**4/26/24 / Honey, We Saved the Bees**

**[HALF SECOND OF SILENCE]**

**[BILLBOARD]**

NOEL: Andrew Van Dam of the Washington Post is worried about bugs.

ANDREW VAN DAM (Data Journalist, Washington Post): I'm worried about bugs.

SCORING IN <The Heavy Meds (video game, cheerful, birds, happy) (123 bpm)>

ANDREW: A while back, I did a story on why our windshields are so suspiciously clean these days. We used to have to stop on long road trips just to clean the bug guts off our windshield. Now there's nothing. What's going on?

NOEL: Bug populations are declining.

ANDREW: Exact data are hard to pin down because measuring bugs was not a popular pastime for much of history. But a rule of thumb, is that we could be losing something like 1 to 2% of insects every year.

NOEL: Millions of BEES have been dying and much has been written about how disastrous“colony collapse” has been for pollination and thus for agriculture. Recently, Andrew was looking through some bug census data and he found something that shocked him.

ANDREW: that despite my existential terror America's honeybee population is actually rocketed to an all time high.

NOEL: Coming up on Today, Explained.

**[THEME]**

ANDREW: I am Andrew Van Dam. I am the Department of Data columnist at the Washington Post.

NOEL: There is a story that we've all heard about something called colony collapse disorder, and it has led a lot of people, myself included, to assume that. The world. America is running out of bees. We have too few bees. You recently looked into some data about the honeybee population. Tell us what you found.

ANDREW: Well, jeez, I was worried about colony collapse, too. It is a big deal.

*<CLIP> PBS NEWSHOUR REPORTER: Last year alone, beekeepers in the U.S. reported a 40 percent drop-off among their bees.*

ANDREW: So I was shocked when looking at the Census of Agriculture, a stupendous USDA source that comes out every five years listing all of America's farm animals in excruciating detail.

NOEL: <laughs>

ANDREW: By which I mean we go all the way from llamas and alpacas…

*<CLIP> Animal Sounds for Kids - Llama Sound Effect*

ANDREW: to broiler chickens…

NOEL: <laughs>

ANDREW: to something called mushroom spawn.

*<CLIP> Super Mario Bros. - Mushroom Sound Effect*

ANDREW: I found that honeybees were the single fastest growing segment of livestock in the United States, at least by my definition, over the past 15 years. That is, from 2007 to 2022.

*<CLIP> REPORTER: A buzzworthy recovery since the early 2000s when mysteriously collapsing colonies alarmed beekeepers nationwide.*

SCORING IN <LQC\_INSD\_0148\_00101\_Queen\_Bee\_APM>

ANDREW: Colony collapse disorder emerged when in the winter of 2006, some beekeepers started noticing that they were losing something like 50% of their bees over winter.

*<CLIP> CBS NEWS REPORTER: Pinder lost a half million dollars last year. Laid off five of seven workers. He says he can’t survive another year like that.*

*<CLIP> NBC NEWS FARMER: if there was a dandelion there was a bee on it. And they have definitely gone down in numbers around this area.*

*<CLIP> CBS NEWS FARMER: All of sudden we open up a box and there are no bees in that box.*

*Reporter: none?*

*Farmer: None.*

*<CLIP> CBS EVENING NEWS: This is a cancer, the industry is having a cancer.*

ANDREW: Now, bees always have some winter losses. You often lose something like 15% of your bee colonies in a given winter, but this time they were hitting 50, and that has just kept steady and spread nationwide to the point where last year we did have a 50% loss, according to the Bee Inference Partnership. So that was one of the highest rates of colony loss we've seen.

*<CLIP> DAN AURELL OF AUBURN UNIVERSITY: this is absolutely a concern. We’re not seeing the kind of improvement we’d like to see.*

ANDREW: So bees are an absolute cornerstone of the industrial agriculture system in the United States. Honeybees are essentially a farm animal. They were imported from Europe by colonists, and they were imported to pollinate certain agricultural crops. A lot of the fruits and nuts that you and I hold dear are relying on bees for their pollination.

*<CLIP> FARMER: They’re as fundamental to pollination as water or sunlight.*

ANDREW: If a thing doesn't get pollinated, then we don't eat it. Lack of pollination would spell the end of watermelons and apricots.

*<CLIP> FARMER: It’s important for people to understand that and remember where their food comes from. You know, we depend on honeybees for our existence.*

ANDREW: It is a massive agricultural industry in the United States. To pollinate all of these different fruits, we have what's called migratory beekeepers who are trucking all over the US, dragging these bees from crop to crop, making sure all of our canola and whatnot, get the pollen they need to sexually reproduce.

