

# Dan Kane, Boone County Conservation District: Part 2

## SUMMARY KEYWORDS

community, people, area, conservation, stormwater runoff, habitat, groundwater recharge, aspects, acres, property, native grasses, part, homeowners association, pollinators, subdivision, plant, sites, creating, developments, recharge

**Haley:** Hello, welcome to another episode of the *Green Exploration: Rockford* podcast. My name is Haley Dahl. And today I will be meeting with Dan Kane from the Boone County Conservation District for part two of this episode to continue our discussion about Rockford's environmental issues and sustainability, specifically highlighting the implementation of inclusive, green infrastructure in the context of conservation. **\*Intro Music\*** With these things, you know, in regards to bike paths and walking paths, more sustainable transit, such as like walking and biking and public transit. How can these solutions changed or evolved within the community to address these problems?

**Dan:** I've got some, a couple of good points on that. In speaking of, you know, residential development, the county back in the mid to late 1990s, started to have interest in what's called conservation design, in terms of how you design a subdivision, and there are standards for that. And so I don't know if you've ever explored that topic, but that's another one that I think you might be interested in looking into. Conservation design incorporates all of those things and it tries to place development, the actual lots it makes things more compact, so that, you know, your actual footprint of your home in your yard are small. Instead of you know, everybody having three acres with a mansion home on their property. They have smaller homes, more efficient, conservation-minded homes that are energy efficient, maybe taking advantage of community geothermal or other infrastructure, that would not be carbon based. And also saving, if there's natural resource features at the property, you do things to improve or enhance those features in terms of wildlife and ecological benefits. And you provide the recreational aspect, you incorporate a path system, or other features that allow people to observe wildlife or whatever and that's jointly owned and managed by the association that you live in, as opposed to, or maybe it could be an entity like ours. The problem we have is economy of scale. We have a total of eight full time employees here. In our conservation district. We own and manage a little more than 4000 acres of important

conservation lands and we also have about 30 different sites, and half of those sites have public access facilities that need to be managed and maintained. And we've got two full time maintenance people, and two full time natural resource people. And then we have myself and we have customer service specialists in the office, and two educators that do educational programming. I don't know if he ever came here for a field trip or something when you're in school. I don't know which grade school system you went through, so you may have been here for a field trip in our nature center.

**Haley:** Okay. My senior year of high school, that's when I went to Rock Valley, and I took environmental science, that's where I really started realizing my passion for the environment because I actually, I was gonna mention earlier, I have a similar background to you in the sense that my true love and appreciation for nature came from my experiences of staying with my grandparents up in northern Wisconsin. They had a place, so I would spend a lot of time just in those woods, and I loved it.

**Dan:** Yup.

**Haley:** And I remember taking the environmental science classes at Rock Valley, and I was just like, I was like, "This is what I want to do." Because I remember, I'd always be like, "I don't know what I want to study in school." And I'd be like, "The only thing that I know that I really love in this world is nature," and I was like, "but what can I do with nature?" And then I took that class and I was like, "Oh, I could do this."

**Dan:** There's a lot of things you can do, yeah.

**Haley:** Yeah, exactly!

**Dan:** A lot to pick from and yeah, you're getting in the field at a very good time.

**Haley:** Thank you.

**Dan:** So, you know, you have a lot of different aspects, you could follow with respect to this, the green infrastructure. I actually drive a volt, so I plug it in and...

**Haley:** Oh nice!

**Dan:** ...have an electric car. Wish they didn't discontinue making them because I think they are really a great vehicle, but the charging is really the key to making that more successful.

**Haley:** Yes.

**Dan:** I don't have a lot to do with that element, but I certainly support it. And I think that I am encouraged by the direction that we're going, you know, more and more vehicles. I think GM just announced...

**Haley:** Yes.

**Dan:** They're going to discontinue their gas and diesel powered vehicles by 2035, which is only, you know...

**Haley:** Pretty quick, pretty quick.

**Dan:** Yeah, that's pretty quick. And so in order for that to happen, there must be real plans to accommodate the ability to recharge their electrical platforms.

