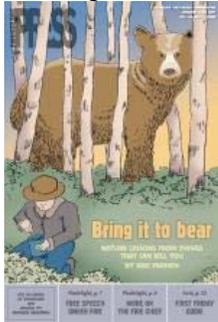


# Anchorage Press

Last Updated on Wednesday, Dec 15, 2010 - 03:29:23 pm AKST



## **Mystery of the chickadees - Are Alaskans contributing to an epidemic of beak deformation?**

By Bill Sherwonit

Published on Wednesday, December 15, 2010 3:29 PM AKST

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It took me decades to really notice birds, to give them my full attention. When I did finally invite them into my life at age 44, I fell deeply—and, some friends might say, madly—in love with our winged and feathered neighbors, especially the little ones that swarm backyard feeders throughout Alaska’s long and harsh winters.

In the beginning, while caught up in the pure delight of feeding wild birds, I believed the activity to be an absolutely good thing, offering rewards to both the birds and me. Over time, however, I experienced what might be called the “shadow side” of backyard bird feeding: the loss of feeder birds to window strikes, predation by raptors and cats, and the spread of avian diseases—for instance the salmonella outbreak that devastated Anchorage’s redpoll population in the late 1990s.

Now I worry that we Alaska bird-feeding enthusiasts may inadvertently be contributing to a new epidemic of sorts, one that has harmed thousands of resident songbirds, particularly my beloved black-capped chickadees. Since the 1990s, a shocking number of resident birds have grown unusually large, curved beaks, many of them grotesquely malformed. Black-caps have been particularly hard hit by this modern plague, which diminishes their ability to eat and preen themselves. Researchers say that nothing like this—or even close to it—has ever been recorded among wild bird populations in North America or even worldwide.

So far, any connection between backyard bird feeding and Alaska’s unprecedented outbreak of deformed-bill songbirds is mere speculation. Researchers emphasize it’s an unproven, working hypothesis. A long shot, at best. Even if bird feeding is ultimately implicated, it’s only part of the problem, a secondary factor. And in the bigger picture, feeding seeds to local wild birds still likely does more good than harm.



Biologists with USGS Alaska Science Center first observed large numbers of Black-capped Chickadees with overgrown and crossed beaks during the winter of 1999-2000. Since then, more than 2,100 chickadees and lesser numbers of 29 other species of birds have been documented across Alaska, with the largest concentrations in Anchorage and the Mat-Su Valley. The cause of these deformities is still a mystery, despite extensive testing. Fairbanks, Alaska, 2008. □© Ken Whitten.

And still I agonize. In my seventeenth year of feeding birds, I’m haunted by the possibility that in some complicated and roundabout way, I may be harming the critters I love. But it’s not just me, of course. Thousands of Alaskans annually feed chickadees and other songbirds. Should I keep my worries to myself? Or should I alert people to something insidious that might be going on? What are my obligations to chickadees and other bird-feeding enthusiasts?

As with most of life, there are no easy answers. But there is a story to share about the strange and disheartening phenomenon of Alaska’s deformed-bill chickadees and its broader implications.

The story, as it involves me, begins in the mid-1990s, when Southcentral Alaska was hit by a devastating outbreak of spruce bark beetles. By the time the beetles reached Anchorage, they’d already killed millions of spruce on thousands of forested acres. To protect their trees, many local residents sprayed pesticides or hired companies to do so.

Though a few companies used highly poisonous lindane, most businesses and nearly all homeowners chose carbaryl, a supposedly “gentle” toxin—a notion that has always seemed oxymoronic to me—

that entomologists and forestry experts insisted would do little, if any, harm to forest wildlife. I've always wondered about that.

Despite lingering doubts, I too chose to protect "my" trees on Anchorage's Hillside by spraying them with carbaryl. And I prayed my choice wouldn't do more harm than good.

Two years after starting the carbaryl treatments I began to hear and read stories of strange-looking chickadees with malformed beaks. By fall 1999, scores of sightings had been reported throughout Southcentral Alaska.

