

Update on Observations of Vegetable Fields with Differing Degrees of Exposure to 5G

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Summary

This is a follow-up report on major ecological changes in an area where 5G has been recently introduced. These changes have been particularly notable in areas with direct line-of-sight exposure to a pair of small cell antennas located roughly 500 to 1,000 meters to the northwest of the area under observation. A few major new changes were observed that appeared to stem from the previous, first year of exposure, such as failure of seed sprouting. Disappearances of species are also occurring in areas not directly exposed to the 5G beams but relatively close to the sources, while they can still be observed in locations at a greater distance from the antennas.

The summer was distinctly hotter for longer in 2025 than in the two preceding years, which had had nearly identical levels of heat in summer (calculated from data in Mito City close by) and roughly similar levels of cold in winter. Vole numbers crashed in early 2025, possibly due to overcrowding in areas to which they'd relocated. They rebounded slightly in the summer. A clear decline in biodiversity continued. Exposed artichoke plants withered, while shielded artichokes in their immediate vicinity thrived. Two species of winter paddy foraging birds avoided exposed paddies, but were active in "unexposed" paddies (i.e., with no line-of-sight exposure). Most concerning is signs of declining plant fertility, with seed sprouting ratios down; seeds failing to sprout altogether, e.g., even from "unexposed" chilis; failure even of healthy plants grown from the previous year's seeds to bear fruit, particularly among nightshades; and an absence of autumn hay fever despite robust weed growth in the prolonged heat. Pollinators were still present in small numbers nearby, so failure to bear fruit also potentially indicates a lack of pollen, a phenomenon that has been reported elsewhere. People in Japan have voiced concerns in 2025 about difficulty obtaining good seeds. If plant fertility is affected, this will have far-ranging impacts, both in the human sphere and beyond.

1. Introduction

There have been no changes in the distribution of ground-based 5G services in the area under observation since their introduction in late 2023. Intensification of transmissions, since they are mostly supplied on demand, may have occurred if people

in the neighborhood have adopted 5G-enabled smartphones or if more commuters are using them in their cars.

I continued monitoring 145 species of vertebrate and invertebrate fauna (68 birds, 69 pollinating or predatory insects and 8 mollusks) that I have seen in our area in the past. Of these 14 species increased in presence or reappeared after an absence, 19 species decreased in presence and 11 went missing in 2025, for a net decrease of 16 species. This represents more than 10 percent of the total monitored, and closer to 15 percent, as about 20 species had gone missing before 2024 and have not reappeared since.

There were three other notable environmental changes, unrelated to the 5G radiation at hand: more intense and prolonged summer heat during the growing season; intense advertising of Starlink satellite services, presumably adding a new form of 5G transmissions that would be harder to escape in nature and harder still to document;

Possible Impacts of Starlink and Other Satellite Transmissions Via the Global Electrical Circuit

Some researchers are watching for changes in mass behavior among animals, such as whale beachings and disturbed bird migration as they have the ability to use electromagnetism. Dr. Oleg Grigoriev, Chairman of the Russian National Committee for Non-Ionizing Radiation Protection and Board Member of the Scientific Council for Radiobiology at the Russian Academy of Sciences says they have the ability to memorize magnetic coordinates and also a “genetic memory” for magnetic coordinates, but he does not expect that to become an issue. Instead, he notes the following:

“We should see global changes primarily in behavior and clinical manifestations in what is related to geodynamics. In the physico-mathematical model of moving blood, there is a vector of magnetic induction to stabilize the distribution of red blood cells. Accordingly, changes in the external component of the magnetic field add another vector—they change hemodynamics as a whole. This was once proven theoretically and experimentally.

“It’s hard to deny that with the development of wireless communications, people’s mass behavior has become strange.” Unfortunately, what is driving the development of electromagnetic technology is the US military, whose plans are pushing the whole world towards new types of weapons and communication systems.”

He provided links to US DoD roadmaps released in 2024 (which have gone dead since), remarking, “When you connect the dots here, it’s clear that the military wants energy weapons and bio-cyborg soldiers, all connected wirelessly and controlled by artificial intelligence via satellites and 5G stations. No sane person would want to live in such a world.”