**Haley:** So, like, kind of get rid of that range anxiety.

**Dan:** Yeah. I mean, I'd love to have an electrical pickup truck, but...

**Haley:** The Tesla truck.

**Dan:** The fear for me is, I get somewhere and then how do you, you know, continue to go if you can't plug in when you get to the end of your range. So you know, maybe they'll develop something like a portable solar array that you can lay over the top of your vehicle when, you know, when you're not using it, but that still would limit your travel to every other day or something depending on how quick it recharged.

**Haley:** Obviously, I'm trying to get my degree with civil and environmental engineering. Green infrastructure is something that really fascinates me and I'm a person where I absolutely love the lifestyle of the city because obviously, I've spent some time living in Chicago, and I've loved every minute of it. But like, I definitely feel that disconnect from nature and that desire to just come back to, you know, whether it be Belvidere or Wisconsin and just kind of be around the plants and the trees. And so I'm really passionate about trying to figure out ways to, you know, have the meet both ways, and, you know, live a lot more sustainable, harmonious urban lifestyle. So I would like to know more about green infrastructure specifically, such as EV charging stations, accessible public transit, green spaces. So based on your knowledge, what infrastructure improvements have you seen or been a part of that has provided solutions to the area's environmental challenges?

**Dan:** Yeah, actually, there, I was going to talk about the two conservation design developments that are actually in Boone County, they were the county's first attempt to fold in open space as part of a residential development. It was, I think, a successful effort in that you might be familiar with Prairie Lane subdivision. And Prairie Meadow was the other one. And we worked with developers to create the open spaces now in Prairie Meadows, it's still being farmed.

**Haley:** Yeah.

**Dan:** The drawback was the developer contributed property through what the county has as a land cash ordinance. And I don't know if you're aware of this, but the county just recently, in the last two

months, stopped the land cash, they put a moratorium on it. So that is been essentially discontinued, to facilitate more rapid growth in the community, because developers look at it as an impediment to community growth. And so I think that's problematic.

**Haley:** Definitely.

**Dan:** And short term thinking. Those two sites, the Prairie Lane site, on the east side of Caledonia road, we actually have the habitat in place. The developer basically gifted the property, but there were no funds to develop the property.

**Haley:** Are you talking about where all the prairie grass is?

**Dan:** Yeah.

**Haley:** I run through there. \*laughs\*

**Dan:** Yeah. That actually belongs to the Conservation District.

**Haley:** Okay.

**Dan:** And so we own and manage it. The issue is, is there's no there were no funds provided for us to, you know, put it in a parking area, or picnic shelter or we haven't a trail system in place, but even putting the trails in place there immediately became an issue because the neighboring property owners did not want a perimeter trail that they thought would provide access to potential criminals or something to get to their homes. People have the concern, but it's more of a fear than it is a reality.

**Haley:** Yeah, what about the roads that are connected to your driveway?

**Dan:** If someone wants to break in, the fastest way would be to park the vehicle right outside the door and...

**Haley:** Yeah. \*laughs\*

**Dan:** And get it and go type of thing.

**Haley:** Yeah.

**Dan:** So and then the other condition was they made the property, a lot of the subdivision, which makes it subject to the covenants of the subdivision homeowner's association, which elevates the standards for what the homeowners want to see, in terms of picnic shelter, or any improvements. And the Conservation District, if you're at all familiar with our funding level, we don't have the resources to build the Taj Mahal picnic shelter or restroom or, you know, the basic facilities or infrastructure that would be placed there that would help accommodate that. And the other element of this is that this being a

conservation design, subdivision or both of them being at that, the idea was that the open space was public, not simply public space available to the people inside the residential development. So the standards being applied are essentially restricting us from being able to go in and actually do any kind of improvements, which is part of the growing pains of creating something that you didn't have any involvement with before, you had no experience to base things on.

