

# Botany Bay Community Interest Group

## 2022 Newsletter



### Message from the Chair – Clive Lightfoot

During 2022 we have experienced the effects of climate change. The unusually high autumn rains brought down two ancient oaks across the stream. The summer drought lowered water levels and raised water temperature bringing down our aquatic invertebrate counts. While on-going conservation work dominated the year, we have developed one new habitat (a chalky bee-bank) and collected data from two new surveys of fungi and newts. To help us track our biodiversity impacts we continue to send in data to Sussex Biodiversity Record Centre through IRecord. This year thanks to Jonathan Simons (and previous work by Will Morris) we are uploading our data to our own website, Botany Bay Online. Currently we have 241 surveys uploaded, listing 654 species in 1,381 records. Many thanks to all our members, volunteers and supporters for making 2022 another very busy and productive year; the details of this year's achievements are documented below.

### 2022 Grant Report - Jude Sennitt



Botany Bay has been very fortunate this year to have received several grants for work on the site. Funding from **The South Downs National Park Authority (SDNPA)** has been hugely helpful in enabling us to have work done on dangerous Ash trees affected by dieback, making the site safer for all who visit. We have struggled to pay for this work in past years, so this grant is greatly appreciated. John Bentley from Arun Trees has been doing the safety surveys and tree work in Botany Bay since we started the restoration. His expertise has enabled us to manage the woodland for wildlife and keep areas safe and open for visitors.

Support from the **SDNPA Volunteer Conservation Fund** is being used for our meadow and tree planting projects. A portion of the funds have been put toward

the purchase of a used ride-on mower to maintain a buffer zone around the existing wildflower

meadow to help decrease the nutrient level of the soil and to reduce the intrusion of coarse grass seeds and invasive species. We have received tree guards which we are using to protect new trees (including Black Poplar and disease resistant Elm) from deer damage, and we have been able to purchase some much-needed tools that volunteers can use to help maintain the site. The SDNPA regularly brings working parties to Botany Bay. These are experienced groups of volunteers who help us with many maintenance tasks. This year we hosted groups in March, August and December for a variety of



tasks including hedge laying, tree clearance, brash barrier construction and work in the meadow. We hope to expand opportunities for volunteers, young and old, to work at Botany Bay and enjoy our site. A grant from **The South Downs National Park Trust, Bee Lines Project** has enabled us to create a bee-bank, a new habitat in Botany Bay, to add to the biodiversity of the site. This project was devised by Matthew Sennitt and constructed in August with help from our Community Group volunteers and Portsmouth Services Fly Fishing Association, with Robin Bray manning the digger (see Matthew's

article for more details). We are already seeing seedlings from wild bee-preferred plants coming up to provide a rich area for bees to feed and inhabit.



**The Woodland Trust, Ancient Woodland Restoration Fund** has provided a grant that is helping us remove invasive trees and plants from our ancient woodland. These include Cherry Laurel, Bamboo and some Grey Poplar which are mainly on the north bank of the lake. Graham West (Weald Woodsman) started this work in October; it is a huge job and we look forward to replanting with Black Poplar and other species more appropriate to an ancient woodland.

## Changes in the Meadow in 2022 - Matthew Sennitt

**The Wildflower Meadow:** This year saw a continuation of the increase in variety of species occurring in the wildflower meadow. The small area sown in 2018 continued to mature, showing a richer flora than the previous year. In the spring there were more Cowslips, while Wild Basil, Bird's foot Trefoil, Greater Knapweed, Yarrow, and Field and Small Scabious were present in larger numbers. This area also showed a significant increase in the presence of Yellow Rattle, which should allow more space for wildflowers to develop in future years. Nonetheless, the dominant flowers in this patch remained Ox-eye Daisy and Wild Carrot. These were also the dominant flowers over the larger area sown in 2019, though even here more Cowslips were present in the spring followed by small numbers of a great variety of other wildflower species planted here including Dropwort, Betony, and Hoary Plantain. Harebell and Mouse-eared Hawkweed continued to hang on though the turf height was too great for them to flourish. In the small area sown in 2020 Cowslip, Lady's Bedstraw and Crosswort seedlings consolidated their position and a few Vipers' Bugloss flowered, all adding to the species variety in the meadow.



Dropwort

**The Corner Copse:** This small area of woodland was conceived not just to add to the variety of plants in the meadow and introduce some of the shrubs frequently found on chalk, but also to increase the amount of nectar and pollen available to pollinators in a south-facing setting that would create a warm woodland edge on this north-sloping meadow. The saplings planted in the winter of 2021 faced a challenge with the extremely dry summer weather this year. However, we kept the plants well watered and so they flourished with many reaching out of their 1.5-metre-tall tree-tubes by the end of the growing season. The Wayfaring trees and Dog-roses were particularly vigorous.



