

Ontario Eastern Bluebird Society

2014 Fall Newsletter ~ Editor Bill Read

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The AGM is set for Saturday, March 14, 2015 at the Royal Botanical Gardens in Burlington. Our feature speaker is Audrey Heagy who will present her research on the Eastern Whip Poor Will. We will also be previewing a video on Prothonotary Warblers by Don Wills. Two other videos will be shown.

he winter of 2013-2014 was the weather story of the year. February turned out to be the coldest since 1977 in Southern Ontario and March the coldest since 1960. The second coldest March since records have been kept in the area from 1915 at 5.6 degrees Celsius colder than average, quite a contrast from 2 years ago when March was warmer than average by 7.6 degrees Celsius. April was 0.8 degrees colder than average making it 6 months in a row of below average temperatures. Snowfall in the Kitchener area was 8 cm above the long term average at 167.5 cm, it seemed like a lot more as there were no mid- winter thaws. Remarkably there were many reports of over wintering bluebirds that survived; Bronte Provincial Park had reports of bluebirds throughout the winter. Other bluebirds were not so lucky; Don Wills found 9 dead bluebirds in nest boxes near Carluke with 7 in one box. Newsletter editor Bill Read found 3 dead bluebirds, two in nest boxes and 1 dead bluebird that was recovered by Wilbur Fach on March 7 lying on top of a snowbank. I banded this bird as a nestling male on August 10th, 2013 in a nest box very close to his house. Another dead banded hatch year female bluebird was found in a nest box at the back of an apple orchard about 100 yards from where it was banded. Wilbur set up a heated bird bath in his backyard and had at least 4 bluebirds using it most of the winter. It was cleaned out regularly and new water added. This is something to consider for next winter as other birds will use it. Wilbur will be setting up a meal worm feeder this winter with OEBS. This was a difficult year for birds to find open water. The bluebirds in Chris Earley's photo in our spring newsletter were catching the drops of water from the statues ear. May was 0.6 degrees Celsius warmer than average with average rainfall and no days of cold wet weather making it ideal for bluebird nest success. Very few reports of nestling deaths due to the weather were reported. Most blue birders in southern Ontario reported fewer returning adults. This may be a result of over wintering adult mortality caused by the weather.

It was probably the least amount of weather related nestling mortality that we have ever had. June was ideal for continued nest success at 1.7 degrees Celsius above average with below average precipitation. Overall most blue birders in the Carolinian areas reported somewhat lower numbers of fledged young. Trail operators reported that the European paper wasp was almost non existent as the cold winter must have killed most.

At our last executive meeting we agreed to purchasing a bluebird patch with our logo on it. We hope to have these 3 inch patches ready for the spring mailing, one patch will be included with each paid members newsletter. Gerry Powers had earlier sent in designs for the patch and encouraged us to have one. New members will receive a patch and ones left over will be for sale at a cost which will be around \$3.

Assessing Your Trail Success

There are two ways to assess success, (1) fledged young per pair and (2) the percentage of eggs to fledged young. I personally like the first method. Both require accurate checking of your nest boxes. For example if you have 100 eggs laid (every egg must be counted) and 70 fledged young your percentage is 70% which is quite good. Anything over 70% is considered good. Determining the **number of pairs** on your trail is more difficult as bluebirds can move to another box for a second nesting and a new pair may move in to the old box causing you to think it is the same pair. This also happens with three nests in the same box which is rarely the same pair. In order to have a truly accurate number all



bluebirds must be banded and recaptured at each nesting. But with careful observation you can come up with a reasonable number. Anything over 5 is good, and over 6 indicates exceptional bluebird monitoring and predator protection. There is a direct correlation between this number and the quality of the monitoring and especially the predator protection.

Prothonotary Warbler Nest Success in 2014 – Don Wills

The Prothonotary Warbler is listed as a critically endangered species in Canada nesting only in the Carolinian zone of Southern Ontario. This is my seventeenth year of monitoring nest boxes in this large Norfolk Swamp Forest near Port Rowan. My boxes are located in a series of 5 ponds or sloughs that fill up with water over the year and create ideal conditions for these warblers. Chest waders must be used to

navigate these sloughs. Almost perfect conditions existed in 2014 resulting in 6 successful nesting's with 32 young fledged. (a new record for this area) One pair in the middle slough had a double brood producing 11 young. My first visit in mid-April was to set up 3 new nest boxes and remove plastic bags from the functional nest boxes to prevent flying squirrels from checking the boxes and filling them with acorns. By June 6th five boxes had Prothonotary eggs. Tree Swallows have never nested in any of these sloughs but this year decided to build a nest in the North Slough in a box that had not been occupied for 15 years. The prothonotaries in this north slough had two nests but what was really surprising was that one of the females laid one of her eggs in the Tree Swallow nest. This egg hatched and eventually fledged between 11-14 days.