SCORING OUT

ANDREW: So during this colony collapse era, during the era when we've been terrified of losing our honeybees, I found based on this gold standard, fantastic federal government source, we find that, yes, honeybee populations are at a record high now. They're the highest they've ever been.

NOEL: How did you come by this information?

ANDREW: Every five years, the USDA, the Department of Agriculture, sends questions to every farm in the United States. They try and track down all of them. So it's an incredibly thorough, incredibly useful, absolutely delightful source. And so when I looked at the fastest growing and shrinking livestock segments in the US, I was extremely surprised to see honey bees at the top of the fastest growing livestock segment since 2007. Honeybees have basically doubled over the past 15 years. That is completely to the contrary of everything I thought, everything I feared about colony collapse. And, it was a bit of a pleasant surprise. So we're looking at 3.8 million colonies and billions of bees.

NOEL: Okay, billions of bees. And. Is it true? Is it true? I mean, like, what you're. What you're saying almost sounds like, ‘you guys, there was a conspiracy to convince you that the bees were dying. And then I looked into the data.’ I mean, this this is like. This is like Watergate shit here….

ANDREW: <laughs>

NOEL: Is there really a boom in the bee population? And why weren't they telling us?

ANDREW: I wonder the same dang thing. And so when I talk to, people like, former USDA economist Stan Daberkow, who is just incredibly smart, loves bees, loves talking bee numbers, was emailing me at like 1:30 in the morning with more bee thoughts and theories. He said, ‘hey, this seems real weird. I'm leery of it because, honey prices have not been doing well in recent years. so you wouldn't see honey producers and colonies like that.’ But what he said is ‘we need to look for smaller producers’. Like I was saying, that's probably where the increase lies. And so I started to run the numbers. I started saying, hey, this census agricultural, tell me, how many farm operations had bee colonies? It'll tell me all these things. And I just have to, see which states, which regions have the largest increase in small producers. And the answer to that, once I ran the numbers, was the great state of Texas.

SCORING <LQC\_INSD\_0041\_02001\_Texas\_March\_APM>

NOEL: Texas. What?

ANDREW: Yeah!

NOEL: <laughs>

ANDREW: That's exactly what I thought. Texas, which was something like sixth in the country for bee operators 10-15 years ago,

<CLIP> DallinJeepsUtah, How to say Yeehaw properly.

ANDREW: Which is pretty small for an enormous state like Texas, especially one that is agriculturally vital, is Texas. Now, it is number one in beekeeping operations and farms that have beekeeping operations. It has something like more than twice as many as the next highest state. It has more than 21 of the smallest states combined. The Texas bee boom is ridiculous. It just leaps off the chart. It was absolutely shocking. So of course, I mean, what do you do when you see that? You pick up the phone and you start calling Texas bee people.

NOEL: And they exist. And what did you find?

ANDREW: Oh boy, do they ever exist. They are all over the place and they are so friendly.

NOEL: <laughs>

ANDREW: Good grief. I like every single person I called bee Texas, picked up the phone, immediately, dropped everything, and they were willing to talk bees to me for hours on end. They love bees. They're so excited. And part of it is their sheer passion, the great organization of hobbyists they have down there in the Texas Beekeeping Association. But just about everyone pointed me in the direction of a very nice man in central Texas, a retired wildlife biologist named Dennis Herbert.

SCORING OUT

*<CLIP> DENNIS HERBERT: actually, since i was a wildlife guy, never gave a whole lot of attention to bees. And, uh, it finally came home to me that I love to eat, and I need food, and I need bees. So there.*

ANDREW: I tracked Dennis down, and just interrupted his day. He had no idea why I was calling, but in 2011, I'd say Dennis had just gone into beekeeping a few years earlier.

*<CLIP> DENNIS HERBERT: Me, as a beekeeper, I had ten acres, I had six or seven hives.*

He was really into the hobby and he noticed something. He said, hey,

*<CLIP> DENNIS HERBERT: I’m on this side of the fence, I raise bees. You on the other side have two or three hundred acres. You raise cotton. And you get your ag valuation on your property, because you’re producing an ag commodity. Me on this side with ten acres, I didn't.*

ANDREW: And on that cotton field, my bees are flying over there helping pollinate the cotton.

