

An Interview with
Ann Wakeman

at her home in
Fulton, Missouri

10 December 2014

interviewed by Jeff D. Corrigan & Kelly Scanlan



Oral History Program
The State Historical Society of Missouri
© 2014

Collection C3966

Missouri Environmental

CD 93, 94

NOTICE

- 1) This material may be protected by copyright law (Title 17, U.S. Code). It may not be cited without acknowledgment to The State Historical Society of Missouri, a joint collection of the University of Missouri and the State Historical Society of Missouri. Citations should include: Missouri Environmental Oral History Project, Collection Number C3966, [name of interviewee], [date of interview], The State Historical Society of Missouri.

- 2) Reproductions of this transcript are available for reference use only and cannot be reproduced or published in any form (including digital formats) without written permission from The State Historical Society of Missouri.

- 3) Use of information or quotations from any Missouri Environmental Oral History Collection transcript indicates agreement to indemnify and hold harmless the University of Missouri, the State Historical Society of Missouri, their officers, employees, and agents, and the interviewee from and against all claims and actions arising out of the use of this material.

For further information, contact:

The State Historical Society of Missouri
University of Missouri
1020 Lowry Street
Columbia, MO 65201-5149

PREFACE

Ann Wakeman was born in Manhattan, Kansas. Growing up in eastern Kansas, Wakeman attended local schools, including a one-room schoolhouse, near Richmond, Kansas, before eventually graduating from Central Heights High School. After high school, Wakeman enrolled at Kansas State University where she earned a bachelor's degree in biology. Upon earning her degree, Wakeman moved to Kansas City, Kansas and accepted a position as a Medical Technician at the University of Kansas Medical Center. In Kansas City, she met and married Mike Rues, a pharmacist at the University of Kansas Medical Center. Her early life on a Kansas farm, as well as time spent on nature trails around Lebanon, Missouri, inspired Wakeman's interest in native plants and wildflowers. After moving to Callaway County in the 1980s, Wakeman and her husband became actively involved in prairie restoration. In this interview, Wakeman discusses her interest in native plants and wildflowers, her views on environmental issues, the state of prairie restoration in Missouri.

The interview was taped on a CompactFlash card, using a Marantz PMD-660 digital recorder and an audio-technica AT825 microphone placed on a tripod. There are periodic background sounds but the recording is of generally high quality.

The following transcript represents a rendering of the oral history interview. Stylistic alterations have been made as part of a general transcription policy. The interviewee offered clarifications and suggestions, which the following transcript reflects. Any use of brackets [] indicates editorial insertions not found on the original audio recordings. Physical gestures, certain vocal inflections such as imitation, and/or pauses are designated by a combination of italics and brackets [*]*. Any use of parentheses () indicates a spoken aside evident from the speaker's intonation, or laughter. Quotation marks [“”] identify speech depicting dialogue, speech patterns, or the initial use of nicknames. Em dashes [—] are used as a stylistic method to show a meaningful pause or an attempt to capture nuances of dialogue or speech patterns. Words are *italicized* when emphasized in speech or when indicating a court case title. Particularly animated speech is identified with **bold** lettering. Underlining [] indicates a proper title of a publication. The use of underlining and double question marks in parentheses [(??)] denotes unintelligible phrases. Although substantial care has been taken to render this transcript as accurately as possible, any remaining errors are the responsibility of the editor, Sean Rost.

Narrator: Ann Wakeman
Interviewer: Jeff Corrigan & Kelly Scanlan
Date: December 10, 2014
Transcribed by: Sean Rost

5

[Begin Interview.]

[Begin Track 1.]

10

Corrigan: Go ahead.

15 Scanlan: This is Kelly Scanlan, oral historian intern for the State Historical Society of Missouri. And I'm in Fulton, Missouri, at the home of Ann Wakeman. Also with us today is Jeff Corrigan. Ms. Wakeman is being interviewed today for the first time for our Missouri Environmental Oral History Project. And today's date is Wednesday, December 10, 2014. So can you start by telling me when and where you were born?

20 Wakeman: I was born in the east—well, actually, I was born in Manhattan, Kansas. My dad was in college there. Grew up in east central Kansas.

Scanlan: Did you have any siblings?

25 Wakeman: One sister and three brothers.

Scanlan: What did your parents do?

30 Wakeman: We grew up on an apple orchard. Dad got his degree in horticulture, I believe, but it was pomology.

Scanlan: Was there anything else besides apples?

35 Wakeman: Yeah. There were plums, and cherries, and pears, and strawberries. Yeah. Grapes. Fruit farm.

Scanlan: What were some of the chores that you had to do?

40 Wakeman: Well, when we were younger, there were a lot of chores—it was a fully producing orchard, and we did a lot of sales. Took care of a lot of sales. Cherry picking time was kind of a fun time because you had weigh the customers' containers and then let them go pick cherries. And then you weighed them when they came back. We had milk cows. We milked. Just the usual mid '50s farm.

45 Scanlan: And what would you guys do for fun?

Wakeman: We got to hike on Sunday afternoons around the place. I think we grew up on not quite 200 acres, so we had, of course, pastures and what not that we could tromp around on. Once in a great while, we got to go to drive-in movies. Going out for an ice cream cone was really special in town.

5

Scanlan: So growing up on an orchard farm, did you do a lot of outdoor activities?

Wakeman: I think it was almost all outdoor activities. (laughter)

10

Scanlan: Alright. Where did you go to school? Elementary school and high school.

