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THE REHABILITATOR

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Next BWRC Online talks



HOGLET REARING WORKSHOP
- APRIL 22ND

HEDGEHOG REHABILITATION
DATABASE - JUNE 17TH



Word from the chair

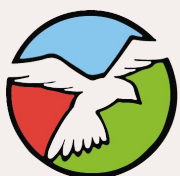
Dear BWRC members, a very warm welcome to the Spring 2024 edition of the 'Rehabilitator'. We have a fantastic range of fascinating and informative articles for you all including an account of a long-tailed duck rescue, a beaver rescue and a detailed case study of a pigeon with a swollen joint.

My thanks to the contributors of this edition and to the editor of the Rehabilitator, Morgane Ristić, for her brilliant work.

Don't forget that our **next online event will take place on Monday 22 nd April on the subject of 'hoglet rearing'**. Details and the invitations will be sent out soon for you to sign up to this free event. We very much look forwards to seeing you there.

As ever, we welcome any correspondence, and please do feel free to contact us to discuss any aspect of the work of the BWRC and wildlife rehabilitation in general; we would love to hear from you (dan.forman@bwrc.org.uk).

Best wishes
Dan





Wildlife forecast: the busy season is on the way!

After a particularly wet and stormy winter, spring is now well on the way with early baby mammal and bird admissions having already been recorded. Including young robins, blackbirds, pigeons, rabbits, foxes and badgers. The trend is soon to make its way up north where northern rescues are still awaiting for the inevitable rush.

All rescues will need to ensure a good stock of supplies of milk replacer, baby bird formula and live-food.

Being well rested is also an important part of making it through the busiest time of the year: do consider fitting in as much down time as possible!

“If you want to have enough to give to others, you will need to take care of yourself first. A tree that refuses water and sunlight for itself can’t bear fruit for others.”
- Emily Maroutian





Meet a wildlife rehabilitator: Holly Blake

DEPUTY HEAD OF BIRD CARE - MOUSEHOLE BIRD HOSPITAL CORNWALL

Tell us more about who Holly is?

Hello! I am Holly, I'm 25 and I've worked at Mousehole Wild Bird Hospital Cornwall since August 2020, recently becoming the Deputy Head of Bird Care in May 2023. I am mad about birds but when not out with my binoculars I am a keen footballer, playing in goal at two local clubs.



How long have you been involved in the wildlife rehab world?

I have always wanted to work with animals in one way or another. I grew up on my family's farm surrounded by a menagerie of animals ranging from sheep and shire horses to guinea pigs and dogs. I was (and still am) very fond of chickens and loved nothing more than to hatch my own poultry. After secondary school I went to college and obtained a level 3 diploma in Animal Management, completing almost all of the coursework on one species of bird or another. During my time at college, I got actively involved with as much practical animal care as I could taking particular interest in the campus's poultry and exotics section.

After this, I went on to graduate from Newquay University Centre with a BSc. in Applied Zoology and Conservation.

During my degree, I took a placement year. I volunteered at Paradise Park, Cornwall 5 – 6 days a week as a Zookeeper on the parrot section and later obtained part-time employment during my final year of study. During my time there, I got to really develop my avian husbandry skills with my duties involving everything from diet preparation and enrichment to aviary maintenance and cleaning. I also became proficient in leg ringing, nest box checks, medicating, netting and general handling/restraint.





I began working in wildlife rehabilitation in 2020 when I joined Mousehole Wild Bird Hospital Cornwall as a Clinical Assistant. The COVID pandemic meant I had to leave Paradise Park but I still wanted to continue working with birds and was very lucky that the Hospital had a vacancy. In the beginning, my role at Mousehole involved everything from admitting casualties to cleaning aviaries and hospital cages, to preparing diets, assisting in medicating, and facilitating releases. My background in bird care meant much of the role was second nature but I loved the challenge of IDing native species and working alongside our vets to diagnose problems. In early 2023, I was given the opportunity to progress and take on the Deputy Head of Bird Care role.

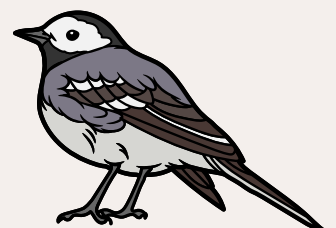
Were there any key moments in your childhood or career you would like to share with us?

I do have a key moment in my childhood that really affirmed my love for birds and wildlife. My family's farm encompasses a tributary to the river Valency and its surrounding marshland once attracted a variety of birds. One of my first and most memorable interactions with injured wildlife was when one of our farm cats came waddling through our yard with a live snipe (*Gallinago gallinago*) in its mouth.