He puts the blame for stonewalling on biological effects of RFR squarely on the Pentagon. “Any attempt,” he says, “to change the ‘thermal’ standards is being denied by the Pentagon’s main bio-electromagnetic laboratory. Last year, this laboratory once again confirmed the status of the ‘thermal’ principle for determining levels of harm.” In other words, the Pentagon is saying that if it doesn’t cook you, it can’t hurt you. They are denying all evidence of non-thermal effects.

and a particularly active solar maximum, reported to have geophysical effects (greater seismic and volcanic activity) with sensitive persons worldwide reporting effects on their mood and well-being.¹

Any of these three factors could be partially responsible for a major upsurge in bear attacks with numerous fatalities across Japan in the summer of 2025, which has intensified in the autumn to the degree that Japan called its Self-Defense Forces

(military) in to deal with it. (More on this below.) In fairness, the prevalence of bear attacks seems to parallel the rising heat, with a major increase in 2023, a slight decrease in 2024 and this major surge again in 2025.²

Regarding the heat, my own calculations found no differences in length or intensity of heat in Mito, Ibaraki between 2023 and 2024 (see Table 1), thus the heat is not a likely factor in most of the changes I witnessed in 2024. It was considerably hotter in 2025, however, with record-high temperatures reported throughout Japan and a longer period of intense 35°C+ heat locally (50 days in 2023, 30 days in 2024, versus 56 days in 2025). In looking through the local temperature data, what stood out was consistently higher low temperatures at night during the heat waves in 2025. Some trees (in particular, **ume** (*Prunus mume*) and **ginkgo** (*Ginkgo biloba*)) dropped their leaves in the heat this year (one “unexposed” ginkgo grove about 300 m south of an affected grove, that happened to be directly exposed, remained healthy all summer, but there is no way for me to eliminate the possibility of sabotage against the latter, with the heat as a plausible explanation).

Table 1 Comparison of summer heat in 2023, 2024 and 2025 in Mito, Ibaraki. Daily high and low temperatures for 105-day period from June 11 to September 23 (data from AccuWeather³).

Year	Max. High	Max. Low	Avg. High	Avg. Low
2023	35°C (12 days)	15°C (June 17)	30.819°C	22.514°C
2024	36°C (4 days)	14°C (June 22)	30.657°C	22.657°C
2025	35°C (15 days)	13°C (Sep. 23)	31.010°C	22.752°C

One major change I noted which was not heat-related, because it occurred before summer, was a tendency of artichokes directly exposed to the beams from the nearby 5G antennas to wither, with their leaves stunted. (More below on this too.)

Photo 1 Withered artichoke, June 2025, from direction of 5G antennas.



Photo 2 Healthy artichoke (right, shielded by greenhouse on left). Taken same day as Photo 1.



2. Vertebrate Fauna

The population of **Japanese grass voles** (*Microtus montebelli*) in the “unexposed” (I use this term throughout herein as a shorthand for “not line-of-sight exposed”) area crashed in early 2025, probably as the result of overcrowding after they had abandoned the exposed fields, where they had been a major pest in 2023 and earlier. They rebounded somewhat in summer, and even managed to attack some of the peanuts in the exposed field, probably by approaching under the rice plants, which had grown exceptionally tall, when the water was periodically drained from the paddies.

One of our **cats** had been showing increasing signs of illness (ocular discharge, poor grooming, lethargy, bladder stones) for nine months, so in March 2025, I suggested to my husband that we take our noon walks (where she always accompanied us) through largely “unexposed” paddies rather than by the heavily exposed community center. Thereupon all of her symptoms improved greatly. (I note we also made a dietary intervention for the bladder stones, but had been doing that before as well.) Near the community center, she had shown a tendency to prefer walking in the concrete ditches, and her bladder issues seemed to be particularly prominent in that vicinity.

We found a cast snake skin among the peanuts in October 2025 (which again grew extraordinarily long) probably from a **Japanese striped snake** (*Elaphe quadrivirgata*), so where the voles go, those snakes are not far behind.

