

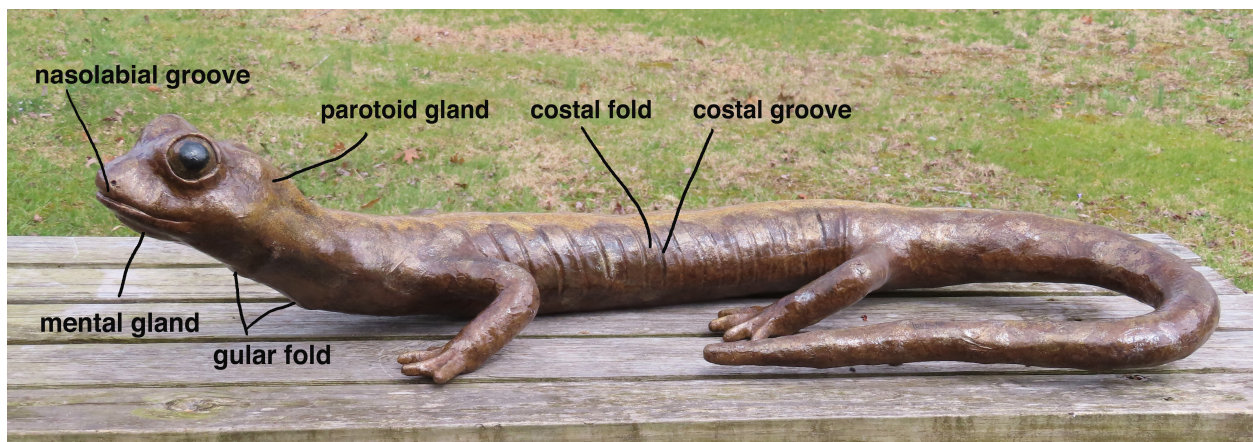
Shenandoah Salamander  
*Plethodon Shenandoah*

The topic of my student presentation for my Master Naturalist class was the Shenandoah Salamander. Unable to present the class with a live specimen I created a Papier Mache' sculpture, about 15 times larger than the actual Shenandoah Salamander.



The Shenandoah Salamander is a small, endangered species found only in Shenandoah National Park. Because of competition with the Red Backed Salamander they are restricted to the deep pockets of soil within the talus slopes of Hawksbill Mountain, Stony Man Mountain and The Pinnacles. As the talus slopes deteriorate and more organic matter accumulates the Red Backed Salamander will encroach even further into the Shenandoah Salamanders marginal habitat. Climate change is also a major concern as it hastens this process.

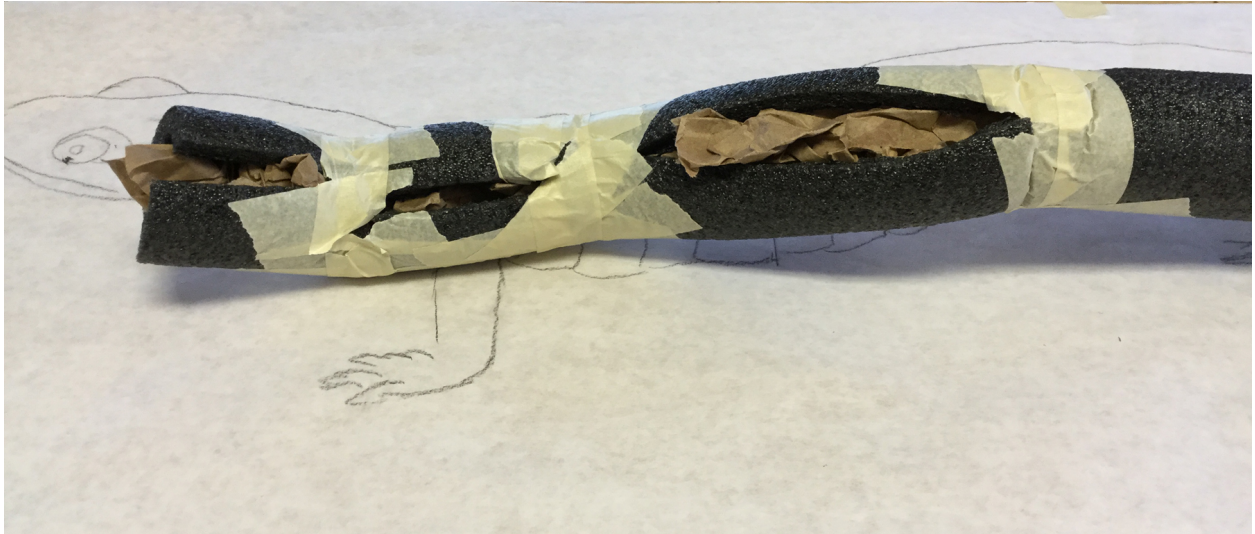
These lungless salamanders breathe through their skin and successful respiration depends on their ability to keep moist. Costal grooves and folds increase the surface area of their skin, drawing moisture up and around the body helping the skin to remain moist. The parotoid glands, on the back of the neck, secrete a milky alkaloid substance which act as a neurotoxin to deter predation. Males attract females by displaying their gular fold found on the ventral throat. Males also secrete pheromones from a mental gland found on the lower jaw. Females lay 4 to 19 eggs in moss, damp logs or moist crevices. Incubation lasts 1 to 3 months and unlike most salamanders, complete development of the embryo takes place within the egg. Their diet consists small soil invertebrates and their life span can be up to 25 years.