I can't have been more than 7 years old but I will never forget chasing after that cat to drop the bird and placing a plant pot over it, before running off to get my Granfer (a common name for grandad in Cornwall). I don't recall a favourable outcome for that poor snipe but my desire to help and care for animals was always strong from a very young age. Being able to get that close to such a beautiful bird that looked very different from the ones I saw on my grandparent's feeders will always stick with me.

What is your favourite thing about working with wildlife and why?

Those who know me know I like a good routine but actually, the best part of working with wildlife for me is the diversity and unpredictability of each day. I enjoy not knowing what we might get through the door, and what species we might be helping. The variety that comes with the job keeps it exciting. I feel very privileged to be able to get so close to our native species and to have worked with some of the more unusual birds that visit the UK - like the Brown Booby (*Sula leucogaster*) I admitted back in 2022.





What has been your biggest struggle and something you have a hard time with when working with wildlife?

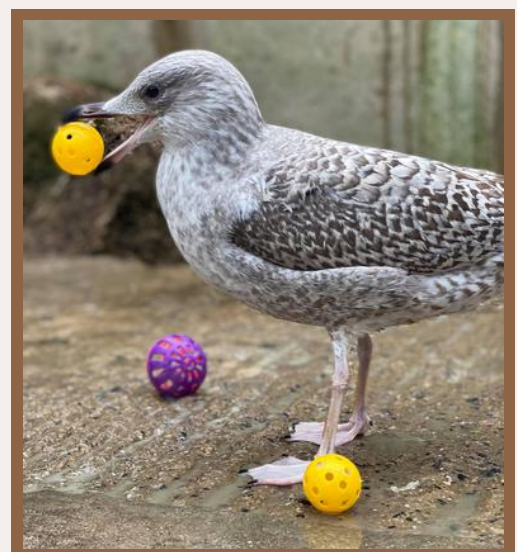
As some readers may be aware, our primary site in Mousehole had to be closed for 12 months after an Avian Influenza outbreak in 2022. This was an absolutely devastating time for us as a team, losing all birds on site. Seeing the effects AI has on a bird will be forever etched in my mind and I hope I never have to see it again. What I struggle to reconcile with most is that no matter what we do and how hard we work, sometimes bad things happen. This applies to many aspects of the job – from not being able to save a bird we worked hard on to not always being able to manage the expectations of members of the public and report happy outcomes. There are things we have no control over. However, we are a close-knit team, and we are bouncing back from the outbreak, with the help of our fantastic supporters.

Is there any advice you have found useful and would like to share with anyone within the wildlife rescue, rehabilitation and release community?

I would like to emphasise the need to look out for one another.

It's been highlighted in recent press that poor mental health is sadly common in the veterinary profession and unfortunately, those working in rehabilitation are not immune to the stresses of animal care either.

Our role as rehabbers can be relentless and we often do not have time to grieve the loss of an animal or process a difficult or busy day before having to move on to the next task or casualty. This makes us equally vulnerable to compassion fatigue and burnout. I think it is key to remember that you are not selfish or letting anyone down if you need to take time out from rehabbing – be that a day, a week, or a longer break. It's okay to delegate, to limit admittances, to take some time for yourself. It's important to remember that we cannot continue to help wildlife if we are not fit and healthy ourselves.





Where would you like to see your wildlife rescue in the next 5 to 10 years?

We are working hard to get the Mousehole site back up and running after such a long time away and have some exciting refurbishment plans coming up. Our main building is being reconfigured to better suit the modern approach to wildlife rehabilitation and our aviaries will also get a makeover to increase patient welfare and to ensure they now meet AI safety standards. In the next 5 years, I would love to see our plans for a separate epidemiological site for seabirds come to fruition. We learnt a lot from the AI outbreak, and I hope we can build something positive out of such a difficult time.

Finally, do you have a favourite species?

My favourite species to rehab without a doubt are pigeons. They are a greatly misunderstood and easily overlooked species with exceptional intelligence. Pigeons can remember individual faces, navigate complex routes, and have problem-solving abilities that rival artificial intelligence. They are also one of just a handful of species that can pass the 'mirror test' – a test of self-recognition. Better yet, they are extremely hardy! I have seen pigeons survive some horrendous injuries, bouncing back like nothing ever happened. Additionally, the calls we get from members of the public who attempt to describe a pigeon squab never fail to brighten up the day. One of my favourite birds in general, however, has to be pied wagtails (*Motacilla alba*). They were the first birds I could confidently ID as a child. I will always be fond of their flitting flight pattern and the way they go from standing still, wagging their tails to dashing off, with their legs moving 100 miles an hour, in search of their next meal.