Emergent Wayfaring tree

**The Bee-bank:** To attract more wild bees to Botany Bay we decided to build a 25 metre long Bee-bank, in which mining bees could make their nest tunnels, and surround this with wildflowers attractive to wild bees. A Bee-bank is a bank of largely bare sand or sub-soil and is more likely to be successful if the bank is warm and surrounded by many of the flowers that attract wild bees. Therefore, the area chosen for the bank was between the wildflower meadow and the fledgling Corner Copse, where it would not only get the greatest amount of sunlight on its south-facing side, but also would benefit from existing wildflowers on its east side and flowering trees on its west side. Creating the bulk for this Bee-bank required an 'apron' of topsoil 25 metres long and 10 metres wide to be removed and deposited into a previously dug ditch which was 2 metres wide and a half metre deep.

The filled-ditch was then covered with 15 tonnes of chalk and finally with the subsoil to produce a bank about 1 metre tall and 25 metres long.

All of the wildflower seed-mixes we have previously sown in the meadow are typical pollinator mixes used in the UK. However, in 2019 Dave Goulson's lab at Sussex University showed that many of the recommended species in these mixes were not the preferred flowers of wild bees and they listed those that were. Utilising this knowledge, we sowed the Bee-bank itself and the surrounding 'apron' with many of the wildflowers recommended by the Goulson lab. The construction of the bank took three days with a 1.5 tonne digger, followed by another three days of manual work to produce a suitable seed bed. The bank itself was very sparsely sown with seeds from wildflowers recommended by the



Bee-bank construction work

Goulson lab, but the surrounding apron was sown with a normal density of seed from commercial wildflower mixes together with additional bee-preferred flower seed. These latter seeds included Kidney Vetch, Hedge Cranesbill, Dandelion, Charlock, Scentless Mayweed and Common Poppy



Bee-bank after sowing

together with Musk Mallow, Greater Knapweed, Meadow Cranesbill and Wild Marjoram. They seeds were sometimes sown in separate clumps to produce areas with a high density of single species flowers particularly attractive to bees, and as focus plants useful to observers looking to identify bee species, while in other places the bee-preferred seeds were added to the seed mixes. The seed mixes included one from St Catherine's meadow near Bath largely because it contained the only source of Smooth Hawksbeard, the wildflower that attracted the greatest number of solitary bee species in the Goulson Lab's research.

**The Gorse hedge.** We have been able to plant a hedge of Gorse alongside the whole of the wire fence separating the meadow from the trackway beside the lake. This came about when a neighbour in Graffham noted that she had many Gorse seedlings growing in her garden. We quickly replanted them into pots and when they were big enough transferred them to Botany Bay. This super-prickly hedge, parts of which will always be in flower, will in time provide not only an additional source of pollen and nectar but also a safe nesting or roosting place. Furthermore, it will act as a hedge for people to walk behind, so the lake can be observed without disturbance to the animals using it.

None of these projects should be considered finished. As the meadow matures different species of wildflower can be added to those already in the wildflower meadow, either as plants or as seeds. As the woodland grows and casts increasing shade on the ground then woodland wildflowers can be planted, such as Primrose, one of the wild bees preferred plants, or Red Campion. The Bee-bank is the youngest of the projects and will need modifying to ensure it has areas likely to attract a variety of wild bee species, possibly some vertical inclines when the soil has been sufficiently compacted to keep them stable. All these varied parts of the meadow are in their infancy, but in time should add considerably to the wealth of variety of species that use Botany Bay.

### **PSFFA Fishing Report – Robin Bray (Water Manager)**

PSFFA has been involved in the restoration of the site starting in 2014 when the old trout farm and stew ponds in the stream feeding the lake were removed and a gap in the concrete dam, used to provide a head of water for the fish farm, was created using explosives experts from the association!





This has enabled the small resident brown trout population to thrive as they can travel upstream to reproduce. PSFFA, who lease the fishing, have been very active in the Botany Bay Project and now their members are regularly catching brown trout in excess of 1lb weight in addition to the stocked rainbow trout of 1.5 to 2lbs. The latter are triploid, an Environment Agency and Natural England requirement since 2015. These trout are unable to breed as they have the incorrect genetic make-up. The wild brown trout are diploid, the correct number of chromosomes, so they can expand

their population in this unique and well cared for environment. The catch returns of a number of PSFFA members have questioned whether the brown trout have been stocked as they are in such good condition, this is quite an accolade to the management of the Botany Bay Project. Since the first stocking on January 4<sup>th</sup> this year after the road repairs there have been over 75 visits. All brown trout are returned, only the rainbows are taken for consumption. Members are encouraged to fish with barbless hooks to help facilitate the return of the browns. PSFFA are very keen to continue their involvement with this project helping to enhance the feeder stream, managing the shaded and non shaded areas to encourage the growth of *Ranunculus* which in turn provides a habitat for in-stream invertebrates.