The chart below shows the nest monitoring record for the North Slough.

North Slough ~ Largest in Woodlot

	EAST PROW NEST	WEST PROW NEST	TREE SWALLOW NEST
JUNE 6	• 4 eggs	• 6 eggs	Nest making
JUNE 14	• Hatching	• Still 6 eggs • Female out foraging	 Nest complete 4 white eggs Didn't look in too carefully Prow egg must have been in behind
JUNE 19	• 4 young (Good)	Young hatched too small to count	4 white swallow eggs1 speckled mahogany coloured egg
JUNE 21	• 4 young with yellow feathers	4 young2 unhatched eggs	• 5 small babies just hatched
JUNE 25	• Stayed away from box • Female feeding	4 youngHealthyFemale around box	 5 young 1 baby is smaller definitely different than others
JUNE 27	• 4 fledged	Stayed away from boxFemale around nest box	 4 tree swallow young 1 Prow baby with yellow feathers, well fed very healthy 7 days old Bill Read was there as witness and video was taken of Prow baby in box
JUNE 30		• 4 fledged	 Prow baby now 10 days old healthy well fed bird has full yellow fethers and tiny tail feathers. Scheduled to fledge at 13 days hopefully
JULY 4			Baby Prow would be 14 days old. Carefully opened box to find 4 tree swallow young but Prow baby had gone. Hopefully it was picked up by nearby Prows with their young



Tracy Patterson

The Miracle of Sammy

Tracy Patterson

Raising and caring for an Eastern Bluebird nestling was not something I planned or ever thought I would end up doing, but that's just what happened this summer.

I had been monitoring a nest box for Project Nestwatch for Bird Studies Canada and first saw the 5 Eastern Bluebird nestlings at 5-6 days old on June 15th/14. They were beautiful and healthy looking, with very attentive parents who were feeding them often.

When I checked again on June 18th, I expected to see 5 lovely nestlings again, but sadly, that was not the case. Four of the babies had been pecked to death sometime in the last 24 hours. The lone survivor had somehow managed to stay safe and had struggled his way out of the pile of dead siblings and was laying on top of them. I removed the dead ones, checked for injuries on the live one, who was a tiny bit cool and seemed weak, then placed him back in the nest.

I watched for over 2 hours, from a distance, for his parents to come but they never returned. This poor little one was all alone and in need of help, and I knew I had to try to save him. And so begins the story of Sammy.

Sammy, named by my 3 year old grand-daughter Tenley, was 8-9 days old on rescue day. I warmed him in my hands, then fed him a few pieces of cut up mealworms, placed him into a small container lined with tissues, tucked it into a small box and closed it up.

I called an avian rehabber who kindly provided me with a recipe to feed him. I also spoke to Bill Read, President of O.E.B.S., and received wonderful advice. Julie Zickefoose of Ohio, renowned author, avian rehabber and artist, was kind enough to return my call providing me with valuable in-

formation on how and when to release Sammy. I'll admit, I was obsessed with doing everything perfect in caring for him, spending many hours researching how to raise a wild song bird, as well as the development, life and habits of Eastern Bluebirds.

The first night, I fed him every half hour until about 10:30 and he was eating well, although he wouldn't gape and I had to gently pry his beak open to put the food in. His poops looked like they should, little balloon-like sacs, so I felt cautiously optimistic he was doing ok. I was thrilled to wake up the next morning to the wonderful sound of quiet cheeping - he had made it through the night.

For the first week, I fed him every 30 minutes from just after dawn until dusk, while he still never gaped or begged for food, though he ate it willingly once it was placed in his beak. Sammy quickly won my heart and I was determined to do everything I could to see that he stayed alive and healthy.

