

BRIDPORT and DISTRICT ALLOTMENTS SOCIETY

Newsletter

Spring 2024



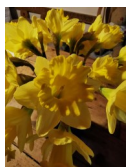
WHAT A WET WINTER!

This (top left) is what the Hub and the lower half of the Skilling North Allotment site looked like on December 6th 2023. Thankfully our shed was OK due to it being raised 40 cm off the ground. (Many thanks to Daryl Chambers for that advice). This area, along with a lot of other places in and around the town, flooded badly and, as I write this towards the end of February, (photo top right) it looks like it's going to happen again.

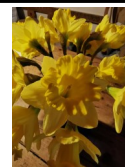
The flooding in December made quite a mess of the site where the Hub is—lots of stuff was washed down through the area and ended up 30 or 40 metres away, up against the hedge. If you lost anything from your allotment at this time, please go and look for it before the debris has to be cleared away. Somebody's picnic bench was carried onto another plot and we now have it at the Hub as it was in the way. I also noticed a child's slide, some raised bed frames and other articles amongst the stranded flotsam. After the December flooding, we sent out an email to members with advice from the Food Standards Agency about dealing with home grown fruit and veg affected by flooding. This information is on the Home page of our website should you need to revisit it. <https://bridportallotmentsociety.co.uk>

Lets hope that the weather improves soon and then we can all get back to enjoying our plots and get them ready for a (hopefully) bumper season of wonderful fruit and veg.

Fiona Dare, Chair BADAS



Dates for your diary and other notices



OPEN MORNING AT THE HUB

SATURDAY 16TH MARCH 2024

11 a.m. until 1 p.m.

Come and join us for tea/coffee/biscuits and a chat.

If you have spare seeds bring them along. And if anyone has any spare gardening books that are excess to requirements, bring those along too.

We welcome all our members to come along and join us—check out the seeds and books or just have a good moan about the weather!

If you are not sure where The Hub is—just email us at badashub@outlook.com

If the event has to be cancelled due to any extreme weather event we will send out an email the night before

FUTURE EVENTS

Plant Swap at The Hub—Saturday 18th May 2024—11 a.m.—1 p.m.

Bridport Food Festival—Saturday 15th June 2024—we will be there!

BADAS BBQ at The Hub—Saturday 6th July 2024—from 6.30 p.m.

Chedington Compost (chedingtoncompost.co.uk)

have offered BADAS Members 5% discount on their bulk bags of composted manure etc.

See BADAS website for details of how to claim this discount.

BADAS Membership 2024

By now we hope you have renewed your membership. Any members not renewing by mid March will be taken off our mailing list.

Contact Membership Secretary, Mandy Rathbone, by email at badashub@outlook.com for information on how to renew.

Newsletter contributions welcome

If you have any items you would like to see included in future issues of our Newsletter, (Published quarterly) please contact our Newsletter Editor (Mandy) badashub@outlook.com

Contributions for the next edition welcome at any time before **16th May 2024** please.

MORE FREE FRUIT TREES GIFTED TO BADAS



Twenty more mixed fruit trees were gifted to BADAS members by the Bridport Tree Planting Group in January and were collected from the Hub. They also gave us weed mats to use when planting the trees, to help them establish well.

Once more, we thank the group for their extremely generous donation. The more trees planted, the better, especially when you can eat their produce

GARDENING TOOLS FOR NEW MEMBERS

Following a conversation with a new BADAS member/allotment holder, a call went out to members who might have spare tools that they could donate. For those who haven't gardened before, it can be quite daunting to start from scratch buying a set of basic tools.

BADAS members have been very generous and we would like to thank Suzanne Finch, Alan Mildenhall and Brian Atkinson for tools that have been donated so far. We are in the process of passing these on to other members who need them. If anyone else would like to donate tools, bring them along to the hub on 16th March, or at any of our other events. We also have a wealth of expertise and gardening experience amongst our members, so please come along to one of our events, and tap into this.