“A balancing act”

**EMMA ASHCROFT - ANIMAL CARE MANAGER AT
BRENT LODGE WILDLIFE HOSPITAL**

They say to *never work with animals or children*, so as you may imagine living and working at a wildlife hospital whilst raising 2 children has thrown up its challenges.

I have worked with Brent Lodge Wildlife Hospital for just over 24 years. First in a voluntary capacity and now as the Animal Care Manager. From as young as I can remember, I wanted to work with animals. I wasn't sure what area of animal care I wanted to work in so when an opportunity to volunteer at a wildlife hospital came along, I jumped at it. I was immediately fascinated with wildlife care and decided to work towards a career in wildlife rehabilitation. Fast forward 24 years and I am now the Animal Care Manager, co-managing the hospital with my husband (who I met whilst working at Brent Lodge) and living on site with our 2 daughters.

Living where you work is convenient but also means you are constantly at work and constantly disturbed. Both my husband and I have always said, working at the wildlife hospital isn't a job but more of a lifestyle for us and living where we work has just made it easier for us to dedicate our time to our passion.

The only times that this can be a challenge is where our children are concerned. It had meant being disturbed at all hours by people bringing in casualties and by staff knocking on the door to ask a quick question on your days off.

The questions on your days off aren't so bad now but when the girls were babies and you had just put them down for a nap and the doorbell rang, I could have cried (in fact, I probably did). Our girls' bedrooms are at the front of the building so casualties being brought in after hours can also be a challenge as the headlights from cars shine straight through the girls' windows. Our eldest soon learnt to sleep through this but even with blackout curtain, it still wakes our youngest daughter even now. As our eldest daughter grew up it became obvious, she often felt isolated.

Brent Lodge is in a small village on the outskirts of Chichester. It's a very sleepy little village and there aren't the spaces to play outside with friends safely like there was when I was a child. We don't really have next-door neighbours so there are very few children to play with that are close by.





Although she was growing up in a beautiful part of the world, she understandably didn't appreciate it and just wanted to play with her friends. We had to make a special effort to ensure she had time with other children.

Our eldest daughter is now nearly 18 and has grown up surrounded by animals. She has grown into a kind, compassionate and respectful young lady. She has developed a fantastic knowledge of the natural world and is very aware of the challenges our wild animals face, having heard some incredibly sad stories over the years. But more than anything, she is the most understanding person. She has had to share her mum and dad her whole life. She has had to wait until mum or dad has finished work to unwrap her presents at Christmas, has had to get used to 'rainy holidays' as the summertime is simply too busy for mum and dad to take time off work and has had to get used to things being cancelled last minute because mum or dad have had to go into to work to help with an emergency. That's not to mention having to share us even more when her little sister came along when she was 9!



Just when we thought we had the balancing act under control, our youngest daughter came along and turned our lives completely upside down! From very early on in the pregnancy, we were made aware that something wasn't quite right and after a very stressful 37 weeks, our youngest daughter was born and life as we knew it would never to be the same. Our daughter sadly has quite severe learning difficulties as well as complicated health issues. She has autism, ADHD and global development delay to name but a few. They say that people with Autism either love or hate animals. Well guess which our daughter went for... that's right, she is terrified of all animals, a new challenge for our family! On top of this, she has spent most of her early life in and out of hospital, sometimes critically ill.

The paediatric ward soon became like a second home to us. This meant spending more time away from work than we ever had and the balancing act that we had once perfected soon became very unbalanced. However, thanks to an incredible bunch of people, we were soon back on a level and as I write this, our youngest daughter is much more stable and hasn't had a 'sleep over' at the hospital for over 2 years now!





I thought I was pretty good at getting up through the night to feed the neonates that came into care, but it turns out I knew nothing of sleep deprivation until our younger daughter came along. She did not (and still doesn't) sleep! Although this has been hard and there have been many tears along the way (both hers and mine), it certainly helps in the summer months with the feeding of all of the orphans that come in to care, night feeds are a breeze for me now and I have learned how to cope on minimal sleep.

Mum guilt has been a huge part of my life. I love my job. I love going into work every day. But I also love my girls and there have been times when I think that I should have taken more time out for them. I have missed the odd sports day, a few play-an-stays whilst they were at nursery, and it was often my eldest going to a friend's house rather than friends coming to our house as we don't have a garden and I didn't want kids running around the site. As with every hospital/rehabilitation setting, the summer months are busy and long. We work long hours and get very little time off. This is the time that children want to be out and about, enjoying the sunshine.



