

# Solving the problem of lost pups and Juveniles





# Baby bats an emotive issue

- Bat mums do a better job of raising their pups than bat carers
- Easy to get over protective of a tiny cute baby animal
- Many baby & juvenile bats end up hand reared when they should have been raised by their mum.



# Why do pups get separated from their mother ?

- Wandered off especially in hot weather
- Dropped by mother when moving roost
- Abandoned roost
- Problem with a roost
- Mother killed by a predator



# Why are young juveniles found on walls or grounded

- Inexperience or too tired to get in a tricky roost entrance or to even get back to the roost area
- Made a mistake
  - Banked too steep on a turn
  - Bumped into one another practising
  - Didn't manage to avoid an object
- Blockages stopping them just climbing back up to the roost
  - Ledges
  - Features
  - Textures such as decorative bands of smooth tiles





# Why are young juveniles found on walls or grounded

- Roost is moving / mother temporarily elsewhere.
- Problem with roost

Heat

Parasites



- Mothers often roost away from the maternity roost particularly when the young are juveniles.
- When a roost moves juveniles too big to carry and still gaining flight skills are often left behind and particularly in hot weather appear out of the roost in daylight .
- Mothers not roosting with the juveniles come back to the roost to feed the young or encourage them to fly.
- With a moved roost it can take a few days before all juveniles gain the skills & confidence to fly with their mother to the new roost



# Conserve a roost

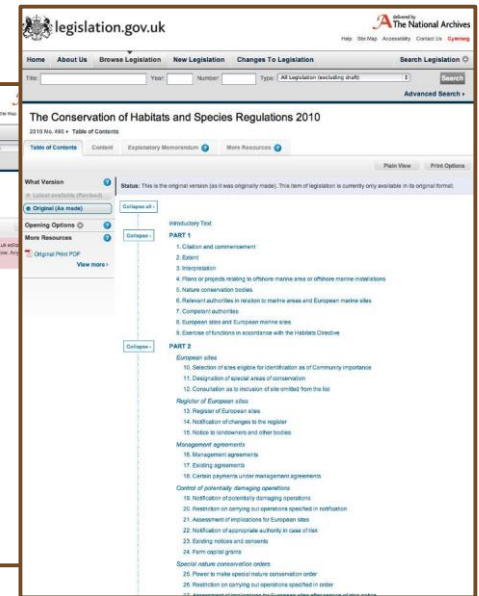
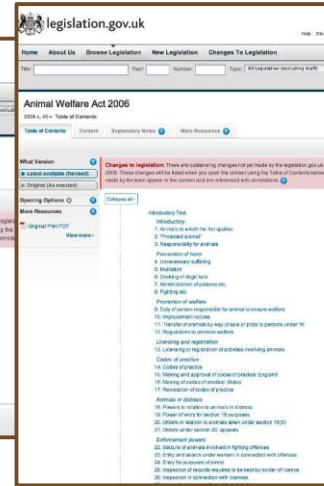
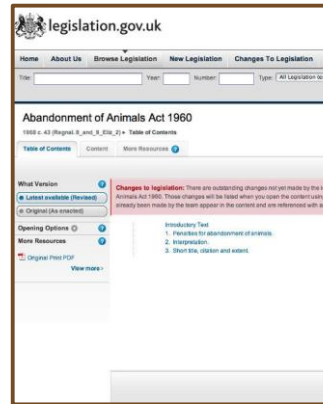
- A found pup / juvenile is an indicator that there is a roost and there might be a problem with the roof
- Visiting the roost can save many more bats than one pup and over many years
- Simple problems can be seen and solutions found such as items moved or barriers placed to prevent cats getting on roofs sheds and fences
- Roost visitor can investigate more complicated issues
- Important to observe & understand the difference between a roost problem and a roost that is just moving

When a pup or young juvenile  
comes into care





Same principles as  
an adult bat



European protected species/ habitats  
regulations

Animal Welfare Act

Abandonment of Animals act

- ## Is the roost damaged or in danger?

- [illegible]

[illegible]

# Assessment



- Examine for illness or injury
- Identify species
- Age
- Assess the condition
- Give first aid or euthanase as necessary





# Assessing flight of a young juvenile

- Can be more reluctant to fly in a strange environment when attempting to test.
- Don't rule out that it may have a strain or sprain
- Easy to underestimate the flight ability of a young juvenile
- Give opportunity for mother to collect



Reunite,  
release or  
rear?

# Reunite , release or rear

- Condition & age of the bat
- Do you have access to attempt to reunite.
- Weather conditions
- Roost visitor/volunteer availability
- Safety



Reuniting pups and young juveniles  
with their mother





# Equipment

- Vertical object that the pup or juvenile has no risk of falling off and getting lost . Ideally freestanding so it can be moved if necessary.
- Source of warmth
- Light colour and flat with sides to stop the pup going round the back makes it easier to observe when the pup is collected.
- Substantial so it doesn't blow round in the wind
- Tray on the ground in case the pup falls



spend



Ladders or tripod

A string bag with a hot water bottle inside

Mesh with plastic tubes round the edge

Clips, pegs , wire, string and scissors







Suspend the string bag containing a warm covered hot water bottle from ladders or tripod. Fasten the mesh to the bag and place the pup on the mesh.

Sometimes the bag can be better placed hung from a branch, pole, parasol, washing line.