*Weed before cutting and after cutting*

This July the very hot weather caused an explosion of opposite-leaved pondweed. According to the Environment Agency Opposite-leaved Pondweed is relatively rare and is a mark of high pH, well oxygenated water that does not carry a lot of decomposing organic matter, i.e. a very healthy lake! Unfortunately its luxuriant growth caused it to restrict the access for the trout in the lake to the deeper water with a lower temperature during the hot weather. Hence the mechanical cutting and removal of the weed onto the bank near the main water outlet where it could decompose out of the in water environment.

## Surveys 2022

### Botany Bay Fungus 2022 - Jonathan Simons

I first visited Botany Bay in the April of 2022. I had offered to survey the fungi monthly but my first attempt yielded only the ubiquitous Cramp Balls, *Daldinia concentrica*, and Turkeytail, *Trametes versicolor*. Subsequent months gradually built from this base and in September I recorded twenty-six species. The results of these surveys were entered up on the new Botany Bay on-line database – [www.botanybayonline.co.uk](http://www.botanybayonline.co.uk). For October, at the height of the fungus season, I passed the task to the West Weald Fungus Recording Group. Twelve forayers recorded around sixty species. The number of distinct species recorded now stands at eighty-six. There is a variety of different habitats at Botany Bay with consequently a good diversity of fungi. There is the ash woodland that is being cleared near the entrance, the grassland by the lake, the mixed woodland on either side of the stream and a lot of



dead wood stacked in piles or lying where it fell. There is very little coniferous plantation, although the WWFRG did record the pine-loving Saffron Milkcap early in their October survey. Early in the season we had the distinctive Chicken in the Woods, Dryads Saddle, Shaggy Bracket and Beefsteak Fungus. The Oak and Hazel understory on the east side of the stream later yielded Hazel Glue, Hazel Woodwart and Oyster Mushrooms, much to my satisfaction. On the west side Annie and I found the distinctive Collared Earthstar and nearby what I think was the uncommon Fairy Parachutes, *Marasmiellus candidus*.



During the WWFRG survey, among the wealth of material uncovered was quite a substantial clump of fungi near the piles of cut grass in the meadow. It was unusual for such large specimens not to be easily identified. The current opinion that it is *Clitocybe amarescens*, not something I have ever seen before.



I am looking forward to continuing the monthly surveys into 2023 and beyond: celebrating the fungal diversity of this unique site.

### Riverfly Surveys – Anne Dennig



Monthly kick sampling is done at two points in the stream during the spring and summer. We suspect that the high temperatures and low water levels in August were the cause of worryingly low scores for riverflies in the survey area directly under Beechwood Lane. Here the scores for April and May were 10 and 12 but dropped to 6 in August which is just within our trigger threshold. Scores from the lower survey area averaged 12, with numbers of Cased Caddis, Mayfly, Olives, Blue-winged Olives and Gammarus. Details of surveys can be seen at <https://riverflies.fba.org.uk> for Western Rother, East Lavington Stream (Beechwood Lane and Duncton).

## SDNPA Newt Bottling Survey – Matthew Sennitt

On May 5<sup>th</sup> and again on May 18<sup>th</sup> Charles Winchester our SDNP ranger organised a survey of Newts in all the ponds in Botany Bay using night-time torchlight and a technique known as Newt Bottling. For this technique the bottles were made from empty 2 litre bottles that have had the upper third cut off and inverted into the lower part, forming a funnel. This encourages the Newts to enter and when inside they are unable to find their way out again. A hole was made in the top part of the bottle to allow Water-Shrews to escape. On each evening the Newt Bottles were lowered into the pond attached to a bamboo stake so that the entrance was close to the floor of the ponds and the top was just above the surface. They were arranged every two metres where possible around the edge of each pond. In the morning the bottles were examined, and the Newts identified, counted and then released.



Newt bottle in place

In the 6 ponds surveyed on May 5<sup>th</sup> 44 Newts were seen by torching, 30 Newts

trapped by bottling of which 20 were male and 10 female). One trap held 16 individual Newts. It was a surprise to discover that all the Newts caught and identified were Palmate Newts. In one trap there were 16 individual Newts. On May 18<sup>th</sup> five ponds were surveyed, 29 Newts were seen by torching and 11 caught by bottling. Again, all the Newts caught and identified were Palmate Newts. No Great Crested or Smooth Newts were identified.



