

Bee Survey

5/10/23

Location: Outside IQ Building

Time: 3:05 pm

temp: 17°C

wind: 15 mph

humidity: 72%

Species found in 15 mins

2 common carder bees pollinating
red clover patch

Waste ground area without much
soil. Mostly weeds rather than
grass.

body of water with water-
plants growing out of it so
is semi regular. Algae ~~of~~

near ~~a~~ a building site.

Grey heron flying near by

12/10/23

location: path along side river tent
time: 2:30pm ^{starting at}
chip. pine. crash

temp: 14°C

wind: 8mph

humidity: 89%

Observations found using tree ID

Alder tree

Willow tree

Sycamore

aspen

birch

rowan

Norwegian maple

downy birch

hawthorn

Ash

field maple

big patch of Japanese knot weed

apple tree

Lam per ter trip

23/10/23

Location: V3V-11/denim. Stumpy. profile

time: 11am

temp: 15°C

river survey



upper width = 7m 20cm

cross section	river bed to surface	surface to tape measure
1m	23cm	67cm
2m	35cm	73cm
3m	45cm	86cm
4m	45cm	91cm
5m	50cm	89cm
6m	55cm	95cm
7m	52cm	96cm

Orange velocity

9.89s

9.99s

11.7s

9.95s

11.8s

Flow meter reading

surface = 8.3 m/s

river bed = 6.6 m/s

further down stream.

river width = 7.15m

cross section

river bed to surface

surface to tape measure

1m

2m

3m

4m

5m

6m

7m

unable to take readings due to over growth 

32cm

82cm

42cm

84cm

45cm

71cm

48cm

75cm

Orange time

12.84s

10m

11.34s

12.54s

10.48s

Image of samples being taken



River Ilston

6/11/23

down stream results

1st area

river width = 6.1m

river depth

Orange time to move 5m

1m 21cm

1.8.33s

2m 37

2.8.85s

3m 40

3.8.9s

4m 59

5m 55

6m 11

2nd area

river width = 6m

Orange time 5m

river depth

1m 81cm

1.5.68

2m 78cm

2.5.64

3m 71cm

3.9.93

4m 65

4.6.65

5m 57

6m N/A

Location: river ilston

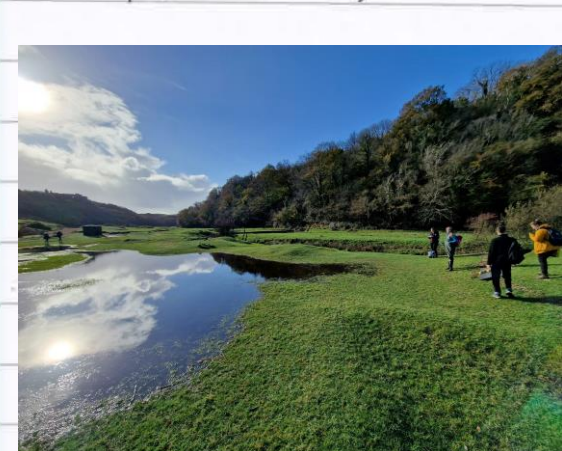
time: 11am

temp: 12°C

notes:

* Near the Gower heritage centre the river has over flown

* further down stream there are signs of previous flooding as there are areas of stagnant water and patches of wood and debris carried by the river.



Images show the stagnant water and debris left by the river

3rd area

river width = 9m

river depth (cm)

Orange time 5m

1m	75
2m	75
3m	77
4m	77
5m	77
6m	75
7m	50
8m	31
9m	10

1. 7.83

2. 8.22

3. 9.09

4. 8.38

Sand dune Survey 16/11/2023

Grid 1 - 0 m (Beginning of sand dunes)