**Haley:** Yeah.

**Dan:** So that in particular, those two developments, we didn't have any level of service provisions in, you know, because we're not a park district. We don't do playgrounds, we don't do the kinds of more active, you're not going to see a frisbee golf type of course, at one of our sites. We don't do...

**Haley:** Yeah.

**Dan:** ...that kind of infrastructure, with only two full time maintenance people. One of the things I'll just kind of go over with conservation design is it allows project to be designed in a way that minimizes the impacts with respect to stormwater runoff to potential contaminants from runoff and from groundwater by putting in elements that upfront address that, you minimize the amount of impermeable surfaces because you're designing the lot area to be smaller and you're creating this larger open space that can then either it could be planted to vegetable crops, you could have gardens, where communities could, everybody could have their own little garden plot and you could grow your own produce, or like at Prairie Lane and ultimately at Prairie Meadows, there's going to be native habitat installed and you know, the Prairie Lane site has it. The Prairie Meadow site is still being cropped and eventually will be converted to habitat. Once we can afford it. It costs about \$3,000 an acre to see the native plant species that we typically look at doing for the quality of the habitat that we want to create. So that's expensive. And just the seed cost is \$3,000 an acre. That doesn't count the labor or the follow up time to get these plants established because they're long term perennials. They take about three to five years to completely germinate and get established. And then once they do, you have this wonderful mosaic of grasses and flowers and they attract pollinators. And there's usually something blooming throughout the entire growing season, which addresses the issues associated with the current issues with pollinators like monarch butterflies. See the rusty patched bumblebee, I don't know if you're aware of those species having issues, but the rusty patched bumblebee, we've actually found them at almost every conservation area we have in Boone County. So they are still here and we have documented through the US Fish and Wildlife Service their presence, and the numbers that we have observed and with photo documented capture and release of the bee, which is very fascinating in and of itself. One thing working in this field, is you have to have a really broad background. I mean, my training and education is in geology, which gives me the benefits of the hydrology and stormwater runoff and all the, all the groundwater recharge and all that. But I've since learned about how these different plant materials, they have such extensive roots that if you go out into that area, which you say run in there, if you were to walk off the path and just look at the ground. The ground itself now has all these macro pores that are created by the plants and the roots of those plants and those plants have root systems that go down six feet, 10 feet, 12 feet, or even deeper. And they just allow water to infiltrate so easily that there is virtually no runoff from those sites. Once those plant materials are established. Which

addresses the stormwater runoff issue that 30 some acres of native grasses are mitigating the entire subdivision's impervious surface, which is, which is remarkable.

**Haley:** That's essentially what I was looking at with green cities and sponge cities, integrating those natural ecosystem processes into urban environments.

**Dan:** It's a rudimentary attempt at incorporating concept, because it didn't incorporate, incorporate all the elements, it focused on creating the open space, and then...

**Haley:** Yeah.

**Dan:** ...and then we manage it. And as I was noting, you know, we got the land, but we were not provided any resources to develop the land.

**Haley:** Yeah.

**Dan:** Which is why the property hasn't been improved yet. It's the cost, like I was saying about \$3,000 an acre for just the seed, and then the time and the energy needed to manage it, once it's established.

**Haley:** Do you have documentation for this, or plans?

**Dan:** It would be part of the planning process, when the, when the developer was creating the design for the subdivision, that had to be filed with the county and reviewed and approved by the county. And one of the things, a step that we didn't make that should have been made, but we were not aware that it needed to be made, was the development of a document that spells out the level of service that our agency would provide, with respect to the to that open space, the fact that we got the property at no cost is really important. But the problem is, developments occur when the developer wants to do it, and thinks it's profitable for them. And when there's 15, other developments all going on at the same time, and everybody wants to have our organization be the responsible party for something like that, and they're only contributing the land. Yeah, that's a good part of the cost. But it doesn't give us the resources to do the next steps. And so that's kind of where we're, we're still caught in that, you know, because we weren't planning to have a development there. We didn't know that was gonna happen. It just came up in the process where it gets changed from agricultural zoning, that takes three months, and then maybe another three months for the design process, which is the planning process. And so in six months, something popped up and was developed, and is now in place. And we're expected to adapt to that. And that's the challenge where, you know, now we would approach it with a much more cautious aspect with respect to, you know, can we actually afford to take the property, maybe it would be better for the homeowners association to own it, but the here are the, here are the conditions that that would be done under, and maybe we would simply supervise it. And then the homeowners could jointly fund the restoration, and meet a certain standard to accomplish it, as opposed to putting the burden on a local government entity that doesn't have the financial support to do that. We've had conversations with the various presidents with the Prairie Meadows Homeowners Association, and we've informed each one, you know, of our limitations. And, you know, unfortunately, I don't have a