Family photo from a wet and Autumnal holiday

The summer has always been and continues to be our biggest challenge with regards to splitting our time between our girls and the job. Both my husband and I have done our best to ensure that we do take time out where we can, made a big thing of birthdays and Christmas (once the animals are all fed and cleaned) and generally given them as many opportunities as we were able.

Thankfully we are both blessed with amazing families who support our passion for our jobs and help us whenever they can with childcare and taking our girls out/attending school events etc when we are unable to.





So, things I have learned about bringing up children whilst living and working in a wildlife rehab setting...

- **It takes a village to raise a child!** Never truer words written. We have relied heavily on our incredibly supportive family and friends to help with the raising of our children in order that we can both continue doing the job we love. Without them, we simply couldn't do it!
- **A strong and reliable staff team is SO important.** The staff (and volunteers) have stepped in when we have needed them the most, leaving us to concentrate on our daughters and not have to worry about the day-to-day running of the wildlife hospital. The staff and volunteers have also been a part of the 'village' that has helped to raise our daughters, they have helped to shape them into the people they are today. Both of my girls have had the privilege to grow up around a real mixed bunch of people of all ages and abilities from all walks of life. They all have their own stories to tell and advice to give. My girls (especially my eldest) have learned a lot from all of them over the years (as have I).
- **Try to involve your children** (where appropriate) so they can appreciate why they have to share mum and dad so much. This doesn't mean working directly with the animals but having conversations about your day and why your job is so important. This helps them to develop compassion and empathy and to appreciate and protect the world around them.
- **Take time out!** This is a must not only for the children but for us too. Although I love my job, family must always come first. Don't feel guilty for stepping away for a bit because your children only grow up once and your job will still be there when you get back.

Now we are set to face some new challenges as a family. My husband and I have just bought our first home, and we will soon be moving off site.

Thankfully it is only a few minutes away from the centre as we will still be 'on call' for any out-of-hours emergencies but this will be a whole new adventure and period of adjustment for us all. We will now finally have a garden and on days off, a bit of quiet. After over 20 years of living on site it will be an adjustment for my husband and I too. I have no doubt it will take a bit of time to find the right balance again.





Long-tailed ducks in care

MORGANE RISTIC - CO-MANAGER AT NEW ARC WILDLIFE RESCUE

Following a succession of storms including Babet, Garrit and Isha (just to name a few), the North East of Scotland saw an unusual amount of Long-tailed ducks (*Clangula hyemalis*) on its coast. Even more unusual, New Arc Wildlife Rescue admitted not 1, nor 2, but 7 of these incredible winter visitors into care, between November 2023 and January 2024.

Sadly, the majority of them came in very poor condition and could only be euthanized. However, 2 presented as suitable candidates for rehabilitation despite an initial guarded prognosis upon admission. Although both were underweight and too weak to stand, the birds were still lively, and attempted to bite the handler: a behaviour we had not seen in the other 4 cases who could not be saved.

Initially placed under a heat-lamp, both birds received post oral rehydration fluids via tubing for 12 hours before showing encouraging signs of recovery: standing, walking, preening and taking fluids for themselves. Food was then introduced in very small, yet regular amounts over the following 48 hours to minimize the risk of them developing refeeding syndrome. Both birds enjoyed a combination of "Floating marine duck pellets" and fish, such as sprats and sand eels.



Both birds managed to consistently gain weight during their care, the drake going from 644g to 870g, and the female from 400g to over 500g.





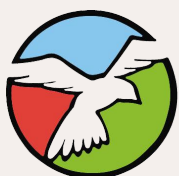
Due to the unforeseen poor weather spell, both birds did not have access to outdoor pools until their body condition was deemed good enough to withstand the below 0 temperatures. Though the female required a few back and forth trips while she regained her waterproofing, once waterproof both birds remained on the water, escaping capture by diving under and not resurfacing until 30, 40 seconds later (which felt like hours from an anxious carer's perspective...). In just 3 weeks, both ducks were deemed fit for release and were returned to the coast after being fitted with BTO rings. According to the BTO online ringing report, only 7 long tailed ducks have ever been ringed in Britain and Ireland prior to our 2 rescued individuals! With a reported longevity based on a previous ring recovery of no less than 20 years, we do hope to hear from them many years from now, maybe in Russia or Finland!



Upon release the birds quickly rushed out of their carriers and landed on the water a few meters away. While the drake was kind enough to stick around for a few minutes, beating his wings, preening and splashing, the female however opted to quickly disappear in the murky waters and only resurfaced when she was just a dot on the horizon.