Marram Grass - 67/100

Sea spurge - 10

~~Gleeking buttercup~~ Hoary mustard -
Hirschfeldia incana 8

Grid 2 - 5m

Marram Grass - 20

~~Dandelion~~ Cat ear - 18

Grid 3 - 10m

Wild Carrot / *Dauca Carota* - 21

Marram Grass - 19

Dandelion - 9

- Just seen a skylark

- Yucca plant,
invasive species
spotted

Grid 4 - 15m

Marram - 37

Dandelion - 6

Dewberry - 1



20m

Marram - 10

Dewberry - 3

cat ear - 14

25m

Marram - 100

Dewberry - 17

Wild carrot - 5

kidney vetch? - 1

Anthyllis vulneraria



30m

Marrom - 28 wild carrot still
has flower

Dewberry - 21 lots of litter

Euphorbia paralias - 10

lesser Hawkbit - 6

Anthyllis vulneraria - 11

Grid - 8 35m

Dewberry - 23

Wild Carrot - 37

Lesser hawkbit - 20



Grid 9 40m

Dewberry - 90

Marrom - 10

cloud of sparrows
gulls

next to urban area
wind blowing to the left
when looking at sea



Sand dune survey

12/24

location 51.6137169, -3.9307884
time 2:34 pm

0m - Marram - 42
~~sea~~ sea sponge - 3
dandelion - 6
daisy - 10

3m - Marram - 40
dandelion - 7
daisy - 2

6m - Wild Carrot - 22
Dandelion - 7
Marram Grass - 12

Lots of
Snails

9m - marram - 85
Dewberry - 10
hawk bit - 6
wild carrot - 6

12m - wild carrot - 4

marram - 15

Common evening primrose - 7

capnophylla
capnophylla *biennis*
(No idea what this says)

15m - marram - 100
Pigwort - 8

Dewberry -

Wild Carrot - 10

birds-foot trefoil - 8

There is moss here!

18m - marram - 70

Hawkweed - 8

Wild Carrot - 10

Ribwort - 8

Signs of burrowing mammals
such as mice and
voles

21m
Wild carrot - 21
Marram - 42
Ivy - 16
Daisy - 5

24m
Wild carrot - 12
Marram - 32
Dewberry - 16

27m
Moss - 80
Mushroom spotted
Sea Holly - 1
Hawkbit - 4
Dune Pansey? - 20



30m - 51.6139820, -3.9307572

Wild carrot - 3

Dune Pansey? - 21

Kidney Vetch might be dune pansey

1 - EVAM BBC

2 - NO pansey

3 -

4 - NO pansey

5 - M



19/2/24

Location: Kilvey Hill

time: 11:00am

temp: 13°C

wind: 10mph

humidity: 75%



mushroom

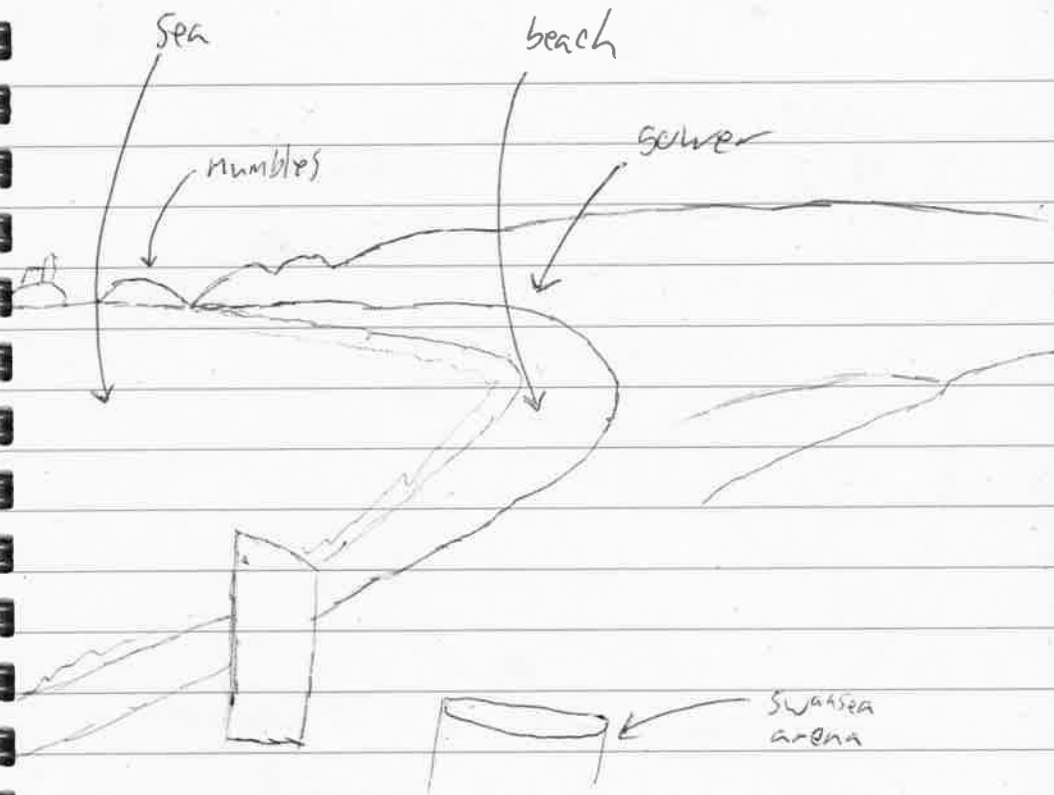
• rhododendrum present - invasive species
(Edwards, 2006)