Wakeman: I started out at a one-room schoolhouse with multi-grades. And then the districts consolidated [and] ended up at Central Heights High School out of Richmond, Kansas.

15

Scanlan: How long were you in the one-room schoolhouse for?

Wakeman: Seventh grade. Through the seventh grade.

Scanlan: Starting in kindergarten, first grade.

20

Wakeman: First grade. Yeah. There was no kindergarten back then.

Scanlan: What was the one-room schoolhouse like? Was there only one teacher, and she taught everyone at once?

25

Wakeman: Correct. Yeah. We just took our turns. I don't think there was quite as much mentoring, or the older kids teaching the younger ones, that you commonly think of, but you know that the younger kids were still able to absorb what was going on with the older kids when they were getting their lessons. So, there was merit to it.

30

Scanlan: Uh-huh. About how many kids were in your class?

Wakeman: One or two.

35

Scanlan: Really?

Wakeman: Yeah.

Scanlan: Alright. How would you get to the one-room schoolhouse?

40

Wakeman: Our parents would usually drive us. But then in good weather, we'd walk home. It was, what, a mile and a quarter, Mike, you think?

Rues: Yeah. Sounds about—yes.

45

Scanlan: Okay. You started high school right after the schoolhouse. What was the size of your graduating class there?

5 Wakeman: Twenty-two.

Scanlan: Alright.

Wakeman: Unheard of these days. (laughter)

10 Scanlan: What was the difference, if you remember, like the transition, between the one-room schoolhouse to the high school like?

Wakeman: That didn't bother me as much as graduating from a very small high school to going to Kansas State University.

15 Scanlan: Really?

Wakeman: Because I was just stunned the first lecture class I went to had more students than our whole school. And it was a bit overwhelming, but I didn't remember that much of a transition between the one-room school and—

20 Scanlan: That was actually my next question. Where did you go to college? Kansas State. And did you go there for just your undergraduate? Or master's?

25 Wakeman: Yeah. Just undergraduate.

[End Track 1. Begin Track 2.]

30 Scanlan: Undergrad. And your major was in?

Wakeman: Biology.

Scanlan: Biology. Okay. When did you graduate?

35 Wakeman: December 1970.

Scanlan: Did you later go to graduate school?

40 Wakeman: No. No. I did take a few more undergraduate courses. At one time, I was thinking of becoming a medical technician.

Scanlan: When did you first become interested in plants?

45 Wakeman: Well, I think all the walks around on our home place I was able to key in on different plants and different aspects of them. The study really didn't become all that intense until we started taking hikes after I got married. We started doing a lot of hiking when we

lived in central Missouri. Lebanon. And got to do a lot of hiking in the Ozarks. And I think that's when I started getting very interested in plants that were out along the hiking trails. This real serious study didn't start until after we moved here, and this is our first place that we bought. And that was in '86. So, that would be twenty-eight years ago. And we just
5 decided at that point and time, we were not going to mow five acres. We just bought five acres, originally. We were not going to mow five acres like everybody else does. We wanted wildflowers. Innocently enough. So, that's how it started.

Scanlan: So, were there any classes that you took that helped foster that?

10

Wakeman: Well, I took a lot of college courses—yeah, I took like taxonomy of flowering plants. And ecology, which was a big one that, I think looking back, influenced me. Not a whole lot [of classes]. At the time, I was toying with, well, do I become a botanical
illustrator? No, it's more practical to become a teaching. Well, that's not going to work either.
15 (laughter) So, it was more of a general education. Nothing specific.

Scanlan: So, after you graduated college, what was the next step after that? What did you do?

20

Wakeman: Got married.

Corrigan: Do you want to go ahead and say your husband's name since he's—

Scanlan: Yeah.

25

Wakeman: Oh, yes. That's Mike Rues. R-U-E-S. We met in Kansas City. We were both living in Kansas City, and worked at KU Medical Center.¹

Scanlan: What did you do there?

30

Wakeman: Medical Technician.

Scanlan: Okay. And was it after that that you moved to Missouri?

35

Wakeman: Uh-huh. Mike got his pharmacy degree and became a pharmacist, and that's when we moved to Lebanon.

Corrigan: Where were some of the places that you hiked around Lebanon? Were you going out far, or just local?

40

Wakeman: We did go out pretty far. We did—oh, we hiked a weekend in the Irish Wilderness Trail.² Just the different public lands around. And we did, of course, canoeing on the various streams around. Those are probably the—yeah—we didn't stay close, close around Lebanon.

¹ University of Kansas Medical Center.

² The Irish Wilderness is located in Oregon County.

We did get quite a ways because that's one of the nice things about renting is you don't have to stay home and work on the house. We did a lot of hiking and weekendng.

5 Scanlan: So, if it was the hiking that got you interested in plants, what got you into plant restoration?

10 Wakeman: Through the backdoor, we wanted wildflowers, and if we were going to have wildflowers, we decided I was going to be the one to do it. And we just kind of learned as we went. There wasn't a lot of information at that time on restoring native plants. We kind of had to learn as we go.

Scanlan: How did you figure that out?

15 Wakeman: Well, the one thing that we did learn very early is you have to get rid of the fescue. Fescue is an incredibly difficult plant to get rid of, and it's incredibly competitive. So you have to get rid of it. And at the time, when we started, that would have been '87—

[End Track 2. Begin Track 3.]