Caring for uncommon species where there is little information on their rehabilitation is always a little daunting: will they settle well enough for their condition to improve rapidly? Will they accept foreign food items? Are they prone to causing themselves harm when in captivity? Thankfully, both ducks seemed at home until their last few days where both became more agitated and vocal: a sign that the sea was calling them once more. What an incredible experience!

NB: New Arc Wildlife Rescue has since release a 3rd long-tailed duck since this article was written!



Case study of a feral pigeon (*Columba livia domestica*) with a swollen shoulder joint

SIMON ALLEN MSC (R), SIÂN MITCHELL BVMS, PHD, MRCVS

Feral pigeons are one of the most frequent of the avian species admitted to Gower Bird Hospital (GBH). A common finding is swelling on various joints with no associated bruising or other signs of trauma. Swellings can usually be found on the wing joints, typically the carpal, elbow, or shoulder, but can also be found on the joints of the leg. Patient ID: 34518

This was an adult feral pigeon from Port Talbot, a nearby industrial town, weighing 284 grams that was referred from a veterinary practice with the accompanying notes; “finder said bird was unable to fly”. X-rayed at practice and “nothing abnormal detected”. Restricted mobility in right wing was noted on admission. A shoulder injury was suspected. A soft swelling was palpable around the right shoulder. The bird was prescribed a nonsteroidal anti-inflammatory for 3 days and cage rest for 13 days. No improvement was noted.

The bird was euthanised and refrigerated at +4°C until a necropsy could be carried out.

Necropsy findings:

A large fluid filled swelling was present, below the shoulder extending into the joint, see Fig. 1. The head of the humerus was thickened. The fluid in the swelling was yellow and mucoid in consistency. A sample was taken using a sterile syringe and needle and refrigerated prior to being sent for bacteriological culture, see Fig. 2.



Fig.1. Pigeon 34518 with pectoral muscles reflected exposing the coracoid bones and swelling

The extracted fluid was submitted under the diseases of wildlife scheme to the Animal and Plant Health Agency, Penrith.





Microbiology tests that were requested were:

- 1. Aerobic culture
- 2. Specialised *Salmonella* culture (Brilliant Green Agar and selenite broth)
- 3. An antibiotic sensitivity of any significant bacterial isolates.



Fig.2. Fluid extraction from swelling using sterile syringe and needle.

Results:

Test	34518
Salmonella culture direct	Suspect Salmonella serogroup B isolated
Salmonella culture enrichment	Suspect Salmonella serogroup B isolated



Salmonella: Serotyping - Whole Genome Sequencing & Conventional Serotyping

Serotype	Sub Genus	Serogroup
S. Typhimurium:05 negative	I	B

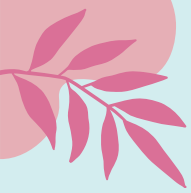
Sequence Type (7 gene MLST)

Sequence Type	8937
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Antibiotic sensitivity testing

Test Results: S - Sensitive R - Resistant					
Antimicrobial	Disc Content	Result	Antimicrobial	Disc Content	Result
Apramycin	15µg	S	Colistin Sulphate	10µg	S
Spectinomycin	25µg	S	Enrofloxacin	5µg	S
Cefpodoxime	10µg	S	Doxycycline	30µg	S
Trimethoprim / Sulphamethoxazole	25µg	S	Tetracycline	10µg	S
Ampicillin	10µg	S			





Discussion

The presence of *Salmonella* Typhimurium was anticipated, as this pathogen is well-known for infecting pigeons and causing a variety of symptoms. These symptoms include fluffed-up feathers, green diarrhoea, loss of appetite, weight loss, panophthalmitis, torticollis, and other neurological signs. Additionally, it can lead to septic arthritis in the leg and wing joints(1-4). However, other pathogens, such as *Streptococcus gallolyticus* and *Mycoplasma columbinum*, can also produce similar clinical symptoms (5).

In our situation, it is uncommon to encounter cases early enough in the clinical course, with a fluid filled swelling to be able to obtain a sample that is likely to yield significant bacterial growth, as swellings may emerge years after the initial infection and might only become apparent following stress or additional challenges to the bird's immune system (4). Additionally, pigeons may be discovered and rescued after the active infection in the joint has resolved, resulting in a denser mass that, when palpated, feels akin to a callus formed from an old fracture.

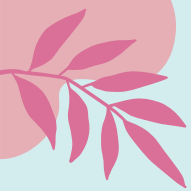


Investigating such cases is considered good practice. Doing so not only helps improve decision-making but also fosters confidence when communicating with your veterinarian during the triage process.