## The Creation Of 'Sal'

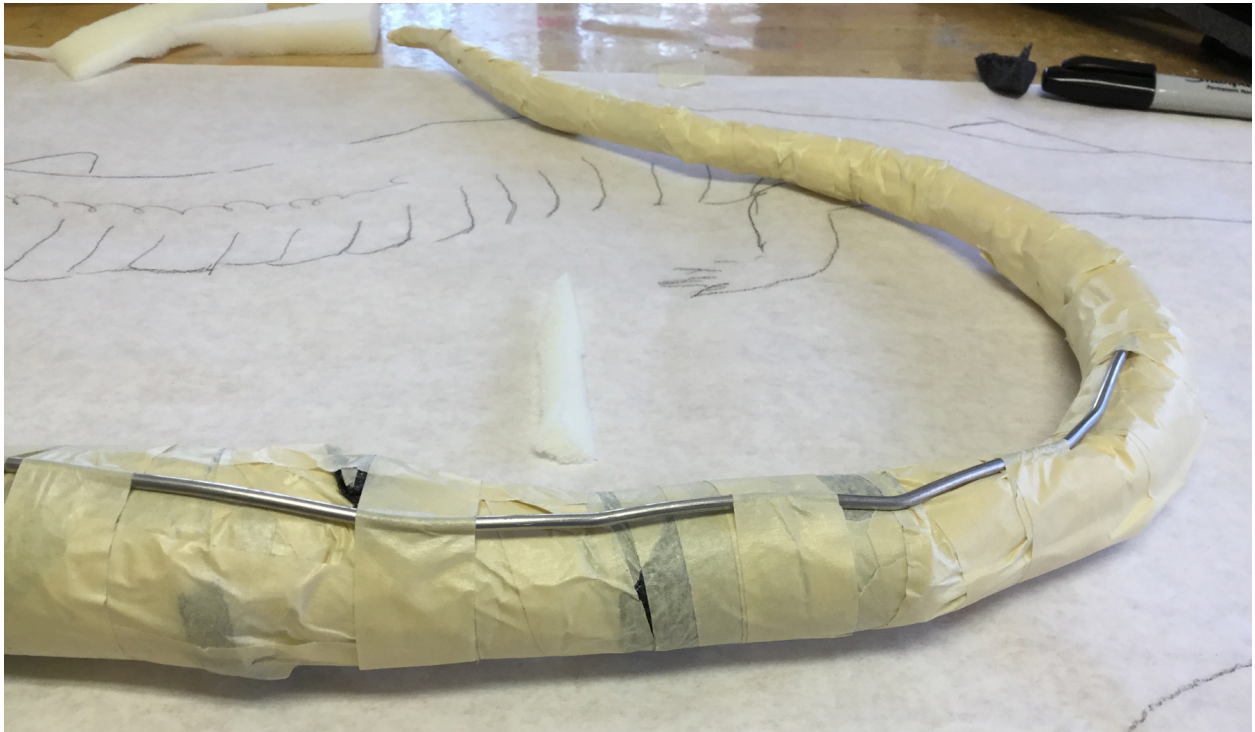
The first step was to sketch the approximate size that I wanted my sculpture to be and used this as a guide. I took foam pipe insulation, stuffed it with paper, then wrapped it with masking tape.



This formed the base of the body.



I taped #4 gauge armature wire to top of the base allowing me to shape the body.



After several coats of Papier Mache' strips, I constructed small tubes of foam to form the costal folds and grooves.





Then, I attached them to the base.



I added more layers of Papier Mache' strips before attaching the arms and legs.





Unfortunately, as I added more Papier Mache' strips the costal folds and groves had all but disappeared.



On to the appendages, there are four fingers on the front and five toes on the back. I used copper telephone wire wrapped with tape for the base.





Next, I began covering the sculpture with a coat of Papier Mache' pulp.



At this point, I was not pleased with the head and decided to amputate. It was interesting to see all the many layers inside.





Several coats of pulp were added, forming a very sturdy structure.



Using a product called Paper Clay, I sculpted details adding the nasal grooves, parotoid glands, gular fold and mental gland. Then reintroduced the costal folds and grooves.





Finished sculpture



I hope you have enjoyed learning a little bit about the Shenandoah Salamander and my creation of 'Sal'.

Linda Duncan