• trees starting to bud mid February

• heathland habitat where trees can't root properly

• lots of star moss about (Frontasyeva et al., 2020.)
a good sign of low air pollution

• Potential Wood Pecker in the area. Can hear it in the trees



51.628609, -3.920532

quakers pond

Iron - between 0.00 - 0.005 ppm

PH - less than 6.2 (about 6.7)

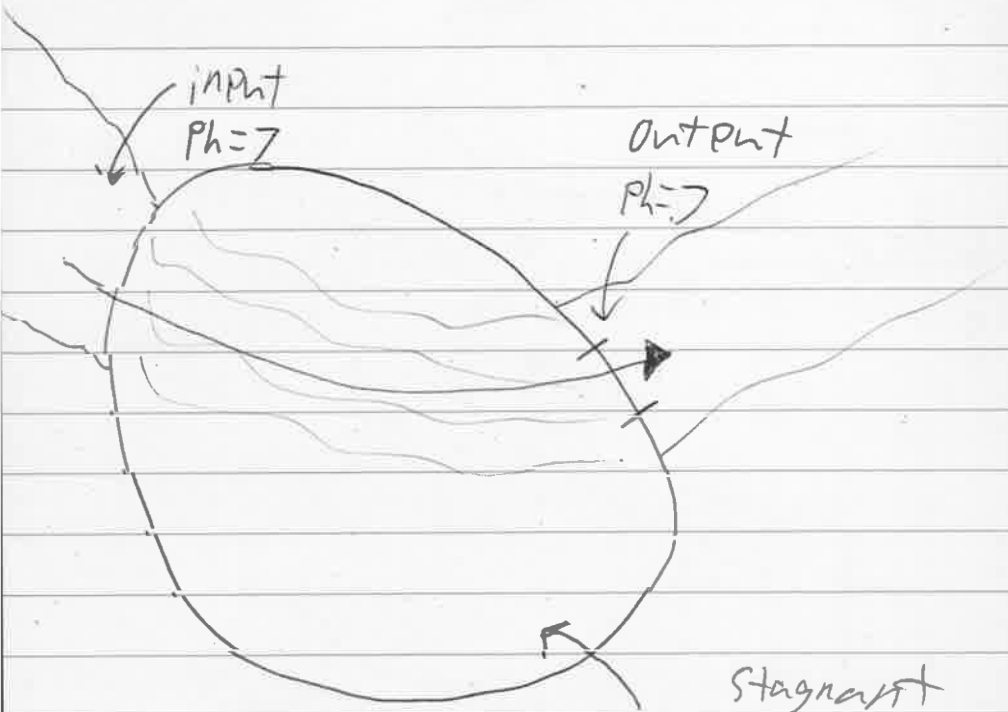
chlorine - 1 ppm

out put ph - 7
input ph - 7





Image of Swansea beach
from previous page



PH=6.5

lots of litter and debris in the water

input is made up of 4 streams



Output

PH 6.5
sample
location

Image of Quakers pond

28/2/24

Location: river ilston

Time: 3:00 PM

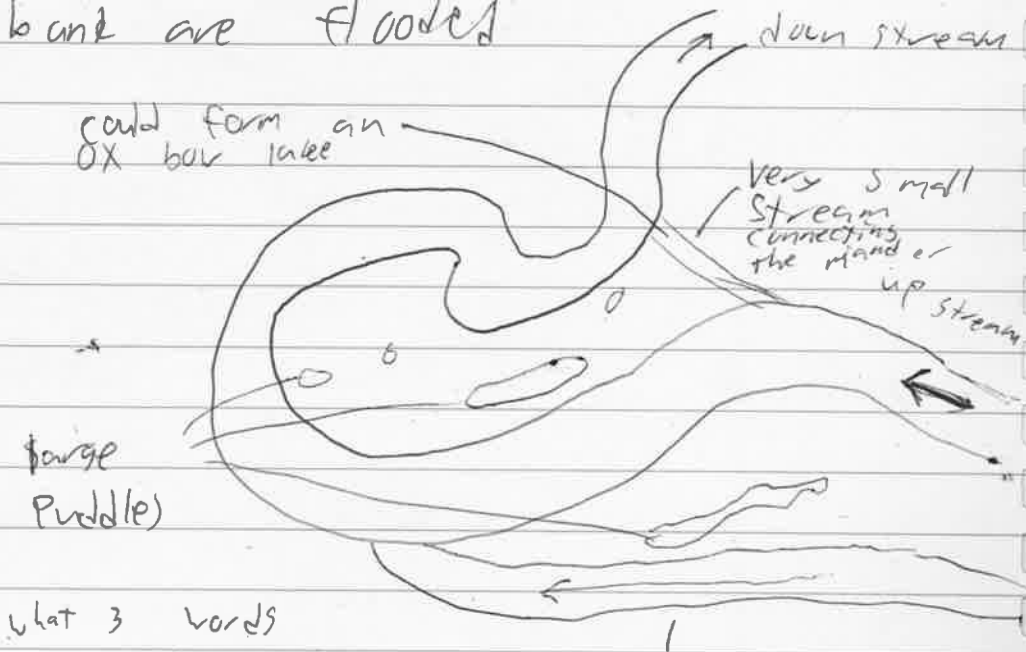
Temp: 10°C

Wind: 10 mph

Weather: foggy / slight drizzle

very foggy conditions

lots of areas near the river bank are flooded



what 3 words

trustees, shorthand, printing

small stream

that joins ilston

not much wildlife to note except a few song magpies



~~almost~~ no insects seen



Image of the foggy conditions that day



29/12/24