After exhibiting altered behavior in the spring of 2024, **oriental greenfinches**

(*Chloris sinica*) showed up as usual in late autumn in a noisy flock on powerlines, then disappeared entirely. Later, a small number could be heard in “unexposed” gardens nearby. The number of **dusky thrushes** (*Turdus eunomus*) migrating into our area in autumn fell drastically in 2024. Until the end of February 2025, I observed only one pair in adjacent “unexposed” gardens and *satoyama* groves. Then, in late February, a group of about twenty showed up, apparently relocating from somewhere else. They showed a distinct tendency to avoid foraging in exposed areas (see box below). They migrated out in spring as normal.

None of the **crows** (*Corvus corone*) in our area has shown any inclination for rearing young in the past two years. The one remaining crow near our house found a mate for a while, then seemed to lose him/her. Three siblings we’ve known for several years that live in a *satoyama* grove nearby and occasionally raid our exposed field have shown no changes in behavior or interest in finding mates.

The **tree sparrows** (*Passer montanus*) have returned to inhabiting mostly weedy gulches—their earlier response to environmental factors, possibly smart meters or 4G radiation.

Dusky Thrush (*Turdus eunomus*): This is a migratory species that used to be as familiar and ubiquitous as crows in Japan in winter. They scavenged the off-season paddies for invertebrates and were constantly present until their migration north in late April. The flock of about 20 that arrived in late February may have been driven out from somewhere else. If soil organisms are going missing, as Kordas (2024)⁴ has found, that might account for this. The flock that arrived set about scavenging as normal, including in exposed areas, but there seemed to be very few in the exposed areas. I attempted to quantify that, making observations 1-3 times a day over a 10-day period in an area which at ground level was approximately 2/3 unexposed (5/3 exposed at the elevated road level).

I counted birds engaged in foraging only, because when disturbed they tend to fly up to exposed perches. I counted 58 unexposed and 9 exposed to one degree or another. There was only one time when I saw a significant number (3) in an exposed location--on the road, foraging by puddles during a rainstorm. Other than those, I saw only three that were unambiguously foraging in an exposed area. One other I counted on my second pass (after it had been disturbed), and a couple were exposed only to the supermarket small cell, which I consider an unlikely source of major exposure, but not the fire station small cell (targeting a busy convenience store). I am not a statistician, but I think 3 unambiguous cases out of about 60 observations when roughly 20 would be expected would suggest a high degree of significance.

I noticed a tendency on some days, as well, for the birds to scavenge near the edge of the exposed area. This suggests they may have been having difficulty finding enough to eat in the unexposed area on some days and were attempting to scavenge the exposed areas, but did not persist, and whether this is due to lack of soil invertebrates or to irritation from the transmissions is unclear.

Dusky thrushes have been sparse elsewhere too. I saw only one in three months of close observations of suitable habitat near Fukuroda Falls, a tourist attraction an hour’s drive away. I have a report on those observations coming up.

The **brown frog** (*Rana japonica*), which had long inhabited our exposed field but disappeared entirely in 2024, reappeared in small numbers in an “unexposed” paddy

next to our house. I saw them when they had just become froglets, but have not seen any since June.

Though not occurring in the observed area, I wish to discuss Japan's rash of **black bear** (*Ursus thibetanus japonicus*) and **brown bear** (*Ursus arctos*) attacks. One background factor is a rising bear population with decreased hunting pressure. There has been some habitat gain due to Japan's declining rural population, with the abandoned fruit trees bringing bears into closer proximity to settlements. This gain in bear habitat may have also have been overwhelmed, on the other hand, by habitat loss due to development of extensive solar power farms in rural and forested areas.