The stories piqued my curiosity and disheartened me in an abstract sort of way. I wondered if the disfigured birds could somehow be connected to the widespread carbaryl spraying. But the truly awful nature of the deformities didn't jolt me until a black-capped chickadee with a grotesque, hook-shaped bill showed up at my feeders.

Could I have contributed to this chickadee's plight by spraying chemicals in my yard? Anxious that I was somehow complicit in the bird's disfigurement, I contacted the researchers studying the disease. They assured me they'd found no evidence linking carbaryl to the beak deformities.

Still, they hadn't ruled out contaminants. In fact human-produced toxins seemed a likely "causative agent."

I had to learn more.

Black-capped chickadees first gained my attention more than a half-century ago, when I lived along the edge of rural Connecticut. Like other common New England birds, they quickly faded into the background of my world, for as a boy I was ultimately drawn to more exotic creatures: snakes and salamanders, frogs and turtles and trout.

My general disinterest in birds lasted nearly four decades, until I settled in the foothills along Anchorage's eastern edge. In December 1993, on something of a whim, I piled sunflower seeds onto a tray and placed it on a back railing. The very next day, I watched a black-capped chickadee land on the tray, grab a seed, and zoom off to a nearby tree. Then it flashed another. And a third. For each, the routine was similar: dart in, look around, peck at the tray, grab a seed, look around again and dart back out. Nervous little creatures, full of bright energy, they soon had me laughing at their antics.

Within days, a whole new world opened up as woodland neighbors I'd never even imagined joined the black-caps at my feeders: red-breasted nuthatches, pine grosbeaks, common redpolls. My newfound interest in birds grew quickly, surprising even me. What started as mere curiosity quickly bloomed into a consuming passion. I roamed bookstores in search of birding guidebooks; spontaneously exchanged bird descriptions with a stranger; and purchased 50-pound bags of sunflower seeds. All of this seemed very strange to a 44-year-old who had previously judged bird watchers to be rather odd sorts. I didn't know what it meant, except that a door had opened. And I passed through.

Several years after black-capped chickadees flew back into my life, our evolving relationship took an unexpected and alarming turn. A photograph in the March 1, 1998 edition of the *Anchorage Daily News* foreshadowed that disheartening twist. The image grabbed my attention because it featured two black-caps, perched on a spruce tree hung with Christmas lights. Only on close inspection, did it become clear that one of the chickadees had an unusually curved beak.

Though it struck me as strange, I didn't dwell on the deformity. Freakish things sometimes happen in

nature. Still, I tore out the page and added it to my clippings pile for future reference.

The photo also grabbed Colleen Handel's attention. For her, it presented a disturbing sense of *déjà vu*.

A research biologist with the U.S. Geological Survey's Alaska Science Center, Handel had seen similarly deformed chickadees only weeks earlier. Sandy Talbot, a friend and colleague, had invited Handel over to see some strange looking black-caps that were visiting Talbot's South Anchorage feeders. The women captured one, trimmed its beak to normal size, and then released it back into the wild.

"I didn't really think much about it afterward," Handel recalls. "I just considered it an anomaly, one of those things that happen now and then."

Then Handel came across Steve Kahn's picture of a deformed-bill chickadee. Though just like the birds she'd seen at Talbot's home, this one inhabited the Big Lake area, some 30 miles away as a raven flies. A chickadee would rarely, if ever, travel so far.

"That's when the alarm bell rang," Handel says. "It seemed more than a coincidence."

Curious to know how many more curved-bill chickadees might inhabit Southcentral Alaska's woodlands, Handel "put out the word" through local birding and conservation groups and the media. Almost immediately, she was inundated by phone calls, emails, and letters. "It was crazy," she says. "The phone was just ringing off the hook."

It turned out that many residents had sighted chickadees with strange-looking beaks. All had assumed they were simply seeing oddities of nature. Yet those oddities quickly added up to some 400 curved-bill birds. Nearly all inhabited Alaska's heavily populated Southcentral region. And the great majority were black-caps.