field and lab kilvey hill

results

Sample 1

Nitrate - 1. 10 mg/l
2. 0 mg/l
3. 0 mg/l

Ph - 6.2
2. 6.2
3. 6.2

Phosphate - 1. 0
2. 0
3. 0

Iron 1. 0.005
2. 0.005
3. 0.005

Sulphate - 1. 0 mg/l
2. 0 mg/l
3. 0 mg/l

total chloride - 1. 0.5
2. 0.5
3. 0.5

Ammonia - 1. 0.25
2. 1
3. 0.25

(rpt very accurate test)

Copper - 490 ppm (more accurate machine used)
Iron - 259 ppm

what levels are we looking at?



Sample 2

nitrate - 0mg/l

Sulphate - 0mg/l

Ammonia - 0.25

ph - 6.2

chlorine - 0.5

total hardness - 50

15/4/24

samples

Soil samples

Location - cum ily

time - 11am - 3pm

temp - 11°C

Wind - yellow wind warning

very large salt marsh.

This salt marsh used to be
a fresh water marsh

lots of ~~retired~~ trees in the middle
of the marsh. This indicates
that there were healthy trees
in the marsh indicating that
it was a fresh water marsh.
As they have been ~~retired~~ this
shows the high levels of salt.

invasive species bullrush on the
edge of the marsh.

reeds growing next to ~~retired~~ trees.
Interesting as reeds need fresh
water to grow.

