK OUR FRIENDS AND ALSO DISCUSS OUR ANSWERS.

I WOULD HIGHLY RECOMMEND THIS TRIP TO THE YEARS BELOW TAKING BIOLOGY AT A LEVEL, AS IT'S A VERY MEMORABLE, ENJOYABLE AND VALUABLE EXPERIENCE THAT CANNOT BE MISSED.

CARYS HUGHES

LARA DOGAN

I WANT TO CONGRATULATE ALL OF OUR BRILLIANT YEAR 12 BIOLOGISTS. EVERY STUDENT SHOWED DETERMINATION AND RESILIENCE DESPITE BEING OUT ALL DAY AND WORKING TILL LATE!

SPECIAL WELL DONE TO THE FOLLOWING STUDENTS WHOSE CONTRIBUTIONS WERE INCREDIBLY IMPORTANT!

BEN AND MER: ALTHOUGH BOTH OF YOU ARE QUIET IN LESSONS, IT WAS AMAZING TO SEE YOUR PERSONALITIES SHINE THROUGHOUT THE TRIP. I HOPE YOU CONTINUE TO HAVE THE SAME WIT AND HUMOR IN THE COMING YEARS.

LARA: IT WAS AMAZING TO SEE YOU INTERACT WITH SO MANY STUDENTS OUTSIDE OF CLASS. YOU WERE FULLY ENGAGED DESPITE BEING EXHAUSTED BY THE END OF THE DAY!

AMMARAH: YOUR DETERMINATION AND DEDICATION DURING THE TRIP WAS AMAZING. YOU WERE FULLY ENGAGED AND ALWAYS LOOKING TO CONTRIBUTE POSITIVELY DESPITE THE CHALLENGES YOU FACED DURING THE EXCURSIONS! WE ARE VERY PROUD OF YOU.

ONCE AGAIN WELL DONE TO ALL STUDENTS AND HOPE YOU ALL GET THE WELL DESERVED REST BEFORE ANOTHER VERY DIFFICULT BUT EXCITING YEAR.

MS ALVER



## TESTIMONIALS

THE YEAR 12 BIOLOGY EXCURSION MARKS WHAT HAS BEEN THE END OF MY JOURNEY HERE AT HIGHLANDS SCHOOL. I HAVE BEEN BLESSED WITH THE OPPORTUNITY TO OBSERVE MANY OF THE KEEN STUDENTS WHO WERE IN YEAR 10 AT THE START OF MY TIME HERE, GROW INTO INDEPENDENT AND HIGHLY PASSIONATE BIOLOGISTS - IT IS SAFE TO SAY THAT I AM PROUD!

THE YEAR 12S IMPRESSED ALL DURING THEIR TIME IN DORSET. THEY WERE POLITE AND INCREDIBLY HARDWORKING - DESPITE THE MOTION SICKNESS, WET AND SANDY SOCKS AND THE ABSENCE OF COPIOUS AMOUNTS OF PROTEIN (NIKKI, LUKE AND PATRICK, YOU SURVIVED). THE 8 AM STARTS IN THE SAND DUNES AND 9 PM FINISHES WORKING ON STATISTICAL METHODS IN THE PGL CLASSROOMS DID NOT PHASE OUR BIOLOGISTS! STAFF COMMENTED ON THEIR RESILIENCE AND RESPECT FOR THE ECOSYSTEMS THEY WERE INVESTIGATING.

I'D LIKE TO SAY A SUPER SPECIAL WELL DONE TO THE FOLLOWING STUDENTS FOR SHOWING PARTICULAR DEDICATION AND DRIVE.

ALEXANDER M: WE CELEBRATED YOUR 17TH BIRTHDAY WITH CARAMEL SHORTBREAD IN A CONSERVED ECOSYSTEM! ONCE AGAIN, HAPPY BIRTHDAY!

CARYS AND ELEANOR: YOUR QUIET AND KEEN APPRECIATION OF EACH INVESTIGATION CARRIED OUT WAS CELEBRATED BY THE PGL STAFF - WELL DONE FOR WORKING SO WELL TOGETHER AND DOING US PROUD!

PATRICK: DURING THE TRIP, YOU PAID SPECIAL ATTENTION TO THE BIODIVERSITY OF THE ROCK POOLS, THE STREAMS AND COASTLINE. YOU CAUGHT A FEW FISH AND YOU WERE ABLE TO IDENTIFY THEM WITH EASE. YOUR EXCITEMENT WAS INFECTIOUS! I HOPE THAT YOUR APPLICATION TO STUDY MARINE BIOLOGY IS SUCCESSFUL.

NATALIE: WELL DONE FOR SHINING A POSITIVE LIGHT ON EVERY CHALLENGE AND MAKING THE TEAM SMILE! YOU DID NOT SHY FROM ANY OPPORTUNITY TO DEVELOP A NEW SKILL AND DID SO ENTHUSIASTICALLY.

I AM SO GRATEFUL TO ALL WHO HAVE CONTRIBUTED TO MY JOURNEY AND WISH ALL OF MY STUDENTS THE BEST IN THEIR ENDEAVOURS. REMEMBER TO TREAT EVERY ROOM AS THOUGH YOU BELONG IN IT AND EVERY PERSON AS THOUGH THEY HAVE SOMETHING IMPORTANT TO TEACH YOU!

MISS WILTON