When *Salmonella* Typhimurium infection involves the shoulder, it usually involves the triosseal canal (canalis triosseus) which is the space where the scapula, coracoid and clavicle bones meet. The tendon of the supracoracoid muscle passes through this space. This tendon connects the supracoracoid muscle to the humerus which lifts the wing up for flight. This is why we see birds holding their wing in a displaced and dropped posture when there is inflammation in this area.

When dealing with this type of infection, it's crucial to consider the pain experienced by the bird and the risk of permanent joint damage due to the inflammatory response. This directly impacts the realistic potential for rehabilitation and long-term welfare. Additionally, it is important to consider the possibility of this pathogen being transmitted to other birds within your facility, as *Salmonella* Typhimurium in pigeons is spread through infected faeces contaminating food and/or drinking water.





Zoonosis and disease spread

Salmonella Typhimurium found in pigeons is host adapted and is considered a minimal risk to people (6–8). However, pigeons have been documented carrying over 60 different human pathogenic organisms including 13 strains of *Salmonella* alone (8) and recent research has discovered pigeon strains in people with clinical symptoms of *Salmonella* infection (9,10). Given these findings, it's prudent to consider these birds as a potential risk to human health. Therefore, adherence to basic biosecurity and hygiene protocols is essential. For immunocompromised individuals, the risk of infection from one of the zoonotic pathogens of pigeons could be up to a thousand times higher (8).

The treatment of salmonellosis (paratyphoid) in pigeons is complicated and questionable (11), especially when it extends into joints. It is likely that antibiotic treatment, even if it is able to successfully penetrate into the area will not allow the joint to resume normal function. It is further complicated by the fact that *Salmonella* bacteria are capable of intra-cellular infection and can be protected from many antimicrobials when they enter the pigeon's macrophages. Failure to fully treat the infection can also create birds that are asymptomatic carriers of the disease and may spread the disease to other birds inside and outside of your facility and may also encourage the development of antibiotic resistance (11,12).

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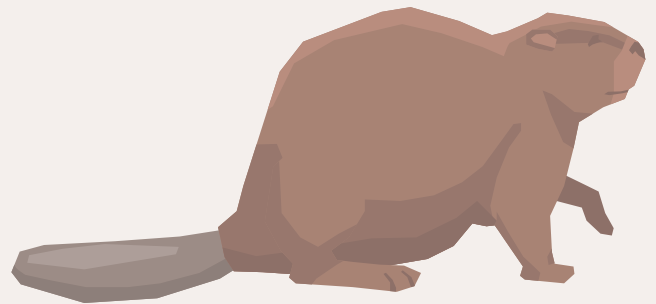
Double beaver rescue

SHANNON MOFFATT - WILDLIFE ASSISTANT AT RSPCA WEST HATCH

The Eurasian beaver (*Castor fiber*), is a keystone species, which means their presence shapes the ecosystem in which they live. They were once widespread in Britain, however, hunted to extinction in the 16th century for their meat, fur and scent glands. These furry engineers will create dams by gnawing away at trees and branches with their incisors, in order to change the course of rivers. In turn, this creates new diverse habitats, in which many other species thrive. The loss of this species all those years ago also meant the loss of lakes, rivers, meres, mires, tarns and boggy places. Since the early 2000's, they have been slowly reintroduced through reintroduction programmes, across the UK, and have had a positive impact on the places they have been found.

Following the success of the River Otter Beaver trial, which took place 2015-2020, their numbers have been gradually building and there have been more and more sightings across the Devon and Somerset area. At West Hatch Wildlife Centre we have admitted 9 Beavers in total since 2021, 6 of which were dead on arrival and were brought in for post mortem. One beaver admitted in 2021 was found struggling in an estuary, shivering and covered in mud. It required little other than rest, warmth, food and a pool to clean itself, but was successfully rehabilitated and released at an approved release site, under licence.

In 2008 Beavers were discovered in the River Otter in Devon. There was concern raised initially, as the beavers' origin was unknown and it was thought they could be carriers of parasites found in mainland Europe. However, after trapping and testing these beavers, they were found to be healthy, therefore Natural England declared the beavers could stay.