plan. That fell out a timeframe because I have a budget, I've got another nearly 4000 acres of land to manage...

**Haley:** Yeah.

**Dan:** ...and take care of and, you know, it's possible that, you know, it would make sense to sit down with the homeowners association, and develop a plan, and maybe a funding as a way that maybe the homeowners association can collect extra \$30 per residents per year, and set it aside. And then when the sufficient funds are raised, those funds could be used or spent on buying the seed, and then we would plant it, and then you know, that would get the area restored out of farmland production and into habitat. And, you know, so there may be ways to work collaboratively. The problem is, is only one of me and there's...

**Haley:** Yeah.

**Dan:** 400 subdivisions out in the community, although there's only a few with this kind of conservation design element where we're owning the property, but that might be a good approach to move something forward there and getting the habitat on the ground.

**Haley:** Definitely something to consider. I feel like if they're like, "Well if our residents are taking note of this, maybe this is something that we should take note of."

**Dan:** And in the process, it would be good to, you know, maybe collaboratively develop, where would the paths go? One of the things that we've learned is that recent research shows that ground nesting birds, which are a group of species that are in decline— Henslow's sparrows. Actually there's a group of what a birder will call little brown jobs, they're essentially in the sparrow group, and they ground nest, but there's a diversity to them. And largely, they're insect eaters, so they depend on habitats that would have sufficient insects, which are essentially pollinators, you know, that local web of life or, you know, food chain, whatever you want to describe it as. And so having that fully developed is really important. And one of the things that comes into play is trail placement. Because human disturbance of an area, even foot traffic, can prevent certain birds from selecting the habitat as a place to breed. We're more mindful today than we've been in the past about when we acquire a new property, and we start looking at how are we going to approach the public access aspect of the site, that we do it so that we're not interfering with our own interest in having the habitat being used by the species in greatest need of conservation.

**Haley:** Yeah.

**Dan:** The one thing I guess I would throw in is the hydrology part. And that's where I was talking about the root systems of these plant materials. When we put this habitat back on the ground, with these native plants, you essentially create groundwater recharge, you greatly enhance it. And you're not only enhancing the volume of groundwater recharge, but you're also enhancing the quality of that recharge, because we're not utilizing any chemicals in the management of our properties for the most part, you

know. Once we get the habitat in place, any water that falls on that is going to, you know, as long as it's not degraded, or carrying something that it collected from the atmosphere, which is possible, you know, it's going to be in the cleanest form it can be because the filtration that occurs, you know, going through that complex route and a soil material and then eventually down into local aquifers.

**Haley:** So with that, what would you say the areas for improvement would be?

**Dan:** Actually getting that concept to be applied universally in the community, you know, or communities because if you look at just Boone County, you've got Caledonia, Poplar Grove, Capron, even Garden Prairie, and Belvidere, and Candlewick Lake, and Timberlake?