Some have hypothesized that the attacks have resulted from a reduced abundance of acorns and other forest foods that bears rely on, due to heat and drought. Where my husband and I recently encountered a black bear, however, we also found abundant acorns (and my impression from extensive hiking this year is that the heat favored fruiting of other trees as well). We noticed signs warning of bear sitings in that area in the spring of 2025, right around the time 5G service began there. I believe that to be a mere coincidence. In the past three years, we have encountered bears twice elsewhere with no 5G antennas nearby. For decades, I have seen signs of bears (scat, gouged tree trunks) while hiking in Japan, and people living in houses next to bear habitat would see them in their fruit trees from time to time, but unless you surprised a bear, they were inclined to avoid people. I would therefore not simply dismiss any connection between wireless transmissions invading wilderness areas and bears behaving as if irritated. If possible, I hope to pinpoint the locations of the attacks and check to ascertain the wireless environment in those areas. Until someone can do that, dismissing any connection would be premature.

Regarding **humans**, I have a few observations. Despite a horrendous autumn hay fever the previous two years, and with weeds just as robust in 2025, I have had almost no hay fever at all this fall. In asking around, I've found other people in Japan to have experienced unusually little hay fever this year too. This suggests a lack of pollen, and is therefore concerning, since others are reporting plants' failure to produce pollen in areas impacted by 5G transmissions.

In September, I caught a cold—the first in many years. In my attempts to recover, I found I felt better working outside, even in the directly exposed field, than I did working or relaxing in our house, where a relative's smartphone is the only major source of radiofrequency radiation (RFR), which spikes to 1770 $\mu\text{W}/\text{m}^2$ in the house (100~400 $\mu\text{W}/\text{m}^2$ in my partially shielded office), versus about 1500 $\mu\text{W}/\text{m}^2$ on the exposed side and about 100 $\mu\text{W}/\text{m}^2$ on the “unexposed” side outside our house, and there exist other forms

of electromagnetic radiation from wiring and equipment and chemical pollutants inside the house, even with ventilation.

Most people in modern society have chosen to live in a high-RFR environment, with levels slowly increasing over time as they add new gadgets. 5G infrastructure is so inconspicuous that most people are unaware of its presence.

People have diverse ways of coping with unhealthy environments. Our knowledge and resourcefulness give us an advantage over most other species. If conventional medicine provides no relief, alternative treatments can be sought. For example, a number of people suffering from sensitivity to artificial EMR have found some relief by restricting oxalates in their diet, and others have had luck with acupuncture or Chinese herbal medicine. I note that animals have been known to seek out plants with healing properties, and as noted above, certain birds seem to avoid foraging in directly exposed fields. These are adaptive behaviors.

In human society, when we feel lousy, we normally just try harder to cope.

After adopting protective glasses (tinted plastic sports glasses with good side coverage seem to work fine) I have had no eye issues aside from irritation from sweat. Because scientists have raised concerns about skin as well as eye exposure, I am concerned that younger women may experience premature skin aging. I see them occasionally with veils to protect against sun damage. (Perhaps I ought to wear a simple face mask when working in the exposed field.)

3. Invertebrate Fauna

Mollusks appear to be continuing a slow decline. I saw one individual **Hitachi maimai tree snail** (*Euhadra brandti*) in an “unexposed” garden outside the area of observations. In 2024, it had disappeared from a *satoyama* grove nearer to the sources of 5G radiation and was still absent in that location this year. On the other hand, I saw none of the large **tanishi river snails** (*Bellamya japonica*) that I had seen in 2024. The unidentified species of small, round, gray land snail that increased under cover of crops in 2024 was still numerous in 2025, possibly due to loss of predation.

Regarding insects, the two dragonfly species, **white-tailed skimmer** (*Orthetrum albistylum*) and dimorphic **mayutate** (*Sympetrum eroticum*), that seemed to fare reasonably well in 2024 were also abundant in 2025, but were absent from the exposed fields until the rice plants had grown up enough to provide shelter. The *mayutate* exhibited peculiarities, such as red males emerging in spring (my husband says he’d never seen that before—they turn red in autumn and we had had a normal cold winter, during which they were absent), very small males in autumn, females apparently trying

to mate with other females. But there is a lot I have yet to learn about this species (at first I thought the males and females were different species—there is a chance I am, in fact, observing two or more species). An important difference between these two species is that the white-tailed skimmer does not fly very high, staying low over the paddies, while the *mayutate* flies high during courtship and mating, so the latter is more exposed.