My grand-daughter, 3 year old Tenley, got to spend several days here when Sammy was with us. She is a very gentle, loving little girl who fell in love with him instantly. I think Sammy must have been able to sense this, as he would often cuddle up against her hand during his feedings. Once he began flying, he would constantly land on her shoulder, and bury himself in her long hair and sit there for the longest time, much to Tenley's delight. I would take him off her to feed him, and he would fly right back to her, wherever she was in the room. If a bird can love, I swear he loved Tenley.

At 13 days old, he would gently flutter his wings and cheep softly when I had him out for feedings. His primaries were becoming a bright blue, so I was pretty confident he was a male. He also started clinging to my finger and perching on it, very trusting little fellow. Scratching, preening and stretching his wings began soon after and his "flying in place" was strong by day 15, which was simply beautiful to watch.

In the afternoon of his 18th day of life, little Sammy became a fledgling!! He just suddenly launched himself off the dresser I had been feeding him on and flew about 12 feet across the room! His landing was a bit shaky, but he flew!! I was so proud of him, I had tears in my eyes. Since he was now a fledgling, I brought him outside in his cage so he could see his natural world. He was very alert, flying from perch to perch watching everything around him. After half an hour, I moved him into our screened-in gazebo and sat in there with him for over an hour. He flew several times, perched on some branches we had placed in there, did some soft cheeping and was fed "al-fresco".

The next day, began Sammy's new routine of spending his daylight hours in the screened outdoor aviary that my husband had built for him. It was complete with natural perches, feeding platform, bluebird nest box, sheltering cedar branches, potted shrub and shallow water dish. It was 6ft long, 4 ft wide and 6 ft high with a partially covered roof and sides in one corner, for shade and shelter. We set it up on the lawn several feet from the seed feeders under a beech tree for afternoon shade. Sammy paid close attention to the songbirds coming and going at the feeders.

Sammy was brought back inside before dark where he had his bedtime feeding and had flight time in our large bedroom where he could strengthen his wings.

I started catching grasshoppers, crickets, moths, caterpillars and beetles for him and would set them loose in his aviary. He needed to learn how to hunt like a bluebird, not just that food came in a dish. He caught his first moth at 23 days old, off the aviary screen. Definite progress towards independence and freedom!

After he learned to fly, Sammy started backing away from my hand sometimes when I tried to feed him, even though he also had an endearing habit of flying onto my chest and cuddling up against it. I think he did this when he was nervous and for comfort, companionship and security. Landing on my head, shoulder or arm was also something he frequently did.

Sammy finally began to gape and beg for food at 24 days old – life became so much easier for both of us! Once he started, he did it at every feeding thereafter – gaping, begging and chirping for food shamelessly. He also began a habit of calling and flying onto the screen door of his aviary, clinging to it whenever he was hungry. His way of telling me to get in there and feed him!

He didn't really like his nestling formula anymore, but I still fed it to him 3 or 4 times a day as well as mealworms and other bugs. He opened his mouth readily if he saw I had live food for him, but when he saw it was his formula he would promptly shut his beak tight. This was a bird who decided he was a big boy now and didn't need "baby food".

Active hunting for his own food began around 26 days old, he caught moths, grasshoppers and beetles that were placed on his feeding platform. He would beat them before he ate them, banging them on the platform and squeezing them in his beak. While learning to hunt and feed himself, he still continued to gape and beg for food.

One day when he was 30 days old, he called frantically and clung to the aviary screen door, so I went in to feed him. He didn't want to eat, he just landed on my shoulder, hopped under my hair and nuzzled himself in. It was very cool that evening, maybe he was cold? I took him inside early, where he enjoyed some flight time, then he landed on my shoulder and cuddled against the back of my neck under my hair. I couldn't resist myself, and I sat down for a few minutes while he stayed comfortably snuggled in. Then, I moved him to a fold in my cardigan against my ribs where he settled down on his legs and slept on me for half an hour. I know I shouldn't have, but he seemed to need me that night and he was so

content, that I gave him the comfort he seemed to need. This began a nightly ritual of Sammy initiating "bedtime cuddles" with me. Since he did this on his own, I felt his need for company and comfort outweighed trying to keep him from becoming attached to me. After cuddle-time, I would place him in his nest inside his cage where he would stay until morning.

