

Chimney Swift Rehabilitation; The Challenges and the Rewards

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This presentation will cover Chimney swift rehabilitation from intake to release, with attention to the challenges and problems commonly associated with them. Chimney swifts can be a challenge to rehabilitate due to their specialized method of feeding and their need to cling to vertical surfaces. Knowledge of their natural history and normal behaviors will aid the rehabilitator in meeting the basic requirements of these fascinating birds, whose numbers are in alarming decline.

Natural History –

Swifts are historically common, though their numbers are dropping significantly due to a reduction in nesting sites (brick/masonry chimneys). They can be located high in the skies, in rural and urban settings, by their rapid-fire chittering vocalizations.

Chimney swifts have long narrow wings, a short tail and a wide mouth opening. In flight, they're described as "flying cigars" because their tails are so short. Swifts cannot use chimneys that have stainless steel liners, or those that have been capped. In the country, the birds can nest in the large chimneys of old farmhouses. In the city, smokestacks and chimneys at old factories and mills can be used.

Unique Characteristics –

Chimney swifts are one of the most aerial birds. Swifts spend the entire day on the wing, only coming in to roost at night. They can fly up to 500 miles in one day searching for food. They feed exclusively on flying insects, thereby earning the name of aerial insectivore. They drink water by swooping low over bodies of water, scooping water into their bill as they fly above the surface. They are not capable of perching; instead they cling to vertical surfaces such as the interior of a chimney.

Breeding season –

Chimney swifts arrive in Connecticut on or about May 1st; they begin nesting by June. The young spend the first 30 days of their lives in a chimney, and will go on to breed and roost in them for the rest of their lives. Most young fledge in late July through late August. By mid September, in Connecticut, swifts begin feeding and roosting in large flocks, preparing to migrate to South America.

Feeding ability -

- ❑ Catches flying insects on the wing (Their bill does not allow them to pick up an insect)
- ❑ Consuming large numbers of small aerial insects
- ❑ Very wide mouth opening allows them to snap up a single insect, or to fly through swarms, bill agape

Clinging ability -

- ❑ They are capable of clinging to vertical surfaces by their specialized toes and tail. The four toes give the foot a “hand” shape, and the nails are very long and sharp, allowing the birds a tenacious hold. The tip of the tail is composed of spines, similar to woodpeckers, which they use to prop themselves.

Toe nails –

- ❑ Care must be taken when removing a swift from something it is clinging to. (Nails can be torn from toe resulting in bleeding and loss of toenail)

Normal Behaviors and Relevance to Rehabilitation–

- ❑ They are the most aerial of all birds
(Requiring a large flying space)
- ❑ Exclusively eat flying insects on the wing
(100% insect diet, requiring hand feedings while in captivity)
- ❑ They cling to vertical surfaces
(Will require suitable housing)
- ❑ The importance of chimney use
(They will need a chimney)
- ❑ They feed and roost in large flocks
(Highly social, need to be raised with other swifts)

Swift nest -

Nest is built of small twigs adhered together and to the chimney wall with sticky saliva

Common causes for presentation:

Nest Falls -

- ❑ Heavy rains or dirty chimneys - can cause a nest to become unglued or not adhere properly and fall down

Eviction – Removed from chimney

- ❑ Building owner, having chimney work done.
- ❑ Older nestlings’ loud begging call can make them unwanted guests.
- ❑ Some people will not tolerate birds in their chimney.

Dampers and stovepipes:

- ❑ Dampers - Left open can result in adults or young ending up in rooms or fireplaces
- ❑ Older homes/Buildings - Do not have dampers - recommend foam rubber placed in opening
- ❑ Stovepipes - Birds fall down into stovepipes getting covered in creosote and becoming exhausted.

Educate the public:

Explain a little natural history

- ❑ Swifts are losing more and more of their nesting sites with old factories/mills being torn down and people lining and capping their chimneys
- ❑ They are eating all the pesky flying insects around their home/building (Use mosquitoes as an example)
- ❑ The swifts come all the way from South America just to raise their young in your chimney; it's a genuine privilege to host them!
- ❑ The loud begging calls will diminish in 2 weeks
- ❑ They will be gone by October 1st in CT
- ❑ By allowing them to remain, you are directly contributing to the conservation of this declining species---you're making a real difference!