Our most recent beaver admissions were back in October 2023. Secret World had responded to a call about an otter stuck in a storm drain, during storm Babet. However, what they actually found when they attended the rescue, was a pair of beavers in a very poor state. One appeared dead at first. It had its head held underwater and wasn't very responsive. Both were expertly retrieved from the metre depth of water by Matt Levy from Secret World. He used a grasper around the body and under the arms to lift them out, supporting them from underneath, once he could reach. It's thought the pair were likely to be second year siblings, given the fact it was around the time they would naturally disperse and there was a known lodge further up the river. Due to us having pool facilities and previous experience with beavers, it was decided they would be transferred to West Hatch to undergo rehabilitation. When they arrived, one of the beavers was in a much worse condition than the other, but after receiving subcutaneous fluids, became more stable.

No injuries were found, however, their fur condition was poor and it was clear their eyes were sore and irritated by the stagnant water they had been stuck in. To try and remove any debris, their eyes were flushed with a saline solution. They spent their first night recovering in a dry pen, with a heat lamp at one end and a shallow pool at the other, in order for them to clean themselves, which they both did immediately.



They were often found sitting on their tail, rubbing their front, which they do so to access their anal gland secretion which helps to recondition their fur. They were also provided with separate drinking water and following the advice of various organisations, willow, hazel and chopped root vegetables such as carrot, parsnips and sweet potato as well as apple. However, it is important we didn't give massive amounts of these due to their high sugar levels.

The following morning they received a veterinary examination by our vet, David Couper, to check their overall condition. He found them much brighter but their eyes still appeared irritated. It was considered whether to start a course of topical treatment. However, given that they were outwardly stressed by handling and they would need catching and restraining multiple times a day, it was probable that this would lead to more problems, brought on by stress.





As they were now stable it was decided to move them into a pool pen where they had a good depth of water, could fully submerge themselves and this would hopefully improve their eyes, which it did within just a few days. Providing a pool also meant we could ensure their waterproofing returned. In order to move them we used pig boards to 'herd' them along the corridor and let them move of their own accord, to prevent spooking them. They were very co-operative, more so than the seals usually are!

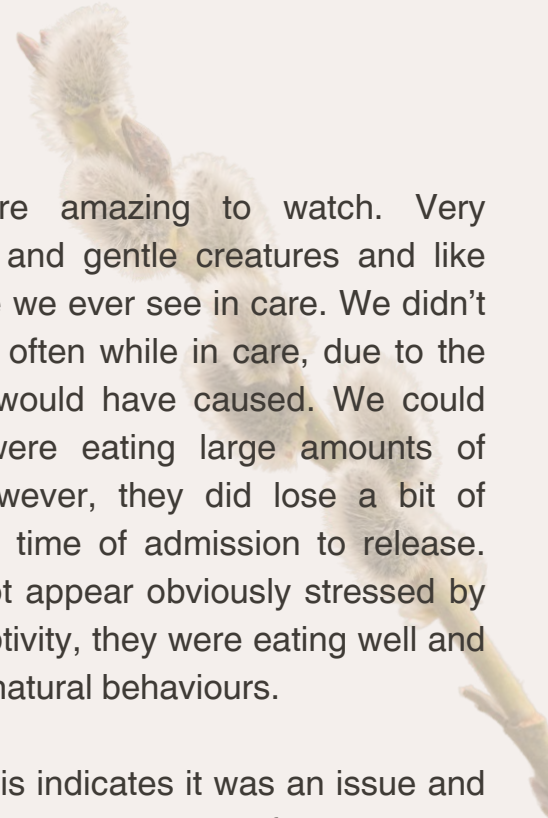
In terms of their daily care, every morning they were provided with fresh browse. We are lucky to have a willow farm not too far from us and they kindly donated all the willow we needed to get them through their rehabilitation, which was a massive help towards costs.

Willow made up a large part of their diet within care, favouring the young tender shoots. We drained their pool and gave them fresh water a few times a day, as they prefer to defecate in water. Daily cleaning involved removing any old browse and faeces. They were very nervous of any movement and noise so we had to make sure we worked very calmly but efficiently around them. Being crepuscular, they spent a lot of their day sprawled out together, under the heat lamp and would only become more active going into late afternoon. They would periodically wake up to eat, have a swim, groom and we even saw them groom each other. Their pen door had a cover over the window so this allowed us to observe them without them being aware of us.

They were amazing to watch. Very charismatic and gentle creatures and like nothing else we ever see in care. We didn't weigh them often while in care, due to the stress this would have caused. We could see they were eating large amounts of browse, however, they did lose a bit of weight from time of admission to release. They did not appear obviously stressed by being in captivity, they were eating well and performing natural behaviours.