20 Wakeman: —they were plowing, and you really don't get rid of things by plowing. And I really have to credit Mike with, "Well, let's just try spraying it without plowing it." We didn't have any equipment to do it anyway. So, that's why we just learned to go out with our little pump up sprayers and spray an acre at a time. We didn't want to do the whole thing all at once.

25 Scanlan: So, was your land your first experience working in restoration?

30 Wakeman: Uh-huh. And kind of along the way we would connect up with other people that were kind of doing it, and that's how I met Herb Domke at the Prairie Garden Trust, founder. Merv Wallace with Missouri Wildflowers Nursery. Other people that were doing it.

Corrigan: What were you spraying back then in '86?

35 Wakeman: Roundup.

Corrigan: Oh, okay.

Wakeman: Yeah. Sorry.

40 Corrigan: No, you're fine. I was just curious what the chemical was you were using back then.

45 Wakeman: Yeah. It's still the chemical of choice for restoration work. Now, it doesn't work on everything, but it does get rid of fescue.

Scanlan: So, how did you handle projects like the Prairie Fork Conservation Area and the Prairie Garden Trust?

Wakeman: What did I do there?

5

Scanlan: Yeah.

Wakeman: Yeah. I primarily helped with setting out plants or seed collecting. That was a long time ago. Yeah, I think that was it, primarily.

10

Scanlan: You said, briefly, how you found out about the Prairie Garden Trust, but how did you find out about the Prairie Fork Conservation? And then decided to get involved with them.

15

Wakeman: I guess we've always just kind of been interested in what other people are doing. You know, similar. I can't cite a specific time, or conscious decision, of, "Well, let's go talk to Pat [Jones]." Yeah.

Scanlan: And do you consider those a success?

20

Wakeman: Yes.

Scanlan: How are they doing now?

25

Wakeman: I think they are doing very well.

Scanlan: Alright. And how did you first get involved with the Missouri Native Plant Society?

30

Wakeman: That would have been back about '88, '89. Just as a venue to learn—better opportunity to learn different aspects.

Corrigan: Was it a small niche group of people?

35

Wakeman: Pretty much. (laughter) Hasn't changed much in twenty years. But, yeah, it's primarily, I would say, plant experts. There are a lot of enthusiasts, also. But the state board meetings tend to be pretty intensely botanical. Botanized people going out, taking off [on] trails and seeing what new plants they can find.

40

Scanlan: So it was very easy to learn from them in the beginning especially?

Wakeman: That's the best thing about it. Yeah. Did a lot of self-study, though. I would say I probably learned as much on my own just by being out there than I did from learning from other people. I do tend to be able to spot unusual plants. Took me a long time to figure that out, but I do tend to be able to see unusual things that don't look like they fit from what I've observed before.

45

Scanlan: What would an example of that be?

5 Wakeman: Well, I did a survey for Forest Service down in the Ozarks, and you've got to cover a lot of ground when you're doing a botanical survey because you're—my job was to look for endangered species. And it's just different. It's hard to describe.

10 Scanlan: So in the Native Plant Society, what are some of the roles that you've had in that organization?

Wakeman: I was Secretary for a term. I've been a Board Member-At Large. And then right now, I'm Chapter Representative for our local chapter in Columbia.

15 Scanlan: What sort of things do you do in that position?

Wakeman: Attend the meetings and write reports for—report back between the local chapter and the state board. And, of course, there are quarterly board meetings that we have to attend.

20 Scanlan: Are you still working on restoration—

[End Track 3. Begin Track 4.]

Scanlan: —projects?

25 Wakeman: It's an ongoing process.

Scanlan: What are some you are working on now?

30 Wakeman: Primarily, here at home. I'm also working with the Columbia Audubon Society is restoring grassland at Bonnie View Park in Columbia. So, we're doing seed collecting for that. We're going to be doing the seeding next winter. We've learned the hard way that it takes two years of killing fescue to get rid of fescue. So, in the meantime, that gives us time to collect seed.

35 Scanlan: So what has been your favorite, or, do you think, the most successful, restoration so far?

Wakeman: My place.

40 Scanlan: Are there any other organizations that you're a part of involved in restoration?

45 Wakeman: Well, there's Nature Conservancy that we support. Prairie Foundation. Missouri Prairie Foundation. Restoration was not a big buzz word when we started. They were still very interested in preserving as much as they could, but there's been such a decrease in the number of prairies that they're now recognizing restoration as needed to keep our grasslands.

Scanlan: So do you work more in preservation or restoration?

Wakeman: I would say restoration. Yeah.

5 Corrigan: You mentioned your place here. Could you talk a little bit about how that process evolved? You said you started with one acre and you sprayed it.

Wakeman: And seeded it. Yes.

10 Corrigan: And you mentioned the seed collection. Will you go ahead and describe where you're doing that? How you're doing that. What you are actually collecting and some of the process of actually restoring it.