Asking the right questions is critical to knowing whether the birds need assistance or can be returned to the chimney.

May Need to Rescue

- ❑ Age – Hatchlings, and nestlings are at greatest risk, especially if the nest has fallen down (These birds will need to be rescued due to inability to re- attach the nest in the chimney.)
- ❑ Time - How long was the separation from the adults? (Was it a few minutes, a few hours or all day long?)
- ❑ Location – Exposure to outside elements (Were the birds exposed to cold, rain, sun? if yes, rehabilitation will be necessary)

May be able to return birds to chimney, if they are...

- ❑ Warm, fully feathered, bright eyed and alert. Wings appear even, and bird can cling with both feet.
- ❑ Placed as high as possible in fireplace where the bird was found
- ❑ Capable of clinging to chimney wall

Note –Birds who have become cold or dehydrated, but are either old enough to be placed back in the chimney or have recently

fallen out of the nest can also be brought into rehabilitation, stabilized, and returned later that day to be reunited with their parents.

Follow up: Ask the homeowner to monitor

- ❑ Sounds of adults flying in and out
- ❑ Loud chattering calls of begging young
- ❑ Can use a flashlight to check on young
- ❑ When in doubt RESCUE

Admitting: Immediate treatment

- ❑ Warm – Gooseneck lamp with 60 watt reptile bulb
- ❑ Re-hydrate – Warmed lactated ringers one drop at a time on a closed bill every 15 minutes for one hour
- ❑ Easy calories – May need easily digested food, gutted insects, drowned insects

Assess condition: After fluid therapy

- ❑ Is the bird more responsive? Are the eyes brighter, has activity level increased?
- ❑ Has the bird defecated? Are the droppings normal? (Food introduction does not begin until the bird has defecated.)
- ❑ Normal droppings are wet, dark brown, semi-spiral “logs” with urates concentrated at one end.
- ❑ Droppings completely covered in urates, reflects a fluid-depleted (dehydrated), and probably starving, bird.

Feeding: Live insects!

Feed – Small or medium insects, killed before each feeding. Feed every 30–60 minutes 12-14 hours a day. Vitamin/mineral supplementation once a day. The ingredients and amounts can be found at the end of this paper. Give water droplets after each feeding using a 1cc syringe with a canula tip on the end.

- ❑ ***Captive diet:*** Essential Foods
 - ❑ Insects - Small to medium mealworms, small to medium crickets and waxworms
 - ❑ Vitamin/mineral supplement once a day (mix and amounts at end)
 - ❑ Water droplets – After *every* feeding. **Give as much water as the bird will take!** Use a 1cc syringe with a canula tip.
 - ❑ They also enjoy being misted with a water bottle, but this does not substitute for droplets from a syringe by mouth.

Insect hints: How to feed and care for them

- ❑ *Mealworms* – Do not use large or super, the skins are tough.
- ❑ *Mealworms* – Should be made more nutritious by feeding them (I used basic dog food and carrots)
- ❑ *Crickets* – When feeding crickets to very young swifts, kill the cricket, remove the wings and legs, feeding just the abdomen. Juvenile swifts may be fed killed whole crickets. Crickets should be fed dog food and carrots also.
- ❑ *Waxworms* – Can be fed as is. Waxworms do not eat.

Introducing food: Swifts that are chattering and gaping can be a ***challenge*** to feed.

In the wild, the parent flies down the chimney and feeds the young from below. The young hang their heads over the nest, chattering loudly, swinging their heads left or right. They do not open their mouth and keep it open; instead, they snap it open between chatters.

In the rehabilitation setting the birds will need to adjust to being fed from above. The younger the bird, the quicker the adjustment. Some adjust within just a few feedings. Fledgling/juvenile birds can take days or longer to make the adjustment. One method of easing the transition is to hold one hand over the bird with your thumb positioned near the bird's mouth. In your other hand, hold forceps with a balled up soaked (in water) waxworm (balled up waxworms or soaked cricket abdomens may simulate the ball of insects fed by the parents and are refused less often). Stick your thumb in its mouth when the bird snaps, holding it open long enough to give food. Transition to soaked mealworms and then freshly killed mealworms, crickets and waxworms.