The earliest deformed chickadee sightings had been recorded in 1991, some 300 miles apart. The great distance between those two initial sightings and the fact that chickadees are strongly faithful to their home territories suggested to Handel that "the causative agent was widely spread across the region" when the outbreak began, rather than starting at a point source and widening outward.

Startled by the huge response, Handel followed up with residents who reported deformed-bill songbirds at their feeders. None could recall seeing deformed birds before 1990, including several "old timers" who'd been feeding birds for many years. And few people noticed them before the middle of the decade. She is therefore confident that the deformed-bill epidemic is a recent phenomenon that began in the early nineties and then picked up steam in the middle of that decade.

Though she'd previously worked mostly with shorebirds and waterfowl, Handel found this mystery too intriguing to ignore. In 1999 she got approval to study Alaska's deformed-bill songbirds. Among her team's priorities: put together a list of things that might produce deformed beaks. Some, like blunt trauma and exposure to extreme heat, were easy to eliminate. When finished, the researchers had a list of five possible causes that had to be considered: disease, parasites, genetic abnormalities, nutritional deficiencies, and exposure to contaminants.

Handel and her colleagues also extended their "citizen outreach" effort through press releases, media interviews, newsletters of local Audubon Society chapters, and personal appearances at local schools and meetings hosted by conservation and birding groups. The public response was overwhelming. "People have been wonderful in keeping track of deformed-bill birds," she would later tell me.

“We’ve had many incredible observers, people meticulous in their notes.”

Media reports of Handel’s work grabbed my attention. I mentally filed it away as possible story material, but didn’t think much more about either her study or the deformed-bill birds until November 1999. Early that month, while glancing outside at twilight, I noticed a small bird on the peanut butter feeder that hung above my upper deck.

A closer look revealed the bird to be a black-capped chickadee, perched motionless on the feeder—most peculiar behavior for a bird that is normally among the most frenetic of creatures. A minute or more passed and still the bird remained stationary, feet clutching the spruce-bough feeder, head tucked against its breast.

Something had to be wrong.

Through binoculars, I focused in for a closer look. As the bird’s image sharpened, it became clear that this chickadee was indeed unusual: its upper bill was the shape of a hook. Instantly, my stomach and mind began to churn.

*Not here, not in my yard*, I silently moaned. Just like that, the outbreak of deformed-bill chickadees became a personal concern. *What the hell is going on? Why is this happening?*

After a minute or two the chickadee finally began poking at the peanut butter, but the elongated bill clearly hampered its efforts to get a good mouthful. Bits of peanut butter stuck to the outer bill and the bird would stop occasionally to wipe the excess off.

This lone, sad black-cap continued to cling tenaciously to the feeder long after the other chickadees had left to find shelter for the night. Then, with twilight easing into night, it fluttered off into the darkness.

The hook-billed chickadee continued visiting my feeder daily into December, often alone. The black-cap had adapted well to peanut-butter feeding. Head turned to the side, the bird scraped its curved beak across the cold-stiffened goo and then maneuvered the food from bill to mouth. In more than a month of observation I didn’t see it grab a single sunflower seed, black-caps’ preferred winter food.

I tried to determine if the beak was growing longer, but couldn’t really say. My desire to call Colleen Handel was tempered by the fear that she’d want to “collect” the chickadee as a specimen. But I figured I could simply say no to that.

I also worried anew about my spraying of carbaryl to protect the yard’s spruce.

As the weeks passed, the hooked-bill chickadee’s plumage grew ever more disheveled and dirty, as its deformed beak made grooming more difficult, so its feathers provided less insulation from the cold. That, plus the challenges of eating, seemed to rob the chickadee of its vitality and tenacity. Finally, after weeks of daily visits, the black-cap failed to show. And it never came again.

Another leap forward, this time to May 2001. The staff at Anchorage’s Campbell Creek Science Center had invited Handel to discuss her chickadee study at its monthly “Fireside Chat.” Now deeply immersed in the deformed-bird phenomenon, I joined dozens of other locals in the center’s meeting room.

After a few introductory comments, Handel directed her attention toward the younger audience

members. “Who knows Sherlock Holmes?”

Several wiggling hands shot up and a young voice rose from the seats up front. “He’s a detective.”