The gigantic **golden-ringed dragonfly** (*Anotogaster sieboldii*) disappeared entirely from our area. In 2024, I saw one but it was exhibiting behavior I'd never seen from this prominent species: wandering aimlessly outside its normal habitat. At a mall about 10 km away with 5G antennas close by, I saw one that had wandered inside the building in autumn 2024. I saw a few near Fukuroda Falls in spring 2025, shortly after 5G had been introduced there. I have not seen any there subsequently, however.

Paper wasps (*Polistes snelleni*) started building nests in both exposed, but foliage-shielded (blueberry patch) and “unexposed” locations in 2025. We let them develop their nests and kept an eye on them. I found the “unexposed” wasp sitting dead by her nest about a week after she started building it in June 2025. The two in the blueberry patch developed to about ten workers, and then all died in late August. Note: the adjacent rice field had been sprayed (once annually) with neonicotinoids at the end of July. The wasps seemed to thrive nonetheless for a few weeks, but their foraging may have exposed them to gradually increasing pesticide residue.

We had one **yellow hornet** (*Vespa simillima*) try to build a nest on our house, but we took that down. There was a **giant hornet** (*Vespa mandarina*) nest somewhere in the autumn. They nest underground, and this one is probably in a *satoyama* grove. The workers and several other pollinators, including honey bees, have been finding nectar and pollen (visible on their legs) in an “unexposed” row of tea bushes. In general, though, hornets appear to be faring as poorly in 2025 as they were in 2024.

There were no big differences in butterflies between 2024 and 2025. **Swallowtail butterflies** (*Papilio xuthus*) were numerous despite the presence of many miniaturized individuals that failed to grow to normal dimensions. They may be benefiting from reduced predation. Miniaturization was also observed in **cabbage butterflies**, **comma butterflies** and **7-spot ladybird beetles**. There used to be a second ladybird beetle species, but I did not see it in 2025. I caught photos of unusually small swallowtail and cabbage butterflies, but after more investigation, discovered that at just under 9 cm wingspan, the swallowtails were still within an officially recognized size range (as per Wikipedia), and the individuals I've seen that were smaller than that I've not been able to catch.

A variety of bees were present in spring, but most went missing during the summer. There were a few leafcutter bees in the “unexposed” field along with a few butterfly

species, but almost no other pollinators there in October.

As in 2024, **tiger mosquitoes** became prominent from July among the blueberries where they are shielded by the greenhouse from direct 5G exposure, but absent from exposed areas in the same field. In October 2025, in 15 minutes of work among the blueberries with no sleeves and only home-made herbal repellent, I got four bites, but in 30 minutes subsequently among the exposed peanuts nearby, I got no bites. I found no mosquitoes if I approached the blueberries from their exposed end, but was mobbed by them if I approached from the shielded end.

The flying snow aphids that used to emerge in late November were absent in 2024 after I had seen a few emerge in early summer, miniaturized. This year, we did see a small number in November in the “unexposed” field.

4. Plants

The same general tendency seen in 2024 continued in 2025, with plants growing exceptionally large but many failing to produce fruit or seeds, especially among the **nightshade** crops. On the other hand, the **cucurbits** fared reasonably well in 2025 unlike in 2024.

As mentioned above, artichokes directly exposed to the beams from the nearby 5G antennas to wither, with their leaves stunted, and the “unexposed” side of the plants surviving for longer, while plants a mere five meters away, subjected to the same heat and other conditions identical as far as I could tell, but shielded from the transmissions by the greenhouse, thrived (photos 1 and 2, above). The difference in growth between the exposed and “unexposed” parts of the row was distinct, though I note that even partial shielding by other foliage (other artichokes and a few apricot trees) helped the plants to some degree. The observed artichokes included some in large planters and some not, in both exposed and shielded locations. (The planters had previously been necessary to protect the roots from voles.) One of the blueberry bushes on the exposed end of the orchard near the artichokes showed similar stunting of its most heavily exposed branches, with leaves failing to develop.