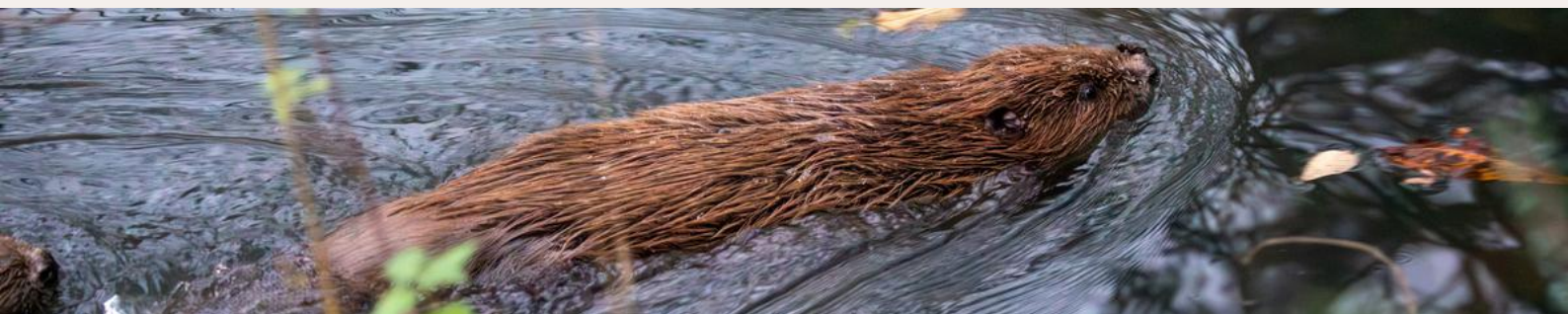
However, this indicates it was an issue and highlights the importance of not holding onto animals longer than needed.

Before release, we were advised by Natural England to obtain blood samples, to ensure there were no signs of infection, but thankfully the results were all clear. The surplus blood, along with hair and pulled faeces samples, were sent to the Institute of Zoology in London for population surveillance purposes and research into various different endoparasites and protozoa including *Cryptosporidium* spp., *Giardia* spp., *Eimeria* spp. and *F. hepatica* and faecal bacterial culture for enterobacteria including *Escherichia coli* 0157, *Salmonella* spp, and *Yersinia* spp. To retrieve the blood and hair samples, we initially tried a method used by researchers in the field, which involved containing them in a hessian sack. This proved very difficult and the first beaver became too stressed, so then it was decided sedation would be optimal for welfare.





The samples were taken under sedation later that day, which went smoothly and their recovery was uneventful. During the sedation, David was also able to identify them, give them another check over and also sex them. The recognised method is to expel their anal gland secretion, as there are differences between males and females. Unfortunately, this only worked with one not the other, but we did find out the one was a male.



The team reached the release site at dusk, which was the ideal time for their release as this would be naturally when they're most active. The area was quiet and serene and perfect beaver habitat. Their crate was unloaded close to the river bank and once opened, they trundled out, surveying the area first, before heading to the river. One headed off without the other, but not long after, they were spotted swimming together and exploring their surroundings. It was pretty dark at this point so what they got up to next is unknown. However, there has been evidence of beaver activity in the area since, so it is possible they have stuck around. I think I speak for everyone who was involved, in that it was a privilege to be a part of their rehabilitation and help towards the conservation of this species, that is still few and far between in Britain. With the likelihood of beavers becoming a more common occurrence in our centre, we are looking into building an outdoor enclosure, where they can have access to natural substrate, browse and more space.





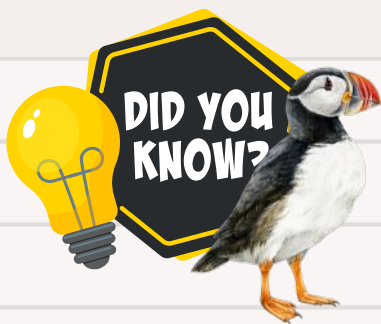
Some good news...



A male eider duck recently cared for by New Arc Wildlife Rescue for a month following a suspected dog attack was spotted 4 months post release, 60 miles away from the release site.



If you have live or dead sightings/reports of rehabilitated animals you wish to share with The Rehabilitator, please get in touch!



Random wildlife fact



Atlantic puffins' beaks light up when placed under UV light.

Jamie Dunning, an ornithologist at the University of Nottingham, was the one to make this recent discovery back in 2018. He stated: "The clues are there that this UV is an adaptation for sexual signaling"

Source: National Geographic, "Puffin Beaks Glow in Surprising Discovery"





Thank you



To all of our contributors and readers!

Happy busy season to you all!



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If you would like to submit a review, an article, a letter for publication or give a presentation at a future members meeting then please contact: **admin@bwrc.org.uk**



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