“Right,” Handel smiled. “Well my colleagues and I are sort of like detectives, too. This is kind of like a murder mystery. A lot of birds are dying, but we don’t know why. We don’t know the ending.

“What we do,” she added, “is sometimes called scientific sleuthing.”

Over the next hour or so, Handel described how she got involved in this particular case, the team she put together, what they’d learned so far, the possible causes of the deformities and “next steps.”

By spring 2001, the number of deformed-bill chickadees sighted in Alaska had jumped to more than 700; by contrast, only nine had ever been reported elsewhere in the United States and Canada. Deformities had also been found in twenty other Alaskan species, but in much smaller numbers.

A couple of Handel’s comments were especially startling. First, “whatever is happening, is happening right here, in Alaska.” More specifically, the data suggested a concentration of deformed birds in Alaska’s most populous region, Anchorage and the neighboring Matanuska-Susitna Valley.

Second, the number of disfigured chickadees in those areas had increased exponentially since the winter of 1991-92, with “a big jump” since the winter of 1995-1996. In 1999, the prevalence of deformed chickadees was 2 percent of the population; by 2001, it had skyrocketed to almost 10 percent. To make those results perfectly clear to her audience, Handel noted, “Those numbers are high and quite alarming.”

Nearly a decade later, the numbers remain alarming. And though they’ve eliminated some possible “suspects,” Handel and her fellow sleuths are still a ways from solving this deadly mystery.

By fall 2010, Handel and her research team had documented more than 2,500 deformed-bill birds in Alaska, spread across 30 species (the website [http://alaska.usgs.gov/science/biology/landbirds/beak\\_deformity](http://alaska.usgs.gov/science/biology/landbirds/beak_deformity) provides a species list and much other information). Their numbers include both migrants and year-round inhabitants, but the vast majority of affected birds have been resident passerines. Nearly all have been observed since the late 1990s, mostly within Southcentral Alaska, though more recently a significant cluster of disfigured chickadees has been documented in the Fairbanks area and reports of deformed crows now stretch throughout the Pacific Northwest.

As the years have passed, a growing number of corvids—jays, magpies, crows, and ravens—have turned up with deformed bills. But in absolute numbers, no single species, or even group of birds, has been as hard hit as black-capped chickadees. Between November 1991 and September 2010, Alaskans reported some 3,000 sightings of deformed-bill black-caps, which researchers are confident represent at least 2,160 individual birds. That’s nearly 15 times higher than the second-most affected species, northwestern crows (148 individual birds). Yet measured as a fraction of the total population, the prevalence among crows now appears to be considerably higher than for black-caps, about 17 percent to 6.5 percent, in parts of Alaska where the birds have been studied. (The uncertainty for crows is plus or minus 5.3 percent; for chickadees it is much less, 0.5 percent, because the sample size is much larger.)

From citizen reports and their own studies, the researchers have been able to identify several different types of deformities. In most birds the upper bill is overgrown, often with a conspicuous downward

curve. In some, the lower bill is also overgrown and curved upward, producing a distinctly crossed beak. A few have overgrown upper and lower bills that don't cross; this typically causes a noticeable gap between them. More rarely, only the lower bill is elongated. And rarest of all are bills that curve to the side.

In every case but one, chickadee deformities have been limited to the beak's outer, keratin sheath, known as the "rhamphotheca." Like human fingernails, the rhamphotheca grows continuously throughout a bird's life and—in normal circumstances—is simultaneously worn down through pecking and feeding. The net effect is a bill that retains its "normal" length and shape.

Anything that affects the alignment of a bird's mandibles, bone growth, or the rate that a bill grows and abrades could cause a beak deformity, whether genetic or "developmental." Possibilities include mutagens that affect the proteins tied to beak growth; liver disease; avian viruses; the presence of parasitic scaly mites (which cause beak lesions); nutritional deficiencies of vitamin A and D3 or calcium; or an imbalance of calcium and phosphorous.