Among the **tomato** and **chili** seeds I’d saved from 2024, very few sprouted, even from robust plants in the “unexposed” field. Of those that sprouted, only three of the **Roma tomatoes** survived to maturity. Two of those (one foliage-shielded in the exposed field and one in the “unexposed” field) fared so poorly that my husband mistook one for a weed and eliminated it, and the other simply died. Only one Roma tomato plant thrived (“unexposed”). It was in the hottest location, on the south side of our house, so the heat was unlikely to be the cause of the problems with the others. It had sparse flowers, and

as of October, one small unripe fruit (Photo 3).

Photo 3 The 2025 Roma tomato. (Please let me know if you can spot it.)



I similarly lost the chilis that had been so important to me that I had kept propagating them for over a decade by saving their seeds each year.

A **mini-tomato** plant that grew up from discarded seeds in the compost pile in the “unexposed” field is enormous with literally hundreds of flowers, but so far only one greenish fruit. My husband attempted to grow other kinds of tomatoes from seeds, but they all failed. He bought seedlings, and they produced nice fruit in the greenhouse in the exposed field, but died off earlier than normal. I had hoped my robust, rain-resistant Roma tomatoes could fill our needs later on. I guess not. Our neighbors with a directly exposed vegetable garden say their tomatoes failed to fruit too.

I checked the flowers on ours. The pistil in tomato flowers is inside a tube formed by the stamens and self-pollination is normal, but pollinators can help increase fruiting. I saw leafcutter bees on basil flowers nearby, but not visiting the tomato flowers. In all previous years, including 2024, these plants fruited robustly. My husband uses a hormone spray in the greenhouse to increase yield while excluding insect pests. He applied it to my Roma’s flowers in October and we got about three more small, unripe fruits before the frost killed it in early December. I fear the nightmare Kordas has pointed to, of a lack of pollen, is happening in our community now too. Is this why we see so few pollinators? Is there no pollen for them to collect?

Sprouting ratios of saved **mung bean** and **squash** seeds (both from “unexposed” plants) were diminished but they each provided viable plants with varying degrees of

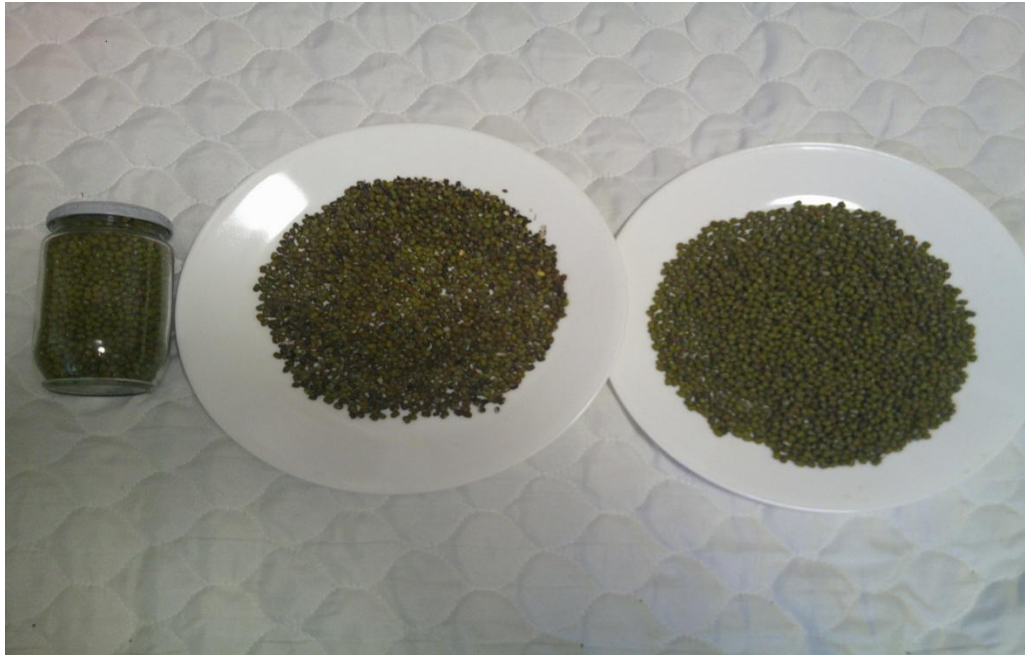
yields in both exposed and “unexposed” fields.