*<CLIP> DENNIS HERBERT: and helping to make your crop and make your living.*

ANDREW: Without me, this farmer would not be able to grow anything. And yet he is over there getting an agricultural exemption for his cotton. He is getting a cheaper land valuation. He is paying fewer taxes for that cotton field than I am on my land. Even though I am also farming a domesticated animal, I am also farming important livestock, and without my livestock, his crop couldn't even exist. So I should be getting that agricultural exemption too.

*<CLIP> DENNIS HERBERT: you know, bees are just doing what bees do. They’re looking for food, nectar and pollen and water. But in the process they’re pollinating not just cotton but all kinds of crops. If you don’t have those pollinators then you are really gonna hurt your profitability, your food supply.*

ANDREW: So Dennis, this very unassuming, very modest, extremely plainspoken Texan, went to the legislature. He's not a political guy. He knew no one there, he just walked up, laid out that hypothetical, and all of a sudden legislators were on board. And within a year, in 2012, Texas was adding beekeeping to the list of agricultural uses for which you can get a tax exemption.

<CLIP> *DENNIS HERBERT: you could just see the light bulbs come on over their heads so to speak.*

ANDREW: In 2012, Dennis managed to pass this law that over the past ten years, as agricultural exemptions come up as people need to renew them, as counties implement the regulations. Folks are starting to see this to take advantage of this. And it has become a major business in the state of Texas.

*<CLIP> DENNIS HERBERT: I knew it was right. I knew that we as a population we have a need for, for food primarily. And to, to help the bee industry. And so that’s really where it came from.*

NOEL: Okay, so basically, Texas is a big state for sure. And tax breaks are a very powerful incentive in these United States. It does sound like what you're saying to me is, a tax break in Texas revived the bee population. True?

ANDREW: Fairly true, yea. I raise my eyebrow a little bit, because yes it revived the beekeeper population. It's done a ton for beekeeping, especially in Texas. But those are often small operators. When you look at that data again, say 'Hey. Wait a minute. What about the actual bee colonies? Even with its army of small producers, the lone star state still ranks only sixth in the number of actual bee colonies. To find the true core of the bee boom, we had to make like the Village People and go west.

SCORING IN <GO WEST - VILLAGE PEOPLE>

Noel: Coming up, we go west.

:GO WEST BOP BOP BOP IN THE CLEAR

**[BREAK]**

**[BUMPER]**

NOEL: It's Today, Explained. We're back with Andrew Van Damme, the columnist behind the Washington Post Department of Data. Andrew, before the break, you confirmed that there are indeed more small producers of honeybees in North Texas, and that those bees definitely contributed to the record number of bees in the U.S.. But you also wrote that in order to kind of find the real core of the bee boom, we actually have to go even further west than Texas. What is happening further west?

ANDREW: All of the boom we saw in beekeeping in Texas, a boom of that same magnitude is happening in California in terms of bee colonies. A bee colony is simply what you and I would probably refer to as a bee hive. Now, why are that separation between operations and colonies? That is because, beekeeping is an enormously migratory profession. People are trucking bees back and forth across the country in search of crops to pollinate all year round. And in California in December, when the agricultural census is taken at the very end of December, they're beginning to stage for the almond harvest.

<TAPE SFX>

HALEEMA: Honeybees love almonds, and almonds love honeybees. The two businesses are very codependent. California produces 80% of the world's almond supply, and there is no other pollinator—like birds or flies or even the wind—that can pollinate almonds like bees can.

<TAPE SFX>

ANDREW: So what we know already, right, is that almonds are extremely pollinator hungry. They need so much pollination assistance. And the other thing we know is that the United States is in the midst of an extremely long running and extremely enormous, large in magnitude almond boom. We have been putting almonds in just about everything, All of our milks, granolas, butters, just about anything you can think of we are now sticking an almond in it.

NOEL: <laughs>

*<CLIP> Silk Almond Milk Commercial JINGLE: Milk it, Milk it, Almond Milk it!*

ANDREW: And that means that the almond acreage in the United States has something like doubled since 2007. And over that same time, we've seen the bee population double, Now, you may be asking, what about colony collapse?

NOEL: Yeah, well, I am asking. I mean. Wait wait wait wait. Okay, so what I'm hearing you say is that concern is over? We are safe?

ANDREW: Oh, well, I don't know. To be honest, what we are doing is we are throwing more bees at the problem. Because beekeeping has become big business. You can get enormous amounts of money. And so we have the incentive to grind out bees however we can. Right? So producers are way more intensively managing their colonies. They're splitting them more often. They are replacing queens every year instead of every few years, or when the queens naturally replace or that kind of thing, So it is a story of a bunch of extremely hard working people working very hard to stay ahead of colony collapse. We're losing more bees than ever, but we're also producing even more bees than that.