More than a tenth of the deformed-bill chickadees have shown other physical abnormalities. These include missing patches of feathers and dry, reddened skin, especially in the head area. Some also have dry, flaky legs. All could be symptomatic of vitamin or calcium deficiencies. Handel notes that seed-based diets are usually lacking in vitamin A and calcium; and the high fat content of seeds can also interfere with calcium absorption. So, if chickadees are overly reliant on, say, the sunflower seeds put out by bird feeders, they might develop nutritional shortages that in turn would affect beak growth.

To put this epidemic of chickadee deformities in perspective, consider that over the same 19-year-period, less than 30 deformed-bill black-capped chickadees have been reported from the rest of the United States and Canada combined, despite a national call for sightings of such disfigured birds. (It should be noted, however, that more than 160 deformed-bill birds have been reported in British Columbia and Washington, most since 2000; unlike here, the majority have been hawks and crows, along with a variety of other songbirds and seabirds.)

Another measure of the outbreak's severity is the prevalence of beak deformities in black-capped chickadee populations, as measured by nest-box studies and bird banding programs in the Anchorage area and Mat-Su Valley. Handel and her colleagues estimate that beak deformities occur in 6 to 7 percent of adult black caps—as many as one in 14 birds. That compares with a "normal" background rate of less than 0.5 percent. In other words, deformed-bill black-caps are shockingly common in parts of Alaska.

It's true that a few localized clusters of birds with disfigured beaks have been previously identified in the U.S. But both the scale and nature of those outbreaks were significantly different. Low hatching success and congenital beak deformities have been found in fish-eating "water birds" around the Great Lakes region since the 1970s, linked to PCBs, dioxins, and other chemical contaminants that pulp mills discharged into rivers. And congenital bill deformities in several species of aquatic birds were reported in central California in the mid-1980s, tied to selenium poisoning. More recently, beak deformities have been discovered in willow flycatchers inhabiting Arizona riparian habitats. As in California, scientists suspect chemical contamination associated with agricultural activities.

But this is something completely different, something new and shocking.

Besides the obvious question of what's causing the chickadee deformities, a handful of other questions immediately come to mind.

What about black-capped chickadees makes them especially susceptible to bill deformities?

Why are the deformities concentrated in Alaska, of all places?

Why have the deformities occurred—or at least been noticed—only since the early 1990s?

Why has the number of deformities risen so dramatically over the past decade?

As part of their studies, the researchers conducted a nest-box-monitoring program from 2000 through 2004. To their surprise, they found little or no evidence that deformities appear at an early age or adversely affect chickadees at the egg, nestling, and fledgling stages of their lives.

Handel's team has also "collected" nestlings and adults and sent the bodies, along with unhatched eggs and blood samples, to several labs for analysis. No results suggested disease, parasites, or nutritional deficiencies alone as the culprits.

Contaminant analyses, however, have yielded some promising—and disturbing—results. While eliminating several suspect toxins, the lab findings have suggested two groups that might be causing the bill deformities. One of those is PCBs, a group of synthetic organic chemicals. Significantly higher concentrations of PCB 123 were found in newly deformed adult chickadees than in normal birds. And nestlings born to deformed-bill parents also showed abnormally high concentrations of two exceptionally toxic PCBs.

Here, according to Handel and her colleagues, is the crux of the PCB angle: "Chickadees in Alaska may be deficient in vitamin D3 during the shortest days of winter, and *relying on calcium-deficient sunflower seeds may further exacerbate this condition. Thus, there could be a synergistic condition involving low levels of PCBs and deficiency of calcium and D3.* [My emphasis.] The delayed onset of deformities and increased frequency of their development during late winter would be consistent with such a mechanism."

In other words, contaminants and vitamin deficiencies, combined with winter's low daylight and a sunflower seed diet, may be working together to produce the black-caps' bizarre bills.

Many of the deformed-bill chickadees also exhibit chromosomal damage. "DNA breakage is consistent with contaminants," Handel notes. "And we know that DNA is tied to beak growth. What we *don't* have is a direct link between the DNA breakage and what controls beak growth."

Organochlorine compounds known as PCDDs and PCDFs also remain suspects, though concentrations in chickadee tissue samples were below laboratory detection limits, which makes any meaningful comparison between normal and deformed birds impossible.