(edit: Grows better in fresh water)



(Lissner and Schierup, 1997)

Sample 1 (established salt marsh) ✗

- 1012 ^(carbon) micro grams / per gram / 911

68% fungi 32% bacteria / 66% F 34% B

Sample 2 ✗

631 ^(carbon) micro grams / per gram / 66 / 34

474 micro grams / per gram /



2:30 pm

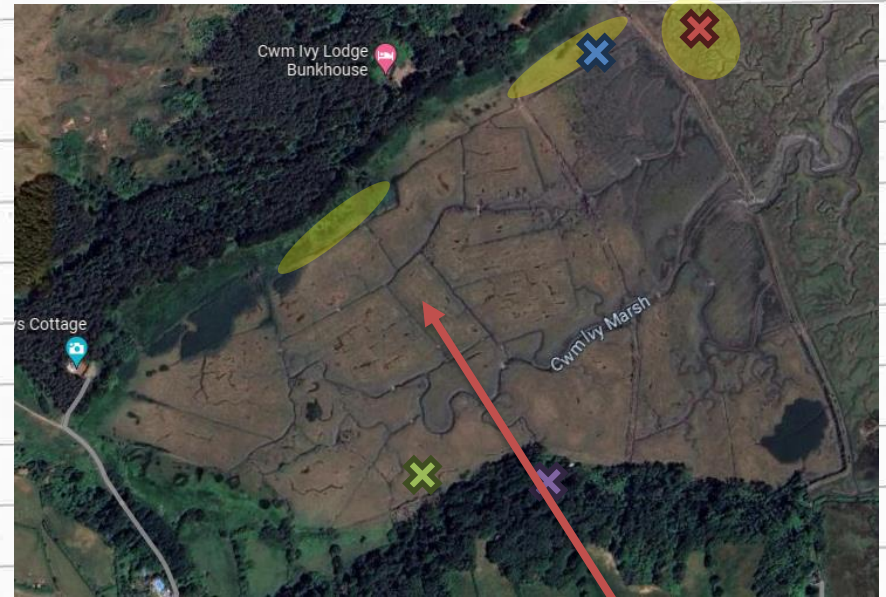
~~Plants~~

Possibly pheasants on the salt marsh

Sample 3 ✕ location was in a very wet woodland. Evidence for this was abundance of moss

Sample 4 ✕ area has no bullrush loads of dead fern

Sample 4 area has a very high water table



Map of Cwm Ivy and where each sample was taken

Petrified trees location

Yellow areas = Bull rush spotted here

25/4/21

location - Swanage & Sand Dunes
start location
51.613694, -3.9302627
0m - Non plant life

5m - 37 marram grass

10m - 43 marram grass
4 ragwort
10 heath dog violet?
8 dewberry

15m - 25 dewberry
13 wild carrot
1 heath dog violet
79 fescue?
45 sand sedge
4 common vetch
6 dandelion
23 yorkshire fog

end

51.6139422, -3.9302533

20m
100 fescue
54 dewberry
43 ~~ide~~
13 marram

14

25m
48 dewberry
15 sand sedge
9 field marigold
4 wild carrot
40 common birds foot trefoil
96 Polytichum Juniperinum
12 dandelion
5 sand wort

30m 2

20 sand wort
29

30 dewberry
6 wild carrot
9 gold moss stone
32 marram grass

17 sand sedge 2 fairy flax
7 hawk bit
2 dead sea holly
6 common vetch
4 northern evening
primrose
7 yorkshire fog



References

Frontasyeva, M., Harmens, H., Uzhinskiy, A., Uzhinskiy, M. and Chaligava (2020). *Mosses as biomonitors of air pollution: 2015/2016 survey on heavy metals, nitrogen and POPs in Europe and beyond* [online] Available at: <https://icpvegetation.ceh.ac.uk/sites/default/files/REPORT-Frontasyeva.pdf>

Edwards, C. (2006). *Managing and controlling invasive rhododendron*. [online] Available at: https://assets.publishing.service.gov.uk/media/5acc9fd240f0b64ff0e694c4/managing_and_controlling_rhododendron.pdf.

Lissner, J. and Schierup, H.-H. (1997). Effects of salinity on the growth of *Phragmites australis*. *Aquatic Botany*, 55(4), pp.247–260. doi:[https://doi.org/10.1016/s0304-3770\(96\)01085-6](https://doi.org/10.1016/s0304-3770(96)01085-6).