NOEL: That's incredible. So. It's not that the problem itself has gotten any better, it's that we have gotten better at dealing with the problem?

ANDREW: Absolutely. And that also goes to the government as well. They provide various backups for beekeepers who are losing a lot of colonies and that kind of thing, because again, it's a very expensive issue. And it may not be that producers could stay ahead of colony collapse on their own.

NOEL: All right. So human beings have intervened here and they're like, we're going to, you know, set up these little colonies in the backyard in Texas and etc.. Are the bees in those colonies any different at all from a bee that comes from a colony that has not been interfered with by human hands.

ANDREW: For the most part? No. There are large feral bee populations in the United States, like the number of feral bees in the United States may be several multiples larger than the domestic bee population, but they're much harder to measure. They are not a high value agricultural crop, so we don't have millions of people carefully tracking their every move.

*<CLIP> Christie Bahlai: they like made lil mud nests on walls. Or they have lil nests in stems so they don’t have big colonies.*

And they may also be susceptible to many of the issues included in colony collapse, such as Varroa mites…

*<CLIP> BEE RESEARCHER: It's a very small parasite that feeds on bees and makes it difficult for them to stay healthy in the summer. But in particular, in the winter, it shortens their lifespan.*

ANDREW: funguses, fungi if you want to be fancy infectious diseases and all that kind of thing.

*<CLIP> BEE RESEARCHER: and then you layer on top of that climate change. The big broad issues of climate change.*

ANDREW: And those feral bees do not have the help of the US government. They do not have the help of a million very hard working men and women who are making sure their populations are resuscitated.

NOEL: So. We have a problem. We've worked with the problem. We've done pretty damn good. Good for us. I mean, we look, we first wanted to do this story because it was like, human beings have so many problems right now. And then up pops this story in the Washington Post and it's like, oh, wait, something is not as bad as we thought. And everything you've told me leads me to believe, like people have actually managed this pretty well. However, I must loop back around to something you have said repeatedly. We still do have the problem of colony collapse. We still are losing bees. What could we do to stop that?

ANDREW: Well, if I knew the answer, I could probably make a lot of money in beekeeping. But one of the solutions has to do with pesticides. We need to get better at, when we apply pesticides. It can't be a time when pollinators are on the crops. Especially insecticides. Obviously, that will lead to some bee killing issues. And so, part of it is there are now startups and, non-profits that are helping, beekeepers and farmers align when they're spraying and when the bees are out on the flowers and that kind of thing. And that may help a little bit. So the thing I take away is that human beings are extremely talented at managing agricultural animals. It's big business and we are great at big business. But all of these headwinds that we've been talking about, the pesticides, the fungi, the invasive parasites, all these things that are facing the western honeybee are also obstacles to native pollinators that often have special relationships with the North American plants, and without which a lot of our native plants would struggle. So native pollinators are completely different beasts.

SCORING IN <HARD\_HARD\_0063\_00801\_Let\_Go\_-\_Underscore\_APM>

ANDREW: They are all of the flies and beetles and even hummingbirds. Goodness knows what else. There are species pollinating native plants in the United States that we have probably haven't even discovered yet, and there are not hundreds of millions of dollars being poured into the survival of all these other species. And something like 40% of native pollinators are under threat right now. And that is something we should still continue to be worried about, though when I talk to experts, they say that really the good news is the solution for native pollinators is actually the solution for native honeybees as well, which is not going out and getting a backyard colony. It is not going out and becoming a beekeeper yourself. It is creating the habitat in which all pollinators can thrive.

*<CLIP> CHRISTIE BAHLAI: individuals the best thing you can do is turn your lawn into gardens. And the best way you can garden is using native plants, because there are lots and lots of native bee species that are only interested in very particular species of flowers that they’ve co-evolved with for thousands and thousands of years*

ANDREW: It's about not having turf lawns and instead having a clover or flower lawn. It's in creating all of these places where native bees and farm bees can get the habitat and the forage that they need.

CREDITS Andrew Van Dam, Washington Post. Hady Mawajdeh produced and Amina al-Sadi edited. Rob Byers engineered with help from Patrick Boyd. Facts by Laura Bullard. Thanks to Dennis Herbert and to computational economist Christie bah-LIE of Kent State. I’m Noel King. It’s Today, Explained.

**[10 SECONDS OF SILENCE]**