It should be emphasized that contaminant testing was also done on 18 samples of locally sold black-oil sunflower seeds, chickadees' prime food of choice at Southcentral Alaska winter bird feeders. None of the toxins were widespread enough, or in high enough concentrations, to raise any red flags.

After more than a decade of studying the deformed-bill phenomenon, Handel's outlook might be described as frustrated but hopeful. The key questions—What's the cause? Why black-capped chickadees (and increasingly, crows)? Why Alaska? Why now?—remain unresolved. But at least some of the answers seem to be taking shape.

Though contaminants appear to be the most likely “causative agent,” to date there’s insufficient evidence to show exactly which one(s) are responsible. Or how.

There’s another crucial question: Where do the contaminants come from? One likely source is toxic clouds transported by prevailing winds from Asia to Alaska, where they precipitate out and drop to earth. The Alaska Science Center’s website notes that “Atmospheric models indicate that airborne contaminants released in east Asia may reach south-central and south-east Alaska, and western Yukon Territory, British Columbia and Washington State.”

Changes in either (or both) the makeup or abundance of semi-volatile chemicals discharged by Asian industrial activities could explain the increased bill deformities observed since the early 1990s. And atmospheric currents could explain the geography of the outbreak.

As to the how birds become exposed to contaminants, the website explains it may happen in various ways: “through direct ingestion of contaminated foods, natural or human-provided; by foraging on contaminated surfaces; through ingestion of chemicals during excavation of nest building; or through inhalation of airborne contaminants.”

Because they’ve reached at least a temporary impasse in their chickadee studies, the researchers have widened their reach and are conducting a comparative study of northwestern crows. Nearly 150 disfigured crows have been reported in Alaska, and almost 60 more to the south. Their range is broader than for chickadees, extending from Alaska’s Kodiak Island down to Puget Sound. Teams led by wildlife biologist Caroline Van Hemert have captured some 180 crows at six locations, but no definitive results are yet available. Lab analyses are planned, to test for the presence of contaminants.

One problem with chickadees is that their small body mass makes it impossible to adequately detect the concentrations of certain toxins. Crows will give the labs more to work with. Handel and Van Hemert also hope that the similarity of chickadee and crow beak deformities, combined with their different ecologies, will help to clarify the roots of the problem. “Crows eat different things, they live in different habitats, but they have the same kind of problem. Why is that?” Handel asks.

In the meantime, researchers will continue to explore how contaminants, Alaska’s wintertime paucity of daylight, and chickadees’ feeding habits may be working in tandem to produce deformed bills. “We know that a shortage of vitamin D3 leads to increased keratin production and therefore increased beak growth. But we don’t know much about the process at all,” Handel says. “In fact, no one really knows exactly how beaks grow. I was amazed to learn that.

“The answers are out there,” she sighs. “But for all we’ve learned so far, it’s still a mystery... We are still truly puzzled.”

After 10 years of following the researchers’ effort, I too have been frustrated by the continued uncertainty. But more than that, I’m troubled and anxious. Though the scientists won’t dare say it until they have proof positive, there seems little doubt that toxic stews are involved. Alaskans may be absolved for their spraying of carbaryl to stop the beetle infestation. But we humans, whether here or abroad, are nonetheless brewing up trouble in ways we can’t fully know. And my beloved chickadees are paying the price for my species’ reckless, life-damaging behaviors.

Even more troubling, though, is the possibility that we Alaska bird feeders may unwittingly be involved in this tragedy. Our supposedly benign activity may be enticing toxin-bearing chickadees away from normal foods and increasing the odds that their beaks will grow disfigured.

That possibility seemed excruciatingly real when, in 2006—the same winter that Colleen Handel shared her contaminant hypothesis with me—two curved-bill black-caps began visiting my Hillside feeders, the first time that ever happened. The beak of one chickadee was especially deformed; its upper mandible curved sharply downward and crossed the lower mandible, which in turn was bent sharply upward. I didn't see how the bird could eat enough to survive, yet it continued to show up at my house, off and on, for months.