16 Palmate Newts caught in a single trap.

## Bat Survey - BTEC Students supervised by Julian Hart

### Botany Bay Bat Survey 2022

**Date: 20/09/22**

**Highest temp: 16°C**

**Lowest temp: 7°C**

**Number of bat species: 10**

**TOTAL BAT RECORDINGS:**

**1180**

<b>Barbastelle</b>	10
<b>Serotine</b>	54
<b>Brandt's</b>	41
<b>Daubentons</b>	119
<b>Whiskered</b>	74
<b>Natterers</b>	35
<b>Noctule</b>	20
<b>Common Pipistrelle</b>	408
<b>Soprano Pipistrelle</b>	441
<b>Brown Long-eared</b>	4

The BTEC Countryside Management Students reported that the bat survey recorded fewer bat species this year than in 2021, (10 compared to 13) and less overall individuals (1180 compared to 1775). This may be partly due to colder temperatures this year; temperature range this year was 16 down to 7 degrees, compared to 18 down to only 15 degrees last year. There was an increase in numbers this year for some species e.g. more Serotines, Common



bat boxes in Botany Bay.

Pippistrelle and Whiskered bats. Two bush-cricket species were also recorded the Specked (130) and the Dark bush-cricket (10). The students have also made and placed some new

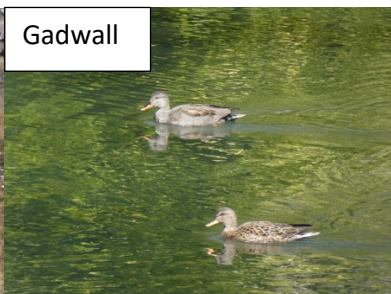


## Just a few interesting observations from 2022 – Anne Dennig

We haven't done any regular butterfly surveys this year, but we have spotted three butterflies which we either haven't seen before or only rarely.



Nesting birds have included:



We've also had the reptile refuge mats out and have spotted slow worms and grass snakes. We've had the usual frogs and toad activity in the still ponds and many Demoiselles (Beautiful and Banded) and dragonflies (including Migrant Hawker, Brown Hawker and Scarce Chaser).



## Education and Visitors – Anne Dennig

In May we were happy to host Seaford Prep again for sketching and pond dipping. Seaford's BTEC Countryside Management group helped us again by surveying the bats and small mammals on site and making bat boxes. In July, Michael Blencowe (Sussex Wildlife Trust) arranged a visit from Dan Blumgart from Rothamsted Research as part of a new project with The Southwood Foundation to link up experts with community groups. We hope to connect up with The Southwood Foundation for more expert help to survey the new bee-bank once it is established.





Our beautiful shelter <https://builtbyartizans.co.uk> has been well used for many SDNPA volunteer tea breaks and we've also hosted meetings for our conservancy members and for Graffham Down Trust.



### Work by BBCIG Members



Jude's huge efforts on the mower have greatly improved the paths and lakeside banks. Besides looking after the meadow, Matthew has been managing two wetland areas; introducing some more native wetland plants including: Purple Loosestrife, Devil's-bit Scabious, Ragged Robin, Marsh Marigold, Flowering Rush and Meadowsweet. Anne has placed nine dormouse boxes around the site and is learning to inspect with SDNPA ranger Chloe Goddard on the Graffham Down Trust site. So far the Botany Bay boxes have made very cosy tit nesting places! Graham West and Clive have started to lay the hedge

along The Drive and now that the Ash have been felled and the Cherry Laurel largely removed from the entrance copse we will be planting Black Poplar, Elm, Wayfaring, Spindle, Buckthorn and Oak. Clive has used much of the felled Ash trunks to construct some better pathways around the site. **Congratulations to Graham (aka Weald Woodsman)** for his hedge laying accolades, not only did he win the South of England Senior Trophy but also The National Hedge laying South of England Intermediate Champion and best all-round Intermediate. Look out for him on New Year's episode of Countryfile!



### Donations and Thanks

Thanks to Jo Morris for her "pre-loved" shed and to Jim Kirke and Seaford College for helping us to transport and construct it. We were sad to lose Charles Winchester who has been our SDNPA ranger for the past few years. He has been a great help and we hope that he enjoys his new adventures in America. Many thanks to Anthony Hurren for his photo of swans on the lake [www.instagram.com/anthonyhurren](https://www.instagram.com/anthonyhurren), we hope that he will continue to visit our site.

**We would like to thank all our members, volunteers and supporters.**



**We look forward to seeing you all again in 2023.**

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