Sammy's 40th night, and the next two nights, were spent in the outdoor aviary until 45 minutes after dark, so he could gradually get accustomed to night-time sights and sounds. On his 43rd night, he slept outside in his aviary all night for



Tracy Patterson

the first time. He was ready to be released in the next few days and I wanted him to experience his first outdoor night from the safety of his aviary. He seemed content when I went in the next morning and did not appear agitated or stressed. He ate a few bugs and mealworms, then promptly flew to my shoulder, hopped his way under my ponytail (one of his favourite places) and sat there contentedly. I let him stay there for a minute, then placed him on a perch. He flew right back and did it again. I tried 3 times to put him back on a perch and each time he came back and cuddled in. Again, I decided since he was a lone fledgling, who would normally still have his parents and siblings with him, that he needed me to let him do this. In the wild, he might have cuddled up with his siblings when perched or roosting for warmth and/or comfort, and I was the closest thing this beautiful bird had to family.

The morning after his 3rd night in his aviary, Sammy seemed frantic and agitated. He was flying back and forth bouncing off the screen walls and roof. I immediately went in thinking he would land on me right away, but he wanted nothing to do with me. I offered him some mealworms and a grasshopper on his platform, which he ate before flying around erratically again. I think he was trying to tell me he was ready to be free.

My husband removed the front wall of his aviary, then I picked him up and he flew onto my head, then hopped onto my shoulder. I took a deep breath, whispered to him to be safe and that I loved him and walked out of the aviary with him on my shoulder.

He stayed on me for about 30 seconds, then flew onto a platform feeder that I had placed his food and water dishes on, and had himself a drink. Next, he flew onto his aviary roof for a couple minutes, then into a beech tree for a minute. He explored a couple more tall trees and flew to them beautifully, strong and sure in the wild where he belonged. I was so proud of him.

I guess I wasn't really prepared for him to fly out of sight over our roof, as my heart was in my throat when he did. I had been told he would probably stay around for several weeks, having him out of my sight so quickly was terrifying and heartbreaking. He was gone for only 10 minutes, but it felt like eternity. When he came back, he had himself a good soaking bath, did some preening and ate some mealworms. The relief I felt at seeing him was overwhelming.

We saw Sammy a few more times that day and he also came down for mealworms. Once, he even perched on my neck and cuddled in for a few minutes. My husband and I spent pretty much the whole day outside, watching for him. Late afternoon was our last sighting of Sammy, he was perched on one of the ropes of various heights that my husband had tied between 3 trees in our yard, Sammy's own personal "hydro lines". I spent a restless night worrying and

thinking about him. Late the next morning, when I finally heard him again, I felt incredible joy and couldn't stop smiling. I had been walking around the lawn when I heard his beautiful, soft call and then, suddenly, there he was, landing on a low branch above me. He followed me back to the porch, had a few worms, flew to me and sat quietly against my chest and neck for several minutes. I think he even slept for a few minutes. After exploring his huge new world, Sammy seemed to need some "cuddle-time" as much as I did.

Sammy spent the next 7 weeks around our property, perching and hunting from his "favourite" branches and his "hydro line ropes". He would land on us often, it was quite the sight to see him come swooping down from high in the trees headed straight for us. At dusk, he seemed to like hunting on the ground before he went to the same sheltered spot in a beech tree on our lawn to hunker down for the night, sleeping under the leaves. He also enjoyed the bird bath almost daily, and would get himself thoroughly soaked. One morning, after a night of very heavy thunderstorms, Sammy flew down to my husband on the porch and settled himself into the hood of his sweater and sat there for over half an hour. We think it must have been a rough night for him and that again, he was seeking comfort, security and companionship.

For such a sweet, gentle bird, Sammy was a bit of a bully with the other song birds and quickly claimed our yard as his own. He would frequently chase white-breasted nuthatches, purple finches, chipping sparrows and also the juvenile Yellow-bellied Sapsucker that was here often. Once, we even saw him chase a blue jay into the woods. Sammy also liked to perch on the seed feeders and then wouldn't let the other birds land. He was definitely a male bluebird coming into his own, defending his territory.

When Tenley came back up for a visit in the middle of August, we all swear he remembered her. It had been over 3 weeks since she had seen Sammy and as soon as she went outside the first morning, he flew right down to her and landed on her shoulder. He stayed, cuddling against her for several minutes, before flying off. The joy on Tenley's face was priceless, she truly loved this little bird and, as I said before, I believe he loved her right back. Over the next four days, Sammy continued to land on Tenley several times and the two of them were quite content together. He would eat mealworms out of her hands, then hop onto her shoulder to sit under her hair or on her chest. Every time Tenley saw a bug or a spider, she would yell: "Quick, a bug for Sammy! Get a container!! Hurry!!" I think I see a career in wildlife care or management in this little girl's future.