Please note our new email address

badashub@outlook.com

For all your BADAS queries

Estimating the Earth's Biomass

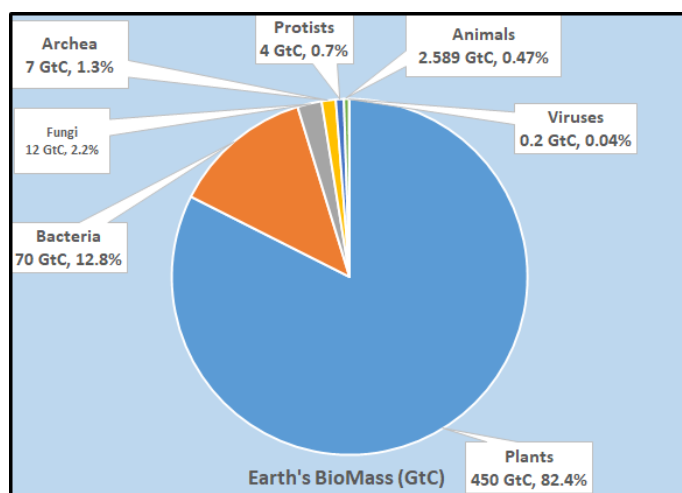


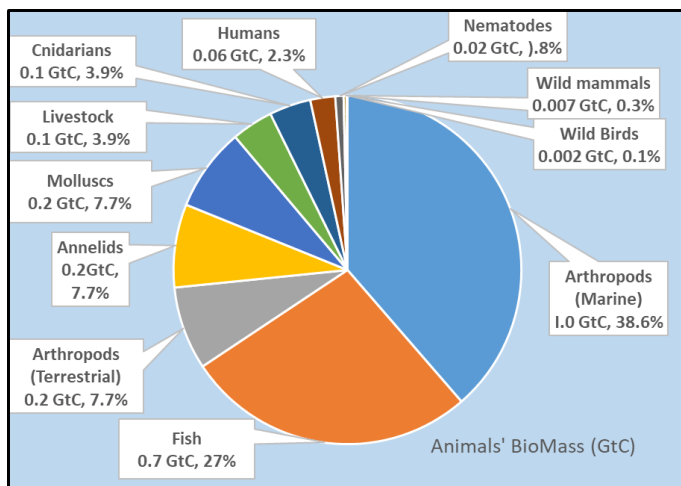
Figure 1. The Earth's Biomass Measurements (Adapted from: <https://nautil.us/all-the-biomass-on-earth-238368>)

We are all becoming familiar with the use of carbon accounting when considering carbon emissions and their effect on global warming and climate change. An interesting research paper, by Yinon M. Bar-On, Rob Phillips, and Ron Milo also uses the carbon content of plants and animals to estimate the distribution of the Earth's biomass, and then to consider the impact that "civilisation" has had on it.

The units used are gigatonnes. A kilogram is 1000g i.e. 10^3 g. A tonne (also called a metric ton) is 1000 kg (10^6 g) and is almost the same weight as an imperial ton.

The prefix "giga" represents a factor of 10^9 (or 1000 million) and thus a gigatonne, 1GtC = 1000 million tonnes of carbon - or 10^{15} g of carbon:

- Plants, which are predominantly terrestrial, make up the overwhelming majority of biomass on Earth. There are approximately 320,000 known species of plants, and their vital photosynthetic processes support the entire terrestrial biosphere. It is thought that total plant biomass has halved since the start of human civilisation even though the current crops cultivated by humans are estimated to be approximately only 10GtC.
- Bacteria were one of the first life forms to appear on Earth, and classified as prokaryotes (nucleus-less). Today, they're the second-largest composition of biomass behind plants. Perhaps this is because these organisms can be found living literally everywhere—from your gut, to deep in the Earth's crust. Researchers at the University of Georgia estimate that there are 5 nonillion bacteria on the planet—that's a five with 30 zeros after it!
- Fungi are the third most abundant type of life—and although 148,000 species of fungi have been identified by scientists, it's estimated there may be millions more.
- Archaea are single-celled microorganisms that are similar to bacteria. They thrive in extreme environments, from high temperatures above 100 degrees Celsius (212 degrees Fahrenheit) in geysers to extremely saline, acidic, or alkaline conditions. Sometimes called "extremophiles"
- Protists are mostly unicellular, but are more complex than bacteria as they contain a nucleus. They're also essential components of the food chain.
- Viruses are a most fascinating category of biomass. They have been described as "organisms at the edge of life," as they are arguably not living things. They're much smaller than bacteria—however, as the COVID-19 pandemic has shown, their microscopic effects cannot be understated.



We can see that whereas plants are the predominant terrestrial life form, Animals are predominantly marine:

- Arthropods are the largest group of invertebrate animals. They have segmented bodies, jointed appendages, and exoskeletons. Marine arthropods make up the largest proportion of carbon weight in the Animal Kingdom. Arthropods include up to 10 million species across insects, arachnids, and crustaceans.

Figure 2. Animal Biomass (Adapted from <https://nautil.us/all-the-biomass-on-earth-238368/>)

- Fish: More than 33,000 species contribute to the second largest amount of carbon in the animal kingdom.
- Annelids are segmented worms like earthworms or leeches, with over 22,000 living species.
- Molluscs are the second largest group of invertebrates after arthropods, totalling over 85,000 living species.
- Livestock are domesticated animals that produce food or labour for the human species. Including: pigs, chickens, ducks, goats and honey bees. Chickens (0.005%GtC) are almost 3 times the weight of Wild Birds (0.002GtC).
- Cnidarians include over 11,000 species of aquatic invertebrates in fresh and sea water including sea anemones, corals, siphonophores, sea pens etc.
- Humans contribute a surprisingly small mass when compared to the rest of the Animal Kingdom. Interestingly, we can do a rough 'back-of-the-envelope' calculation to see if we agree with the authors' figure of 0.06GtC: They have used an average human weight of 50kg which takes into account children and infants. The human body is about 60% water and so the dry weight is about 20kg and about half of this is carbon. So if we each contain approximately 10kg of carbon and there are about 6 billion people in the World, this gives a total carbon content of $10\text{kg} \times 6\text{ billion} \text{ i.e. } 10 \times 6 \times 10^9 \text{ kg} = 6 \times 10^{10} \text{ kg} = 0.06 \times 10^{12} \text{ kg} = 0.06\text{GtC}$.
- Nematodes are non-segmented worms and are found in every ecosphere.
- Wild mammals despite an incredibly diverse number of species make up a small portion of animal biomass. Wild land mammal mass is thought to have been approximately 7 times larger before prehistoric Human activity - for Marine mammals about 5 times larger.
- Wild birds make up the smallest amount of carbon weight in the entire Animal Kingdom

References: Source material is from: Bar-On, Y.M., Phillips, R., Milo, R., 2018. The biomass distribution on Earth. *Proceedings of the National Academy of Sciences of the United States of America*, 115(25), 6506-6511. With comments from: Ghosh, I., 2023. *All the Biomass on Earth*. Available from: <https://nautil.us/all-the-biomass-on-earth-238368/>