In late winter, the chickadees were joined by a third disfigured bird, this one a red-breasted nuthatch with abnormally long and stout beak, slightly crossed at the tip. My journal entry for March 20, 2006 notes, “all three deformed-bill birds are now visiting daily.”

It was almost too much to handle, especially given Handel's hypothetical contaminant scenario. That's when the inner debate began: Should I stop putting out sunflower seeds? Are they doing more harm than good? Because the feeding season was nearly over, I set the questions aside.

That fall, I moved to Turnagain. And during the winter that followed, no deformed-billed birds appeared at the feeders. My guilt eased, though the questions remained.

But now I have seen curved-bill black-caps in my west Anchorage yard. I've watched them turn their heads to work at seeds and scrape bits of peanut butter from the hanging feeder. I've seen their feathers get dirty and their reflexes become slowed. So the doubts and questions have risen again, including this one: Shouldn't Alaska's bird-feeding community be told about all this?

Because the data is so far inconclusive, and because researchers tend to be cautious sorts, Handel sees no reason to warn people about the possible role of sunflower seeds in the deformity epidemic.

“Right now it's a stretch to say that sunflower seeds are causing deformities or that they're even a factor,” she says. “At most they're a secondary cause; they're not the real problem. It would be irresponsible to tell people to stop feeding chickadees sunflower seeds, based on what we know. Right now it's mere conjecture.”

Yet the Alaska Science Center's website now reports a new study being conducted by Van Hemert, in which preliminary blood analyses “suggested that *affected birds may consume more foods from human-provided feeders* and less natural insect and animal matter than normal birds. If deformities are associated with nutritional problems or environmental contaminants, *diet is the most likely route of exposure.*” [My emphasis.]

Shouldn't we bird lovers err on the side of caution? How much certainty must researchers have, before telling the public that feeding sunflower seeds to Alaska's chickadees may be doing unexpected harm?

Am I being an alarmist to even suggest it?

Handel is certain the benefits still outweigh the costs. “Feeding birds,” she says, “helps their survival. There are so many benefits to bird feeding, that even if there is a nutritional deficiency [tied to sunflower seeds] it might overall still be a positive.”

Yet other avian experts who've studied backyard feeding are less certain about the activity's overall benefits to birds, another story in itself.

For the worriers among us, Handel suggests putting out a variety of foods: “Some suet blocks have

insects and fruits,” she notes. “They more closely mimic what birds eat in the wild. It’s also better to put out whole seeds rather than chips, because opening the shells produces some wear and tear on the beaks.”

The website also now includes a recipe for “Birdie Corn Bread,” to add more variety to bird-feeder diets.

While adding such variety is a great idea, in my experience black-caps still inevitably go for the sunflower seeds. It’s what they love.

What to do? So far, I’ve done nothing to significantly change my own behaviors. Despite learning in 2006 that bird-feeding may be part of the problem—and despite the fact that almost every year between 1999 and 2006 at least one deformed-bill chickadee visited my Hillside feeders—I continue to put out sunflower seeds each winter. I do this largely because chickadees and nuthatches flock to my yard, looking for the handouts they’ve come to expect. It is damn hard to refuse them food, to lose their good company.

I rationalize that I’ve moved off the Hillside, where the percentage of deformed chickadees is exceptionally high, to Anchorage’s Turnagain area, where beak deformities haven’t been such a problem, although yes, I have seen a couple of disfigured birds. And, using Handel’s reasoning, I’ve convinced myself I’m doing more good than harm, by supplementing songbirds’ winter diets.

Still, I wince when my sweetheart, Helene, repeatedly asks, “How can you still put out seeds, when you know they may be causing harm?”

I tell Helene—and myself—that I’ll stop putting out black-oil sunflower seeds when there’s clear evidence of their link to deformed bills. But why wait? How much proof do I need? How much evidence would the researchers need before they caution the public against a favorite wintertime activity? And how many bird feeders would stop, even then? Anchorage residents are warned over and over not to leave out garbage or dog food—or keep their bird feeders filled—in spring and summer, because such things attract bears. Yet far too many residents stubbornly ignore the warnings and several bears are annually killed here as a consequence.