As of writing this, mid-September, Sammy still spends a lot of time in our yard: hunting, perching, bathing, preening and chasing other birds. We have watched him catch all types of prey so we know he is capable of fending for himself, but he does still enjoy his free meals.

One day Sammy seems to have distanced himself from us and "wilded up", the next day he actively seeks us out, landing on us when he sees us. Sammy should soon begin his migration south and hopefully, will join up with other bluebirds along the way. I take great comfort knowing he can take care of himself and seems happy to be out in the world.

When the time comes and he leaves us, I will be heart-broken and pleased at the same time. This was the whole point in saving him though—so he could be healthy and free. Together, Sammy and I accomplished just that. He became a very special part of my life and there will definitely be a void in my days without him.

So, if you see a beautiful, male bluebird who seems a bit too friendly and comfortable being near you, please share some mealworms with him to help him on his long journey south. And drop me a line to let me know...you just might be witnessing the miracle and wonder of Sammy.

Editor's Note: Good news, Sammy finally migrated on October 16th. Hopefully he will return to nest in 2015. Tracy did a remarkable job looking after Sammy and finally turning him into a wild bluebird. In most cases when orphan nestlings are found it is best to put them in a nest with other young bluebirds the same age. (It is illegal to keep native birds in captivity without a special permit such as those possessed by rehab facilities) This was not possible as there were no other bluebird nests around. Sammy was very lucky to have such caring adults looking after him. Bill Read

Woodpeckers and Nuthatches Control Invasive Pest

B luebird enthusiasts are all-to familiar with the disastrous consequences of introducing non-native species (I'm looking at you House Sparrow). Sometimes the native species have no defense, such as when domestic cats are introduced to an island with flight less birds. But other times, native species lead the charge against the intruders.

Such is the case with the Emerald Ash Borer, a small insect that was inadvertently brought from its native Asia to Michigan in the 1990s. It has been spreading across the Great Lakes region ever since, wiping out the native ash trees as it goes. Enter the native woodpeckers and nuthatches—they love a good juicy beetle larva, and they have developed a taste for Emerald Ash borers.

A study in Ohio found that Downy, Hairy and Red bellied Woodpeckers, and white Breasted nuthatches, removed as much as 85% of Emerald Ash Borers in a given tree. The birds focused their attention on ash trees, and especially on trees with dying canopies (indicating infestation by the Ash Borer).



Rick Ludkin

The four hatch year bluebirds in this picture were a family group captured in mist nets on August 29, 2014 at Ruthven National Park near Cayuga. The adult female and male were with them but were not captured. They probably hatched from one of the nest boxes at Ruthven. Since they have not started to moult they would be a second brood hatch in late June or July. Their weights were 27.8g, 29.3g, 27.1g and 25.1g. Adult bluebirds usually weight around 30-31 grams at this time of year. The top right hand bird is a male and the bottom right hand bird is a female. The top left hand bird has a deformed bill, it also was the lowest weight at 25.1 grams.

The authors conclude that such heavy predation by birds might slow the spread of the Emerald Ash borer. They suggest that landowners and land managers could help the birds by retaining standing dead trees (snags) or by installing nest boxes if snags must be removed.

Charles E. Flower and six others. 2014. Native Bark-foraging Birds Preferentially Forage in Infected Ash (Fraxinus spp.) and Prove Effective Predators of the Invasive Emerald Ash Borer. (Agrilus planipennis Fairmaire) Forest Ecology and Management 313:300-306

Chimney Swifts Return to Tree Cavities

The chimney Swift's name is really a misnomer. It wasn't until the second half of the 1600s that the species started taking up residence in chimneys; for most of its long evolutionary history, it nested and roosted in cavities in very large trees. Man-made chimneys offered an attractive alternative, especially as forests were cleared and the very large trees disappeared, and Chimney Swifts made the switch.

Unfortunately, now it's the chimneys that are disappearing as industrial practices change. This couldn't have come at a worse time for the Chimney Swift–its populations, like those of other aerial insectivores, are declining for reasons that are largely unknown. To try to reduce those declines, various government agencies in Canada and the US have designated the species as a high priority for conservation actions.