- ❑ Feed every 30 minutes
- ❑ Continue water droplets after every feeding

Saliva/fecal Transfer: Hatchlings or any swift under 7 days old require saliva/fecal transfer. Use an older healthy nestling, juvenile or adult swifts' saliva or very tiny dab of feces.

Saliva transfer:

- ❑ Take insect and swab mouth of older swift
- ❑ Swab at least once each feeding until feathers unfurl

Fecal transfer:

- ❑ Take a tiny bit of fresh feces, not urates and immediately add to food
- ❑ At least once each feeding until feathers un-furl

DO NOT RAISE SINGLE SWIFTS!

Assist Feeding: Birds who will not chatter or gape are also a challenge.

- ❑ Force feed – Gently, careful to avoid bill damage, use your fingernail to open the lower mandible and place the food. You may need to hold the bird's mouth closed until it swallows. Start with a drowned in water waxworm, torn open & balled up, then graduate to larger mouthfuls of waxworms. Once eating these readily then try drowned in water, torn open mealworms and then freshly killed mealworms and crickets, using a syringe afterwards to give water droplets.
- ❑ Feed at least 6-7, up to 10-12, mealworms, waxworms or crickets at each feeding.

Reluctant gapers: Tips

- ❑ Make sure they are fully hydrated
- ❑ Place with begging swifts
- ❑ Wave a tissue above the birds to simulate the “wind” of the parent’s wings.
- ❑ Sometimes loud noises will make them chatter. Be ready and quick to get food in when they do gape.
- ❑ Adults need to be force fed until released, patience!

Food amounts: How much to feed

REWARDS!!!!!!

Once swifts are readily begging and eating you can gradually increase the amount you feed on the forceps. Work up to 6-7 mealworms at a time, or as much as you can hold in the forceps, and/or a couple of cricket abdomens and/or 3-4 waxworms. This makes feeding a quick and easy experience.

REMEMBER -Feed each bird as much as it will eat - **Every** bird is different.

Growth and Development:

Newborn swift- 2-3 days old

- ❑ Born pink, blind and naked
- ❑ Shadows appear where pin feathers are to emerge
- ❑ Weight 4.5 - 5.5 grams

Nestling swift –7-8 days old

- ❑ Eyes still closed
- ❑ Wings in pin feathers
- ❑ Weight about 13 grams

Bristle brush –Looks like a porcupine

- ❑ 12 – 14 days old
- ❑ Eyes begin to open
- ❑ Pin feathers on wings and back begin unfurling
- ❑ Weight about 19-20 grams

Fledgling swift –

- ❑ Fully feathered
- ❑ Feathers around head still in sheaths (frosty look)
- ❑ Eyes are open
- ❑ Weight reaches highest point 24-25 grams

Common injuries and problems:

- ❑ Dehydration – Assume every swift you receive is dehydrated
- ❑ Leg injuries due to falls (Broken legs are common)
- ❑ Bleeding toenails from improper handling (Nails can be torn from toes resulting in bleeding and loss of toenails)
- ❑ Feather parasites common to swifts (Use pet bird spray on tissue)
- ❑ Reluctance to gape in older or adult birds (May have to be force fed until release)
- ❑ Difficulty in getting food in their mouths (Use thumb to catch mouth open, use other hand to place food in)
- ❑ Keeping their faces clean (Remove any food from birds face immediately)

Housing: All ages

- ❑ *Hatchling/newborn* – Small bowl lined with soft cloth, placed in a small set-up
- ❑ *Nestling* – Small plastic rectangular set-ups, with cloth secured at a gentle slope
- ❑ *Fledgling* – Should be placed in artificial chimney in outdoor flight cage
- ❑ *Juvenile/adult* – Reptariums® can be used vertically while the birds are recovering, watch for tail damage.