Regarding mung beans, I compared the yields of about a dozen plants in a directly exposed location and about six plants in the “unexposed” field. The seedlings had been set out at roughly the same time. The exposed plants produced only a fraction of the quantity that the “unexposed” ones did, and the quality was much lower (photos 4 and 5). Neither patch received any particular attention until harvestable pods formed, by which time, both had been overgrown by other plants. They had grown under nearly identical conditions, aside possibly from soil conditions that I lack the ability to ascertain (both fields in similar high-ground locations about 70 m from each other, among rice paddies with storage sheds and greenhouses nearby, prepared identically, except that the “unexposed” field had been intensely sprayed with glyphosate for many years until 2020, when we remediated it with charcoal, and both were attacked heavily by **stink bugs** (*Riptortus clavatus* were exceptionally numerous). The beans in the exposed field seemed to be under attack from variety of other insects, including **aphids** and **moth larvae** as well, and I speculate again on reduced predation. I saw no insect predators in either field, but more avian activity in the “unexposed” field. (Another possibility is that sap-sucking insects may be choosing plants that are weakened to begin with.) The exposed mung beans died several weeks earlier than the “unexposed” ones. **Vining adzuki beans** next to the mung beans in the exposed field produced very few beans in the row facing the antennas but a good yield on the far side (note, I lacked “unexposed” plants for comparison).

Photo 4 Mung bean yield for one week, end of July (left, from more than 12 exposed plants; right from 6 “unexposed” plants).



Photo 5 Mung bean yield end of July (jar on left, earlier “unexposed” harvest; middle, exposed; right, “unexposed”). Visible differences in both yield and quality.



The **blueberries** and **bilberries** produced fabulously huge crops in 2025, even bigger than in 2024, but the same overall tendency was seen of vulnerable cultivars dying off from a virus and **raspberries** thinning out, especially toward the exposed end of the berry patch. We do not know what the long-term outcome for the currently thriving bushes will be of this apparent unnatural stimulation. As noted above, some of the most highly exposed branches at the northern edge of the patch are showing deformed leaves. A friend in a congested part of our municipality which has had 5G longer than we have told me his blueberries were failing in 2025.

A friend living in a town about 10 km away, where 5G service has been introduced, with sources of it increasing near his house, said his blueberry bush produced a huge crop like ours. He said the birds, mostly **starlings** (*Sturnus vulgaris*), that used to raid his bush had gone absent.

It is also important to mention here that a seed merchant we visit each year in a town nearby told us in May that he was having trouble obtaining seeds, and he urged us to save our own. I tried purchasing and planting **lavender** and **mini-squash** seeds from a cheap source that I have found satisfactory before. None of the lavender seeds sprouted. The mini-squash seeds sprouted, but the seedlings failed to thrive and bore no fruit before withering.

Despite the rice plants showing exceptionally strong growth in the heat, the rice harvest was of poor quality we hear. We examined ears of rice in various locations and

found the grains to be underdeveloped. I did not get a clear comparison, though, of exposed versus “unexposed” plants before the harvest machines rolled in.

5. Conclusion

I have reported impacts over the past two years possibly caused by the recent introduction of 5G service in an area under my observation, attempting to identify other possible factors. I have found distinct differences between directly line-of-sight exposed areas and areas not exposed directly (called “unexposed” herein) to beams from nearby 5G antennas. My 2024 report can be referred to for an explanation of why that distinction is critical, but the key word is “coherence” of signals, which diminishes when signals bounce off objects.