The birds themselves are pointing the way for conservation: They are returning to their evolutionary roots by once again taking up residence in cavities in very large trees. These cavities are often created by heart rot in old trees, and especially when the top of such a tree is broken off by strong winds, creating a large chimney-like cavity. Additional cavities are created by Pileated Woodpeckers as they form their own nesting or roosting cavities.

Protecting very large trees within the range of Chimney Swifts would go a long way towards helping the species' populations rebuild. Private and public land managers are encouraged to preserve all trees that are at least 0.5 M (20 inches) in diameter at chest height, especially species known for growing large such as yellow birch, cypress and White Pine.

C. Zanchetta, D.C. Tozer, T.M. Fitzgerald, K. Richardson, and D. Badzinski. 2014. Tree Cavity Use by Chimney Swifts: Implications for Forestry and Population Recovery. Avian Conservation and Ecology 9(2):1 http://dx.doi.org/10.5751/ACE-00677-090201.

Nest box Reports

All nest box reports will be included in the spring newsletter.



Angie Mueller

Greasing a pole to prevent raccoon predation.

This is a picture of me (Bill Read) greasing a pole. This is the kind of predation prevention that I use. It is almost 100% effective. I put a small amount of grease on the T-bar or pole for about 12 inches in the middle. Raccoons will not attempt to climb because they do not want to get their hands in the grease. The grease may have to be re-mixed or more added later in the season to prevent it from drying out. Other methods such as stove pipe baffles and cone guards are just as effective but incredibly labour intensive. For other methods to prevent climbing predators see our website.

Project to Save Cavity - Nesting Birds Wins Award

he fall 2012 issue of **Bluebird** reported on a project to protect **Saw-Whet Owls** and other cavity nesting birds from entering the vent pipes of outdoor vault toilets on US Forest Service lands. By covering the vent pipes with wire screen, countless birds have been spared a gruesome death in the vault pits. The Port-O-Potty Owl Project has been given the Wings Across the Americas Conservation Award. You can read more about this successful project at www.tetonraptorcenter.org/poo-poo-project.html An excellent video explains the problem.

Any vent pipe over an inch in diameter can be a potential hazard to cavity nesting birds. Make sure all vents and chimney openings are protected against this with a screen insert or piece of wire mesh wrapped around the top of the pipe. This also prevents squirrels form going down your chimney and blocking it. I know of at least four bluebirds that became trapped and died in chimneys and I am sure there are many more we were not aware of.

Tobacco Curing Burners Become a Death Trap for Cavity Nesting Bluebirds

Beginning around 1947 pot-type oil burners came into wide spread use in much of the southern US for curing to-bacco. These burners are equipped with smoke stacks that extend through the roofs and the tops of these stacks are fitted with rain caps. Jack Finch who brought this to the public's attention estimated that between 1947-1955 over two million bluebirds died investigating these potential nest cavities. After 1955 there were very few bluebirds left in this area. Finch organized a campaign to urge tobacco farmers to install bird screens in the openings of the smokestack rain caps. Fortunately this particular type of oil burner is becoming obsolete. (*The Bluebird*. 1976 - Lawrence Zeleny. Indiana University Press- Pages 39-41) Lawrence Zeleny is the founder of the North American Bluebird Society.

Tubex Tree Shelters as a Potential Hazard

Tubex Tree Shelters can become potential hazards for cavity nesting birds. About 20 years ago I wrote a letter to the company, then based in England and they assured me that they would provide mesh nets to fit over the top of the shelter to prevent birds getting trapped in them. I believe the company was sold and is now based in the US. It may be time to investigate this again. Members could also be on the lookout for areas where a lot of these shelters are being used and have someone check them during the nesting season to see if any birds become trapped in them.

PVC Mining Claim Marker Pipes Kill Millions of Cavity Nesting Birds

One of the greatest hazards to cavity nesting birds, especially the Ash Throated Flycatcher and the Mountain Bluebird are the plastic pipes that are used to mark mining claims in the South Western United States. One six inch mining claim pipe contained seven feet of compacted bird carcasses (Audubon Kern River Preserve and Southern Sierra Research station staff collected 231 skulls from this pipe alone). There are over 3.4 million of these pipes in existence and it is estimated that at least two million birds have died this way from their use. The Ash-Throated Flycatcher and the Mountain Bluebird are the most frequent victims, other trapped include woodpeckers, sparrows, shrikes, kestrels, and owls. Efforts are underway to curb this destruction by crimping the top or removing the pipes.