Wakeman: Sure. You talked about spraying to get rid of the fescue. What we know now is
15 that there are some thuggy native plants that we have to get rid of also. Tall goldenrod. Ashy Sunflower. And one of the biggest competitors we're finding now is exotic invasives like Sericea Lespedeza and, now, bush honeysuckle is moving in. Bradford Pears. Japanese Honeysuckle. What else? But, that's becoming quite a—oh, Multiflora Rose is another
20 biggie. That's a serious ongoing issue which very much surprises and very much bumming us out. We thought we could get to a maintenance standpoint where we just burn a section every other year or something and we're good to go, but we've got real serious exotic pressure on our natives. The process is—when we first started, the recommended plant seeding was half prairie grasses and half forbes, which are the wildflowers. But, with prescribed burning, which is a very important component of prairie grass restoration, the prairie grasses are real
25 happy. So, we started cutting back and cutting back. And the latest planting that I did I only hand planted some little blue stem, and the rest of them are various cool season grasses and sedges so that I can have a better wildflower display than just prairie grasses. So, I've kind of evolved my thinking from prairie grass restoration to grassland restoration because grasses are an important part of grasslands, not just prairie grasses, but other grasses included
30 because they're in the matrix that hold together the fabric that the wildflowers are in. Grasses are an important component for the fuel for these prescribed burns, and that's the key to keeping grasslands open is with prescribed burning. Seed collecting—I spent a lot of time driving around the county, and adjoining counties, looking for native seeds. Again, that goes back to my ability to spot whether this is a little remnant wildflower patch, or whether it was
35 planted by somebody. That took a while to figure that out. Kind of make a mental note of where it would be, and then come back in the fall or whenever it was appropriate to collect the seeds. Process the seeds. Hold them until about this—

[End Track 4. Begin Track 5.]

40

Wakeman: —time of year and we put them out. I've had several people say that, "Oh, that's impossible. Nobody can do that." But I did. Over here on—what is it, about two acres, Mike?

Rues: Yes.

45

Wakeman: So, it's doable.

Corrigan: Sorry. When you were driving around the county, are you looking—I mean, is this in ditches? Or private lands?

5 Wakeman: No. In ditches, for the most part. There was a little bit of private land, but most of it—at the time, Callaway County still had a nice component of native, remnant patches. I've now seen over the twenty years that I've been doing it that there is much more smaller patches of it. Or, that have disappeared altogether.

10 Corrigan: You kind of, I think, alluded to something there. Did you say there is a difference whether it was—

Wakeman: A planting or a remnant?

15 Corrigan: Yes. Yeah. And how could you tell?

Wakeman: Nature Conservancy came up with a Coefficient of Conservatism plant list—they can assign numbers to different plant species according to how good their environment is. There's only certain plants that are like tens that have to have pretty pristine habitats for them to keep living. And then down to, I think, zeroes for very common plants like, oh, there's some common asters that are a zero. So, it's on the scale of one to ten on how a site looks—
20 and you kind of develop an eye for looking at these things. If there's some that are like sixes and sevens, you know that that's probably a little remnant. The thing that we've kind of learned is that a lot of the native plants, not all of them, but a lot of them, have this kind of a
25 buddy system. I don't know if it's the mycorrhiza that's in the soil that they share among themselves. The nutrients that's in the soil, or just quite what it is. I don't think anybody knows for sure. Oh, one of the things that we do do is go to prairie conferences. Up until this year, every other year they would have a North American prairie conference in places around where the tallgrass prairie region is. And we learned quite a bit from that, from research
30 papers and going on field trips. It was a really good opportunity to see other grasslands around the region on guided field trips.

Scanlan: So earlier you said that you get your seeds yourself.

35 Wakeman: Uh-huh.

Scanlan: And that that's the only place you get them from.

Wakeman: Yeah. Originally, we were buying them from Missouri Wildflowers Nursery, but
40 a lot of where he collects is down in southwest Missouri and there is a difference in the ecoregion of north Missouri. That's why I ended up learning to collect my own seeds.

Corrigan: Are you able to use—like can you work from your own prairie and harvest seeds there and move them to a different section? You said you have five acres you're moving. Are
45 you purposely trying to pull plants from the outside?

Wakeman: Yeah. I'm purposely trying to pull plants from the outside. At first, I was trying to re-seed from here. But, it's better to keep—wild plants have a wider genetic base than a lot of cultivars do. So, we try to keep that fresh. Or diverse, I guess, is a better word for it.

5 Scanlan: And the Rock Post Wildflowers Nursery. Is this just your business?

Wakeman: Yes. Yeah.

Scanlan: It is.

10

Wakeman: Uh-huh.

Scanlan: And what made you want to start the nursery?

15 Wakeman: About '91, I believe it was.

Scanlan: Any particular reason?

Wakeman: I was very passionate about it, and I wanted everybody to have wildflowers.

20

Scanlan: So, then the nursery focuses on Missouri native plants?

Wakeman: Yes.

25 Scanlan: Was that always the goal of the nursery?

Wakeman: Uh-huh. I am retired now, so.

Scanlan: Uh-huh. What sort of clients—

30

[End Track 5. Begin Track 6.]

Scanlan: —would you get there? Like businesses and groups? Or individuals?

35 Wakeman: Individuals. I did get some from Saint Louis. We did a fairly extensive restoration of the River Des Peres in Forest Park—not Forest Park. Which park is it that has the art museum?

Corrigan: That's Forest Park.

40

Wakeman: That is Forest Park. Okay.

Corrigan: Oh, you mean the—

45 Wakeman: When they restored the aquatics.

Corrigan: Yeah. Oh, okay.

Wakeman: Yeah.

5 Corrigan: You worked on that, then? By the original—the pavilion area. Like outside of those?

Wakeman: Yeah. Which actually the river right now that they put back up above ground.

10 Corrigan: Okay.

Wakeman: I think it was during the World's Fair that they had in Saint Louis that's when they decided to put the River Des Peres underground. I guess it was mostly marshy and what not. So, there was a conscious effort to bring it back above ground.