**Haley:** Timberlane, yeah.

**Dan:** ...is also a village and all of those communities have different perspective and ordinances on how they allow growth to occur, and what kind of growth that they attract. And I think, focusing on a common conservation design approach that factored in not only the open space aspect, but also the the issues with respect to how do you provide energy to these homes, you know, you could incorporate solar, every home could have a rooftop that achieved solar, even if it's not 100% of the power, if it provided 50% of the power, you're then reducing your need for other sources by that amount. So, you know, you're still making an improvement on air quality and, and the effects with climate change. And, you know, that's an element that if we started designing all of our developments to factor that in, and also having the the open space component be something that would facilitate groundwater recharge, and intercepting and taking that stormwater runoff and also contributing that to groundwater recharge, a portion of it, you know, you're making great strides that in addressing all the aspects that affect the environment, with respect to stream bank, say, you know, streams becoming, become so flashy, which, when I say flashy, it means the water level goes up and back down quickly. And so you get a surge of water that pulses through that stream system and that stream channel, it goes up quickly and comes back down quickly. Well, when that happens, water infiltrates into the sides of the banks, a few feet. Those banks become heavier because of the water and what happens is they tend to collapse under the weight when the water goes back down, they rotationally slump and the sediment is delivered into the stream from the stream bank. That's called stream bank erosion. And stream bank erosion is one of the key reasons we have degraded water quality due to sedimentation is that its own stream bank is affecting that. And that that could be mitigated by absorbing that water higher up in the landscape, and putting it into the ground where it naturally would have gone in the first place. And then also accounting for, you know, the rest of the stormwater by normal stormwater management processes, but you're then using a biotechnical solution to resolve that issue and you're getting the other benefits. When I talked about, you know, the list of ecosystem services and having overlap, well, you're getting the function of groundwater recharge, you're getting the function of addressing stormwater runoff, and erosion of the stream banks. And you're also providing habitat for pollinators, and other species in greatest need of conservation. You're creating a whole scheme of benefits that you wouldn't get if you didn't think about that.

**Haley:** Definitely. Just tying in the conservation and the social aspects, the economic aspects...



**Dan:** Right.

**Haley:** ...the environmental aspects, it's all...

**Dan:** Intertwined.

**Haley:** Yes, definitely. And I really believe that if we just look to nature, she will show us what we need to do. She already knows how this world works. She knows what needs to be done. And, you know, it's funny, because things like, you know, adding native grasses, basically we're just going back to our roots, no pun intended.

**Dan:** And I'll just make a comment about the native grasses. We are actually focusing more on the forbs now, the flowering plants, because they affect more pollinators.

**Haley:** Yeah.

**Dan:** Grasses are important, but they're also aggressive, and they outcompete the other, the other species of native plants, so we have really scaled back. When we seed an area, we only put a few grass seeds in. And we tend to use the species that are less aggressive so that we get more diversity out on the landscape.

**Haley:** Yeah.

**Dan:** Just give you that bit of information up front. Yeah, so that's correct. All these things are interconnected. And when you look at it from that approach, of, you know, folding in all these elements, the last part of that is us, the people part.

**Haley:** The social part.

**Dan:** Yeah, getting us out, you know, the health and wellness, the quality of life aspect of, you know, you like to go out and run and I wish I could still run, but I can't. My knees are shot. That part is out for me, but getting out and getting the exercise, which is part of the health and wellness thing. That's another factor that this additional open space can facilitate.

**Haley:** Yes, I'm very thankful for Spencer Park and Rock Cut State Park.

**Dan:** Yeah.

**Haley:** I just love spending time running and just enjoying those natural spaces that our communities offer us.

**Dan:** Yep, that's right. So as long as we don't interfere with that other aspects, you know, with the people part, and that's just...

**Haley:** Yes.

**Dan:** We have to be mindful that in our design, as well.

**Haley:** And inclusive and accessible to all.

**Dan:** Right.

**Haley:** Can't leave any of our neighbors behind.

**Dan:** That's right. That's right.

**Haley:** I think that's a good point to segway into, essentially, my final topic, we've been talking about how the area has been taking action towards implementing solutions to these environmental challenges through conservation. I was just curious, based on your knowledge and experience, have you seen a disparity in how **low-income and** BIPOC, which stands for Black, Indigenous, People of Color, neighborhoods, compared to other neighborhoods in the area?