I have been suggested to improve my work by taking extensive RFR measurements throughout the area of observation in a grid form, and I will address that this winter. I note that where I have taken RFR measurements in cities in the past, in areas with 5G, the power density levels varied drastically because 5G service is on demand rather than constant. In addition, there has been an unidentifiable source of strong fluctuations affecting a fairly wide area around us, that existed prior to the introduction of 5G. I can say that all measurements I’ve taken in the area under observation to date have shown levels an order of magnitude higher in the “exposed” than in the “unexposed” areas. I do not anticipate any surprises, but because species such as the Hitachi maimai snail, honeybees and praying mantises have disappeared from the “unexposed” area, but still exist in “unexposed” areas further away from the source antennas, it would be helpful to create a map of field strengths in the area under observation and beyond.

I wish also to stress that more research is needed by people with more expertise and resources than I have to clarify a causal relationship. What I am hearing more and more about worldwide, however, is a lack of funding for such research, because the economy has become so skewed toward the tech sector, and with the race to develop AI on internationally, governments perceive their national security too much at stake for them to try to address potential issues with RFR. Only lay persons or scientists with no official funding and nothing to lose dare take this on. If the consequences of ignoring RFR’s effects on the environment include not only the loss of pollinators, but the loss of pollen itself, as concerned observers are reporting, the results may be beyond tragic, especially when combined with the ecologically disruptive effects of hotter summers.

Diana Kordas has also reported a massive loss of marine life. I therefore think it important to mention that my husband and I made an annual trip to a snorkeling site in August 2025 that we had loved for decades, and found all but the most common species

missing and all the coral, which had been increasing with warmer summers, gone. 5G antennas had recently been installed there, but service appeared not to have started as of September. Thus I really cannot begin speculating about the cause yet.

There have been two notable people in positions of power who have been aware of biological effects from RFR. One of these was former WHO Director-General Gro Harlem Brundtland. Shortly after announcing her own “electrosensitivity” in 2003, she stepped down and has remained silent on the issue since⁵. The other is the current Secretary of Health and Human Services, Robert F. Kennedy, Jr. Since acceding to that position, he has not mentioned RFR issues, but rather, he has come out in favor of “wearable” devices for “everyone” for “health maintenance,” though he knows about harm from RFR. I know of no one outside the tech industry who welcomed his pronouncement. Most people saw it as a threat to their privacy and freedom.

Diana Kordas⁶ and Dr. Oleg Grigoriev have both sent letters to Secretary Kennedy urging him to address the health and environmental issues associated with RFR. Neither has received any response.

In November, the “Ouachita Mountain Living” channel on YouTube reported a near complete absence of familiar winter birds. Their absence continues off and on as of this writing, with chickens refusing to come out of their coop and dogs also reluctant to go outdoors. Thousands of people from across the US and abroad wrote in with similar observations in their respective localities. They speculate wildly about why this is happening. I think the global effects of radiofrequency sources such as satellites also need to be considered.

I recall in the late 1990s, a fellow environmentalist and I were discussing Al Gore and the tightrope he had to walk in the halls of power to gain attention for something as economically and strategically inconvenient as global warming. He may as well have been bound and gagged. We both thought it was much better to be a little guy outside the halls of power casting a stone.

¹Stefan Burns’ YouTube channel, for example, focuses on such geophysical phenomena.

²The Straits Times (2025) Japan sees a record number of deaths from bear attacks in FY2025, *The Straits Times*, Oct. 4, 2025. <https://www.straitstimes.com/asia/east-asia/japan-sees-record-number-of-deaths-from-bear-attacks-in-fy25>

³AccuWeather temperature data for Mito, Ibaraki, 2023 to 2025. <https://www.accuweather.com/en/jp/mito/2419953/june-weather/2419953?year=2025>

⁴Kordas, Diana (2024) *DNA and Developmental Damage from Cell Towers on the Greek Island of Samos: Effects on Insects, Flowers and Vegetables*.

<https://len2.web.fc2.com/pdf/samos2024.pdf>

⁵Magda Havas reported one instance in 2012, where Brundtland did talk about it, overcoming some reluctance. <https://magdahavas.com/health-issues/electrosensitivity/gro-harlem-brundtland-talks-at-the-university-of-waterloo/>

⁶Diana Kordas's was an open letter that can be read here: <https://sinners4diseasecontrol.dreamwidth.org/#entry-1900>