15 Corrigan: Okay. I didn't know that.

Wakeman: Yeah. I didn't either. (laughter) So, it was restoring a lot of the aquatic plants that would have been along. I was a supplier. I did help a little bit with the consultation. I actually floated down the whole stream and said, "Oh that would work for there. And that would work for there." That was fun.

20 Scanlan: So besides working on restoration and selling plants, would you do any informal or formal educating about this as well?

25 Wakeman: I guess I did a little bit of it. I tried to do some—yeah, I did some teaching classes at the Shaw Nature Reserve. I did symposiums [for] groups like Grow Native did. What were some of the others? I believe it was the Department of Conservation had seminars for both professional and lay people that were interested in native plants. I think I did one even for the Forest Service at one time. When they were advocating forest products and whatnot.

30 Scanlan: What time period do you generally restore to?

35 Wakeman: That's a hot debate. (laughter) Generally, we like to say pre-settlement which is prior to Christopher Columbus's here. Of course, there is no way of knowing what that is. I think it's going to be—the answer to that would have to be what's here now is remnant and disparate little populations. That's what it is now. Not things that we know have been brought here by Europeans.

40 Scanlan: So, how do you know, for sure, what was here then and what was brought by Europeans?

45 Wakeman: Plant lists. Whether or not we know from plant records, you know, whether they were here or not. I would say plant lists are a big one. There were plant lists—the one that pops into my head was it was used by Nature Conservancy in the Chicago-area by a doctor

who used to go around in the horse and buggy days and he kept a plant list of everything that he saw. And so that is a pretty good, not that that's for this region, but that is a pretty good baseline.

5 Scanlan: Are there any plants from that time that just don't exist anymore?

Wakeman: I would say there probably are. I'm not entirely sure. But yeah, I had never thought about that.

10 Scanlan: And so sort of going along with that, are there any that you choose to not re-introduce?

Wakeman: The invasive ones. Yeah. The thuggy ones.

15 Corrigan: I have a specific percentage question.

Wakeman: Percentage question.

20 Corrigan: You mentioned over time you wanted to introduce more wildflowers because at first you said something about maybe half prairie grass—

Wakeman: Yeah. That's per pound. Or, pound-wise. Half of the weight was prairie grasses and then half of it was the wildflowers. But over time, we discovered that prairie grasses are very, very happy when you do prescribe burns.

25

Corrigan: That's what my question was. It wasn't just an—

[End Track 6. Begin Track 7.]

30 Corrigan: —aesthetic thing. You wanted to see more wildflowers. It was actually better—that it would work—

Wakeman: Yes.

35 Corrigan: Ecologically, it worked better.

Wakeman: Yes, it does because we know now that the wildflowers are what actually supports the pollinators.

40 Corrigan: Oh, okay.

Wakeman: That's a big buzz word right now. Trying to keep the pollinators around. And the pollinators just don't work on mowed grass. They can't live off mowed grass.

45 Scanlan: When you are restoring, how do you decide where to plant specific plants? Is there an order of things? Or conditions?

5 Wakeman: Yeah. There is—I'm still doing a little bit of sorting about where our place is in the environment. Is it high? Is it low? Like in the river lands. So, there's a good bit of studying. That's one of the advantages to going on field trips is getting a good feel for what plants would grow in which type of environment.

Corrigan: So it's just a lot of trial and error, then?

10 Wakeman: It has been for me. And I would say, it has been for a lot of people. I tend to think of it as a shotgun approach. I think I know what should grow here and so I collect the seeds. Sometimes they make it and sometimes they don't, but over time they do sort themselves out. So, I'm still a big fan of the shotgun approach to doing it. There are times that I don't collect a lot of seed, and so I've got a friend who will grow these seeds for me. That way I can plant them out directly without wasting a lot of them. The rate that's proposed
15 is eight pounds of pure live seed, which it's been tested and so they know how much of that seed is live. But, eight pounds per acre. That's a lot of seeds because a lot of these seeds are really tiny and you know that—so that tells you right off the bat that, I don't know, one in twelve, maybe one in twenty, are the ones that are going to become mature plants. So, when I have just a handful of seeds, I have Devin grow me the plugs and I plug them out.

20 Scanlan: So just because a plant is native to Missouri doesn't mean that it will thrive anywhere in Missouri.

25 Wakeman: Correct. Because some are more particular about where they grow. There's what they call generalists. They don't care where they grow. And then there's the really specific ones that have to have just a certain parameter. Well, they only grow on the west slope. Yeah. It's a whole range of—

30 Scanlan: Why do you think it's so important to restore native plants?

Wakeman: If we want to keep our pollinators here. One of the interesting things that I think Audubon members are finally learning is that if you don't have bugs there's no birds because birds only feed their babies caterpillars. They don't feed them grass seeds. And I think that's where we're having a lot of problems.

35 Scanlan: So how would you say Missouri plant restoration is going today?

40 Wakeman: It seems to be really pretty taking off, at least as far as the agencies go and the larger grasslands. Privately, I just wish I'd seen more of it. More people doing it. Department of Conservation has done a pretty good amount, pretty good job of getting funding out there for larger scale, like CRP, and, again, they're administering mostly federal programs like CRP and WRP. There's a whole alphabet soup of programs out there to help. There's not a lot of depth to these programs. I'm a little dismayed that if they publish a list they only have ten or twelve species on it when there's more that would be beneficial. My thinking has always
45 been, and Mike's also, the more species that we can get in the ground here the better off it's going to be. Not just the fab four.

Scanlan: So, what would you—

[End Track 7. Begin Track 8.]