Handel offers one final thought that may assuage some of the guilt. “If so many people weren’t feeding birds,” she notes, “I never would have known about the extent of the deformities; or it would have taken at a lot longer to figure it out. That’s been a huge benefit.”

It is, I suppose, a reason for solace amid all this bird-feeding angst. And still the questions remain.

The biggest questions, of course, have nothing directly to do with sunflower seeds. The larger worry is the way we’re messing up our planet, whether through toxins or greenhouse gas emissions or war. When will we recognize the importance, the necessity, of being better neighbors, better co-habitants on this blue-green planet? What can we do—must we do—to turn things around?

Maybe chickadees, along with polar bears and beluga whales and other species under duress can help us see the absolute necessity of living more lightly, more respectfully, more responsibly on the Earth. That may be the best argument of all for feeding birds and encouraging others to do the same, even if there are some tradeoffs, some losses and discouragements, along the way. In an age of increasing disconnection from “the natural world,” feeding birds links us intimately to the wider, wilder world.

For many people, I’ve come to understand, the feeding of wild birds is the primary, perhaps only, link

to larger nature. And isn't that a critically important thing? You know the saying (expressed by many different people in various ways): Only when we've welcomed wild critters—or any other form of life or landscape—into our lives and hearts are we likely to truly care about their well being, their place in this world. It's something the chickadees remind me, every time I hear their voices, see their feathered forms alight in my yard.

*Bill Sherwonit's newest book is Changing Paths: Travels and Meditations in Alaska's Arctic Wilderness, published in 2009 by the University of Alaska Press.*

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## Comments

4 comment(s)

Elaine Bales wrote on Dec 24, 2010 4:03 AM:

" I had seen deformed beaks a while back, and I know it was because of the toxic chemicals my neighbors were spraying on their spruce trees. Other neighbors went in, but my husband and I objected to it for it was a pesticide and would harm birds and even squirrels.

I know that the nuthatches and chickadees and even the downy and hairy woodpeckers prefer the suet to the seed. All I do is have the butcher grind up fat like hamburger, place it in a plastic netting that I obtain when buying lemons and limes and hang it up at my windows. This suet is what they like and prefer over the commercially packaged ones.

Feeding the wild birds suet in this form is like eating lots of fuel to get them through winter. The way I look at it is that Alaska has been ruining the wildlife's habitat and their food sources and winter is tough. These birds are lucky if they live 18 months. Since we have taken so much away from them with our building and destruction of the woodland trees to build new subdivisions, we hurt the wildlife. It is not that much for me to help them out and it is better than having an empty stomach.

If not for the feeders, the birds with the deformed beaks would not have been able to eat. I always kept peanut butter and cornmeal out for them. Otherwise, they are not able to eat. "

Barbara wrote on Dec 19, 2010 9:53 PM:

" As I feed the birds, and noticed the beaks turning up and down, I thought that perhaps the winds had brought some odd particles from the Chernobyl mess, and that the chickadees were the first to let us know it is over our land. I live in the Wasilla area, and usually see one or at the most two birds with beak problems a year, and so far only chickadees. "

Lee C. wrote on Dec 17, 2010 9:17 AM:

" Bill, great piece. I also feed birds in Colorado. We have a problem with bears going after pure black oil sunflower seeds in feeders so I feed a mixed seed product. When I buy bird seed, I look for seed that comes with Bird-Kote, an additive that coats the seeds with minerals and

vitamins that birds need. I couldn't tell from your piece if you are buying seed with vitamin D and calcium added, but if you aren't, you might want to look for it. "

Wayne wrote on Dec 16, 2010 8:50 PM:

" Well done Bill. We have not been seeing as many deformed beaks at our feeders this winter but it is certainly a concern. We put out quite a variety of foods but, as you know, the chickadees love those sunflower seeds. But like you we cannot just stop. We think we are doing them some good but the fact is they do us even more. (They also love water which we have maintained for them the past two winters with small heaters for that purpose.) "