## Gail Armstrong's







- Window for reuniting a pup is debatable
  - Mother's milk
  - How long pup away from mother
- Pup kept warm and should be hungry not starving
- Need to be able to retrieve it if not collected
- Roost must not be disturbed
- Often mothers go out to feed before returning & collecting pup
- If roost has moved still try at old roost while others look for new roost.



# No intense interest from mothers when swarming

- Wrong species or colony
  - Pup may call even if the wrong species or colony
- Pup not calling
  - Most likely wrong species
  - Torpid / cold
  - Asleep
  - Pup is ill





## Unable to reunite with mother or colony

- Hand rear yourself
- Hand to another bat carer who hand rears pups
- Euthanase



# Considerations before hand rearing

- Last resort.
- Time & commitment
  - Pups must get sufficient nutrition and calories daily to grow correctly for release.
  - They are a daily commitment until Autumn
- Your own physical ability & health
- How many other bats are you already caring for
- Other members of the household
  - Rearing pups is a big commitment and can have a knock on effect on family lifestyle



# How will you enable the bat to learn to live in the wild?

- Flight & stamina
- Social skills
- Finding suitable roosts
- Catching insects
- Coping with weather





## Enabling bats to live in the wild

- Space & equipment for pre flight cage flight practise
- Outdoor flight cage or access to a flight cage.







# Relying on someone else's flight cage

Discuss with flight cage owners before hand rearing

- numbers
- stage of development / skills needed by juvenile
- Mealworms –usually need to be self feeding mini mealworms at least
- flight

Not guaranteed a space when the time comes

- carer may have more bats of their own than normal
- delays / bad weather
- groups that need to be kept separate for release

Many carers leave flight preparations & outdoor flight too late. Get early juveniles ready and off to flight cage as soon as possible for success



## Plan Release

- Hard/soft release
- Site
- Roost features
- Permissions
- Roost monitoring post release



*What happens to the bat if it  
can't be released ?*

?



# Handrearing





# Housing Pups

- Plastic tank / vivarium for young pups
- Flexarium, soft dog crate, Insect cage for older pups
- Cloths folded and placed to keep pup warm
- Heat
  - Pups must be kept warm for digestion of milk and to prevent torpor
  - Habistat heatmat on side of tank & tank standing on another heatmat
  - Incubator
  - Heated propagator



- Humidity

- Humid not wet
- Avoid drowning

- Groups

- Social skills
- Health / quarantine
- Release





# Rehydration.

- Essential for digesting milk & prevent constipation. Don't give milk to a dehydrated pup
- Offer hydration using, brush, syringe, pastettes. A dish with a drop of water for slightly older pups.
- Thirsty pup might overfeed. Offer water before feeding



# Milk

- Exact composition of UK bats milk not yet known
- Low carbohydrate. High protein & fat
- Feed warm
- Formula
  - Current -Royal canin babydog mixed as directions
  - Other brands unsuitable



# Feeding

- Young and weak pups feed little and often
- Older pups & juveniles feed 4-6 times per day
- Only feed when awake and all milk has been digested helps prevent overfeeding
- If milk hasn't been digested by next feed time only give water and ensure pup is warm enough. Assess if due to overfeeding, dehydration or lack of heat and readdress problems.
- Night feeds aren't necessary providing the pup gets enough calories per day





# Feeding

- Hold the pup's head downwards so excess milk drains away from the nostrils
- Brushes or pastettes can be used to feed
- Wrapping the pup in a cloth may help calm it
- Pups can't snort out milk or water so do not allow the pup to inhale liquid as this can cause pneumonia
  - Practice giving water until you are confident



# Amount of milk

- Depends on age, development & species.
- Milk taken is visible through skin on belly and the abdomen should just be gently rounded
- Pups sides should not bulge or the abdomen distended
- Overfeeding can cause
  - bloat
  - metabolic bone disease
- Underfeeding can cause
  - poor growth
  - Metabolic bone disease



# Cleaning

- Food residue can cause infection
- Dab excess milk with a lint / fibre free cloth
  - don't rub
- Keep dry & warm
- Toileting
  - Pups do not need stimulation to pass urine or droppings
  - Droppings can collect in tail membrane which needs to be kept clean





# Weaning

- When biting at feeding tools
- Gutload mealworms with substitute milk powder for minimum 24 hours before feeding
- Offer mealworm innards after milk feed
- Decapitated soft skinned mealworms or minute mealworms sieved from bulk mealworm batches / breed own
- Don't rush weaning !



## Flight & skills training

- Cages
  - Soft cages easy to climb with soft landings
- Increase size with skills
- Hazard free
  - Velcro
  - insecticide
- Predator proof



## Roosts, enrichment, food & water dishes

- Offer a variety of dishes , roosts and other enrichment
- Vary the placements of enrichment
- If juveniles will go to other carer for flight cage ensure juveniles are familiar with dishes and food that will be used in the flight cage





## **Start flight training when doing wing stretches & push ups**

- Milk feeds during day & keep on heat
- Training cage night also with a heat source & in a warm room
- Keep hungry when in training cage to encourage activity & hunting
- Still developing so don't starve
- Give main feeds during the day



# Outdoor flight cage

- May need planning permission
- Suitable size for species
- Secure
  - Escape proof
  - Predators
  - Vandals
- Provide a variety of learning experiences
  - Weather
  - Flight including around obstacles
  - Roosts
  - Catching prey
  - Social skills



"In order to survive in the wild a bat must be able to

- fly with stamina and skill
  - locate and catch suitable prey
  - avoid predation
- locate suitable roosts for shelter, hibernation and breeding"
- From the Bat Rescue Manual



Make plans now!



Thank you