5

Scanlan: —hope, and what would you say that the future of plant restoration around here could be?

10 Wakeman: Well, I'm not a seer. I don't know. I would hope that it would continue. But I don't know if there is enough people that are that interested in it. It is a tough job, but man, did I love it. It is a very passionate job.

15 Corrigan: I have a question. Do you think it—how are most people getting into it? For example, is it because they've purchased a property and it is in disarray and they're coming to it because they have a personal stake or interest to fix it? Or, for example, I'm wondering is it things like a side of a hill is eroding or they have washouts—

Wakeman: The practical reasons.

20 Corrigan: Is there reasons why people might come to it? Or is it different?

25 Wakeman: I would say it has to be a personal reason. Yeah. Not necessarily policy driven or reality drive. There has to be a passion behind it because it's A) it's a very long process. You don't get a prairie in forty years. You get prairie over 100 years. And that's one of the main people that is driving the Columbia Audubon planting in Columbia is, "I'm not going to see anything for ten years." It's like, "Yeah, Bill. That's why we've got to get going now." Yeah. Because it's a long process, you've got to enjoy the process.

30 Corrigan: Do you mind, I'm going to ask another question about policy.

Scanlan: Yeah. That's okay.

35 Corrigan: What about, for example you see a bunch of big new homes come in, or a subdivision or anything, and then you start to see they're actually planting invasive species like Bradford Pears. And they're actually planting the things that you're trying to get rid of. Can you talk about how problematic that is? And does it—and I guess my question is does there need to be, I guess, policy? Whether it be in the Department of Natural Resources, or somebody at the state level. Some of these plants are counterintuitive to helping the landscape in Missouri thrive. And what I'm thinking about is—you're bringing in plants that
40 maybe require a lot of water. They're not native here.

Wakeman: Right.

45 Corrigan: Are you not losing, or depleting, some natural resources? Especially during times of like droughts and things. Can you talk a little bit about that? Do you see it as a—does there

need to be a forced shift? Or do you think people eventually come to it? It's a big question. I'm sorry.

5 Wakeman: It's a very loaded question. People don't want to be told what to do. That's the big thing—one of the important reasons for Grow Native, I think is helping out a lot, and Prairie
Foundation, but Grow Native particularly, if you make these options more available and if
10 we see them more and more—this is one of the most discouraging things that I had found
over the years is that people don't understand what native plants are. They don't see them.
They only see all the exotics that are available at nurseries. You can't blame them for not
wanting to try something new. It's a mindset of, "Well, I don't want to do anything that my
neighbor doesn't have." We really do need to, somehow, I don't know how, make native
plants more visible, less scary.

15 Corrigan: Is it a lack of education, then?

Wakeman: It's a lack of education. Yeah. I saw something interesting online the other day
that a ten year old knows more logos of companies, but he couldn't name ten native plants or
trees in his neighborhood. And it's like, "Yeah, that's right." That's one of the hopeful things
that I have about that Audubon planting in Columbia is get people used to the idea of seeing
20 what a native is. Yeah, they're messy. That's probably the big thing, I think. They don't like
messiness. They like the tidy—

[End Track 8. Begin Track 9.]

25 Wakeman: —mowed lawn look.

Corrigan: So it's like an aesthetic thing, then?

30 Wakeman: It's aesthetic thing. Yeah.

Corrigan: Do you think it's—I also wonder, too, when someone does see something that is
un-mowed, there is a difference between a prairie versus just—

35 Wakeman: Just a meadow. (laughter) Yeah.

Corrigan: I mean, there is. Right.

Wakeman: Yeah. There is.

40 Corrigan: It's not a pasture in which you might see cows in.

Wakeman: Right.

45 Corrigan: It's a single grass that's there.

Wakeman: Yeah.

Corrigan: Because you are making me think that, "You're right. Very few people are actually going to see a prairie without seeking one out."

5 Wakeman: Right. That's right. Yeah. Because our roadsides don't even have remnant prairies anymore.

Corrigan: I didn't think about that.

10 Wakeman: Yeah. It's kind of like—there's times I feel like I'm trying to save a sinking ship. But, you know, our lives really do depend on native systems. I mean, it's truly frightening to me to ponder what the outcome is going to be. There's a big thing about all the honey bees dying out. The various problems. And I think the biggest one is the neonicotinoids. People don't understand the linkage. Is it thirty percent of the food that we eat is pollinated?

15 Corrigan: And what was the other word you just said? I couldn't—

Wakeman: The neonicotinoids.

20 Corrigan: Oh, the neonicotinoids.

Wakeman: Yeah. The really bad pesticides that are being used. Because if you go to the big box stores and look at plants that they sell, none of them have any insect damage because they are treated with these neonicotinoids so that the plants are pretty. And a neonicotinoid becomes systemic in the plant so that bugs won't eat it. It's a scary thought when you really think about what it really means. Yeah. We're just keeping our environment too pretty. It needs to be messy.

30 Rues: I was just going to say if you don't have the caterpillars eating the leaves of the trees, you're not going to have the pretty songbirds come through. And I don't think—even the birdwatchers don't put the two together a lot of times.

Wakeman: No.

35 Rues: You need that. It can't all be—you can have a nice little guard around your home, but you need some space that maybe looks messy. It kind of goes against a common value that we want things—

Wakeman: Nice.

40 Rues: Nice. Clean.

Wakeman: Yeah. Clean.