**Dan:** I think there is, you know, and I think we're all getting to be more mindful about how they're being impacted and affected. And I think unfortunately, the trend for that is long, in terms of how things have occurred over time, that doesn't mean we can't start factoring in a better way to be more inclusive and more accessible to everybody as we go forward. I mean, the part about having, you know, no connections to the Long Prarire Trail is part of that, you know, if you're in a part of the community, like in Belvidere, where, you know, we have a higher density of Hispanic, I don't want to pick on any particular ethnic group, where the population here exists, and how do you get them to take advantage of conservation facilities? Well, the Conservation District is limited in what it can afford to acquire and purchase and implement and we're not a park district, but that doesn't preclude the county or the municipality from in their planning of how growth occurs in the community, and maybe even looking at how they go back and redevelop parts of the community, like the brownfield sites that are in Belvidere. I don't know, you know, where the old sewing factory was along the river, you know, there's some brownfield renovation being planned. That's where some of our people that fit that demographic live, and, you know, planning for how you put in trail systems and path systems and redeveloped some of that area to be higher quality green space, so that people have access to wildlife observation and fishing, and, you know, just getting outside and enjoying nature in a safe way and in removing, you know, some of the fear that some people have for being outside. You know, I think we are striving to be more mindful about, "How do we reach that segment of our community? How can we better interact with them and serve them better?" And I hope that what that will reflect ultimately, is in greater collaboration between the local entities that can influence that. There's a strong need for that. I think, I think it's important, I think it is a need in our community to address. There are a number of things and the sad part is we don't generally get a lot of input from people in that community, and I don't know if it's

language barriers, or if it's fear of just coming in. I mean, we get a lot of use, a lot of our patrons are part of that community.

**Haley:** Thank you. That was good insight. And I appreciate that you see the need for inclusive environmental solutions being pushed in the community, because I feel like a lot of people in the environmentalism movement have a tendency to look just at the environmental problems, you know, some people fail to look at the economic factors or the social factors, but I feel like, you know, most people have a tendency to look at it very detached socially. It's all tied together. Environmental justice, racial justice...

**Dan:** Yeah, yeah.

**Haley:** ...can't exist separately because environmental racism is real.

**Dan:** I agree with you. And, you know, we are striving here to be more inclusive and get the input from the parts of our community that maybe haven't talked with us lately.

**Haley:** Do you have any ideas of how to facilitate that?

**Dan:** We've never been an organization that's had much in terms of resources to devote to public communication and we're still using brochures. I noted that I started working here in April of 2000 and we still have brochures that were printed prior to my working here, that we still hand out to the public.

**Haley:** Oh, my gosh.

**Dan:** And yeah, they're very old. They look old, they don't convey information very well. At the time that was probably the best they could do. Just that one aspect, I think we were moving into the current method of communication with Facebook, and other social media aspects. And I think we're gonna resonate better with the segments of our community that we haven't reached before with our newsletter and other forms of communication, so we're hoping. That's one of our approaches. And then, of course, we're also hoping that we just get more walking traffic and obviously during a pandemic that's a challenge, but...

**Haley:** Yeah.

**Dan:** ...creating events that are more in tune with serving that need, and its own service is a big part of it. I think that's a good place to kind of wrap up.

**Haley:** I hope you learned something from today's conversation. I know I sure did. I just want to thank you again for your time, as I really appreciate you sharing your knowledge and insight with me today.

**Dan:** Sure, you're welcome. I'm glad I could participate.

**Haley:** I think now would be a good time to wrap up part two of this episode. **\*Outro Music\*** As always, I would love to thank Dan Kane for sharing his valuable insight during part two of these discussions. I know I say this every week, and I will continue to say this, but I'm also extremely thankful for everyone listening in on this podcast. I'm always appreciative of your continual support of Green Exploration: Rockford. Just a reminder to take whatever you learn from this series and consider how you, as an individual, can be a contributor to a sustainable future in your day-to-day life. And don't forget to not only show Mother Earth some love, but your fellow humans as well, each and every one of them because all humans deserve to live in a quality environment, and I can never stress this enough. My name is Haley Dahl and I am signing off. Stay green and stay exploring, Rockford.