Flight cage: Swifts need a large open space for flying, in order to be aerobically fit at release time

- ❑ Length and width important (My flight cage is 24ft x long 12ft wide), height should not be above 8ft
- ❑ Screen netting, and/or textured plywood (T111), is required on the interior for clinging

- ❑ Artificial/real chimney for roosting and feeding

Transition to outdoors:

- ❑ Fully feathered swifts should be placed, nest and all, in the bottom of the artificial chimney and allowed to climb up at will
- ❑ Continue to feed every 30 minutes

Artificial Chimney:

- ❑ Use textured plywood
- ❑ Make about 20 inches square
- ❑ Place waist high (use cinder blocks)
- ❑ Place in center of flight cage

Real Chimney:

- ❑ Use brick and mortar
- ❑ Make about 20 inches square or larger
- ❑ Make a false bottom that stands waist high
- ❑ Place in center of flight cage under shelter

First flight:

- ❑ Once outside they begin to strengthen their wings by rearing back and practice flapping
- ❑ First flight usually takes them straight to the wall where they cling and look nervous

Flight cage care:

- ❑ Once swifts have begun flying out of the chimney, the birds will have to be collected off the walls and returned to the chimney for **every** feeding. This is going to encourage them to fly into the chimney to be fed when they see you. Feedings are now every 60 minutes
- ❑ After 1 week's time, swifts should begin flying into the chimney to be fed. Now, they will gain practice and improve their ability flying into and out of the chimney. The fun begins!

Week two in the flight cage:

- ❑ Swifts will be gaining confidence, strength and ability
- ❑ Flying in and out of the chimney and chasing each other non – stop
- ❑ Swifts will interact with you
- ❑ Always do a body check for clinging swifts before leaving
- ❑ Enjoy them!!!!

Release criteria:

- ❑ Swifts need to be fully grown, meaning **no** visible feather sheaths on the underside of the wings
- ❑ Waterproof – Water beads on their feathers when misted

- ❑ Spend most of the day flying
- ❑ Can fly and maneuver flawlessly, turn on a dime, and go in and out of the chimney

Release criteria: Swifts are a challenge to release; many factors must be met

- ❑ Need to locate an active swift roost (check out potential sites about 1 hour or less before dark when they begin to gather in the area)
- ❑ Need at least 3 days of clear weather
- ❑ Need to transport to release site
- ❑ Need to release 1-3 hours before dark
- ❑ Need to prepare for hard release

The release:

- ❑ When first released swifts will flap hard, spiraling up in circles to get altitude, but soon will reach the swifts above and stretch out and fly the way they are meant to!!!!
- ❑ Soon the jerky movements left and right will signal they are catching insects
- ❑ Stay until completely dark to be assured all birds entered the chimney roost

Supplements for Birds Hand-reared on Insects Only

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(questions –email Janine --- jpandjf@swbell.net)

Use supplements made for humans. Products made for animals are often poorly formulated and have inadequate quality control.

Calcium/Taurine/Vitamin C Mix

Open and squeeze out on a flat surface the contents of one capsule of 600 mg. elemental calcium as CaCO₃ in oil, containing 1000 IU vitamin D; e.g.,

<http://www.puritan.com/calcium-supplements-001/absorbable-calcium-1200-mg-with-vitamin-d-1000-iu-006272>

Mix into the Ca paste powdered taurine and vitamin C:

- ❑ 500 mg taurine <http://www.nowfoods.com/Products/M002927.htm>
- ❑ 500 mg vitamin C

Add 1/5 of this powder mix (100 mg of each nutrient) to the contents of one calcium capsule.

Mix to make a uniform paste. Feed by daubing onto one (or more, if needed) insects.

For nestlings under 20 g, give 1/10 of the total (60 mg elemental Ca) daily; over 20 g, give 1/5 of the total (120 mg elemental Ca) daily.

Oil-vitamin mix:

- 5 cc omega-3 marine (fish) oil**
- 5000 IU vit A**
- 400 IU vit E**

If vitamin D3 is not present in the Ca supplement, 5000 IU vit D3 should be added to the above mix.

Mix thoroughly, minimizing oxygenation; store refrigerated, in the absence of air, for up to 2 weeks.

Give one drop (0.05cc) per day to songbirds under 20 g; 2 drops per day to larger nestlings/fledglings/adults.

1 IU of vits A and D, and 0.1 IU vit E, per Kcal consumed.

Each vitamin can be bought as oil-based solution in gel caps from manufacturers such as NOW™.