45 Rues: Pure. That's one of our values. We like to see the absolute niceness, but nature is messy. It's chaos. It's a swirl of plants and animals and genetics working things out. Without

that, you're really going to limit what you are going to have, and just have some bluebirds and cardinals.

5 Corrigan: Did you say earlier that that is a recent kind of realization? Or kind of maybe a new partnership forming that the Audubon Society it's not just—

10 Wakeman: They're starting to. Yeah. And another area that has pleasantly surprised me is the churches are becoming more aware that they need to be stewards of all life. That that's man's charge is to be stewards of everything. Not just themselves. Another project that I worked on was I helped with a native landscaping that they wanted at the Missouri Methodist Conference Center that's in Columbia. It's all natives except for one species of bush that we put into that landscape. And other churches are recognizing it, too. You need to plant native plants to help steward other life forms around us.

15 Corrigan: And is it true that non-native species here—or the native species require less water?

Wakeman: That's true. Because they are adapted to this climate.

20 Corrigan: Because I'm thinking about sometimes with—my question, I guess, is when you have to put in sprinkler systems and you have to put in other things, you're fighting against things that aren't necessary. Correct?

Wakeman: Correct.

25

Corrigan: So now I'm assuming that church then—where is it at actually?

Wakeman: It's actually the conference center is their offices—

30 **[End Track 9. Begin Track 10.]**

Wakeman: —on Woodard Drive. It's just north of Menards in Columbia.

35 Corrigan: Oh, okay. So by doing that they—or even not them, if people plant native plants you can actually reduce your water usage. Correct?

Wakeman: Correct.

40 Corrigan: And then therefore, you're—

Wakeman: If you can convince the landscaping companies to not install sprinklers systems, but there's not many landscaping companies now that do. It's a given, they will not guarantee their planting unless they install a sprinkling system.

45 Corrigan: Because, for example, with your prairie, I'm guessing, you don't have as much gasoline for mowing. For time, or labor.

Wakeman: Right.

5 Corrigan: Although, can you talk a little bit about—I don't know if you were going to ask this, sorry—the prescribed burning—because I think to some people—

Wakeman: They're going to go, "Hmmm." Yeah.

10 Corrigan: That might scare people.

Wakeman: We call it the "F" word. Fire. (laughter)

Corrigan: But can you talk about that? Were you scared the first time you did it?

15 Wakeman: Oh, yeah. Oh, yeah. In fact, we weren't so much scared as we didn't know. We were innocent. We did it okay. We didn't have the proper equipment. We did okay down here where the wind is blocked. On this first planting that we did. And then when we bought the property above the road, I think we were just burning down the fescue to do the planting, and at that time, the only times we did was burned in the spring because that's when everybody
20 burned was in spring. And it got away from us. And all we had was a bucket of water, burlap bag, and I think that was it. Wasn't it?

Rues: Uh-huh.

25 Wakeman: And it jumped the line. The wind did it. Which is what it does now.

Rues: It stayed on our property, but it jumped where we didn't want it to go.

30 Wakeman: So, that's when we decided to get equipment. Yeah. It's a various, as we say, fire is a very good tool, but it is one that you have to respect because it will get away from you.

Rues: You get proper equipment. The state offers classes in prescribed burning.

35 Wakeman: Yeah. And have help. Most importantly.

Rues: And you need to have plenty of help.

Wakeman: Yeah.

40 Rues: You need to have plenty of water available, and plenty of help. And then you're okay.

Corrigan: So how do you control it now?

45 Wakeman: We cut what we call fire lanes. Probably three, four, five feet wide depending on where in the landscape it is. And what I do is go back in and burn that area that had cut until it's all black all the way around it. Or, the roads—I don't have to cut all around that. We even

do that around our trees that we want to protect until they get bigger and can tolerate the burning. And then when the conditions are right, there's a narrow window of humidity. You like winds to be five to ten miles an hour. You need a little bit of wind to push it through. Humidity has to be between thirty-five and seventy-five percent. Grasslands will not burn
5 above seventy-five percent. They hold too much moisture in them. We call prairies—grasses are a twelve minute fuel. No, what's the word? Anyway, they can dry out very quickly. Wood is like a three day fuel. It takes three days after a rain to dry out. Grasses are a two hour fuel, or whatever the time is on it. Below thirty-five percent humidity, they burn explosively. I don't even like to go much below thirty-five. Thirty, I will not burn prairie grasses of any
10 type. We had started doing some prescribed in the summer because it was a much safer time to do it. There's enough fuel from the previous year to carry the fire, but there's enough green matter on it that it keeps it slower. I was noticing that we were killing box turtles by doing that in the summer, so we're going to have to go back to doing our winter burns. And we're only burning sections and we were on a two year rotation, but we have enough now that we
15 can do a three year rotation. Just burn one section every year. Because you don't want to burn every year, that really favors grasses. Interestingly enough.

Corrigan: And you mentioned, both of you, proper equipment. What is proper equipment?

20 Wakeman: We've got backpack water packs. I don't carry it on my back, of course. But it's a metal five gallon tank that you can wear. It's got a little slide trombone slide pump. We've got flappers. They look like the truck flaps on a stick that you can work on that. And then—

[End Track 10. Begin Track 11.]

25 Wakeman: —drip torches which will help you spread the fire a little more quickly than just letting it do its own thing. It's fun.

Corrigan: Does it freak your neighbors out? Or scare them?

30 Wakeman: Not anymore. Not anymore.

Scanlan: At first.

35 Corrigan: But at first, I would think—

Wakeman: I think it did.

40 Rues: At first. Our first burn, like she said, yeah. But now, I think we impress them because we can drop it. I mean, it can be roaring to the fire break, and it gets within a foot of the fire break and it just drops. We've got it down. But we don't take any chances.

Wakeman: We don't take any chances.

45 Rues: Don't make a change. Just have plenty of people. Plenty of water in case something does happen. Make a party out of it, and then you're covered.

5 Wakeman: Yeah. Always had beer and pizza afterwards. Yeah. The tricky part about doing these burns in early to mid-spring is that the winds are so variable that they're constantly switching. That's the thing that I do not like. So, if we burn this time of year, or even into January, it's better than waiting until the spring switches.

Corrigan: So December through January, that's the best time?

10 Wakeman: Probably December through February.

Corrigan: Oh, okay.

15 Wakeman: Yeah. Not ideal, but given the parameters that we have, that's—yeah. Because box turtles are in trouble, too. There's so many of them that are hit on roads.

Corrigan: And what about—do you have to wait if it's an extra snowy season? Does snow matter? Does it cover the—

20 Wakeman: Yeah. It covers up what you want to burn. We have burned, a time or two when it was really frosty, and it does seem once it gets going it can dry itself out pretty quickly. It's kind of surprising. We've got a neighbor that grew up in southern California, and he's still rather whiggly about burning because of all the fires they had out there, out west. But their fire season is a whole different time of year than ours is. So, he gets whiggly at the time that we can't even get anything to burn here.

25 Scanlan: So, just to jump back a little bit, we were talking about other people planting native plants, and the lack of education, and the aesthetic reasons for it. Could it also be accessibility? I don't know how easily it is to get native seeds.

30 Wakeman: Sure. Sure. It's much easier now than it was twenty years ago because Mervin's got quite a reputation locally of [being] a very good source of plants and seed. Yeah. I think that's a big thing.

35 Scanlan: So is it something that you would have to know that that was what you wanted to plant?

Wakeman: Yeah.

40 Scanlan: Or, could you walk into any nursery and pick up—

Wakeman: No, you can't. It's pretty specialized. Yeah. There's some places that are making inroads. I think my friend that grows plants for me, I think he did say he sold some locally here to one of the landscape companies. I think he's got a local retailer—doesn't Truescape have retail?

45 Rues: Yes.

Wakeman: Yeah. So he's sold some plants through them.

5 Corrigan: Is it economic reasons, too? I mean, are the seeds expensive or no?

Wakeman: Yeah. Because basically they're hand collected and hand processed.

Corrigan: So it might be a larger upfront cost, but maintenance-wise—

10 Wakeman: Yeah. Correct.

Corrigan: Okay.

15 Wakeman: Yeah. That is a big economic reason, but it's still a personal decision that—yeah. You can talk all the economics and the right reasons and whatnot, but unless somebody really wants to do it—

20 Corrigan: Do you mind telling us even a range of—you said eight pounds are needed for an acre. What kind of range would it cost somebody for eight pounds of seed to seed a whole acre? Even a rough estimate.

Wakeman: Okay. Mervin is awfully inexpensive. Over ten pounds I think he charges about 100 dollars a pound.

25 Corrigan: Okay.

30 Wakeman: Which is ridiculously inexpensive. Because other places are much more than that. He's given his time away, for the most part. He's that passionate about it, too. Yeah. Whatever the cost for the glyphosate. Again, I'm trying to go back to the Audubon planting, what—

[End Track 11. Begin Track 12.]

35 Wakeman: They applied for a grant through the Missouri Bird Conservation Initiative. And I was trying to remember what the budget numbers were on that. I'm not involved with that aspect of it. Let's see—how many pounds per acre on Roundup? It seems like it was about 1300 for each application between the time and the herbicide per acre. Yeah. So, like you said, it's a big upfront cost.

40 Corrigan: So several hundred dollars per acre up front.

Wakeman: Right.

45 Corrigan: But over time, no fuel, no mowing, no—I mean limited mowing.

Wakeman: Limited mowing. Yes. Because the first year or two, if you can, it's better to mow it off fairly tall—like if you have a huge ragweed outbreak, it would shade out some of the seedlings. You really don't see much until about year three. And that's the other kind of drawback of doing natives because they've got very impressive root systems. That's one of the reasons that they can survive droughts. Big Blue Stem. They've documented roots twelve feet deep on that. Some of the forbes, like the blazing stars, and coneflowers will have eight to ten foot deep root systems. They're busy putting down their roots before flowering—because they're perennials, they're not interested in blooming until they get established and so the bloom and seed production takes a while before you start seeing anything visible to us as a wildflower.

Corrigan: So that's three years, but then you said to really have a prairie is 100 years? Forty to—

Wakeman: Forty years on up. Yeah.

Corrigan: Okay.

Wakeman: Yeah. I think ours is pretty good here. Our oldest one, of course, is about twenty. And then this one is about ten over here. The latest one that I did. So, yeah. It starts looking like a functional prairie. Not that four or five acres is a functional prairie, but we try. We try.

Corrigan: What is that changes over that time period? I guess I don't know. So, I'm wondering, what from period, say, ten to twenty to forty, is it less maintenance? Is it more—

Wakeman: The plants are sorting themselves out as far as who dominates. You just have to give them that length of time before they become really well established. And we can kind of see that they're working. It's a pretty competitive world. Seventy percent of prairie grasses are below ground. Of the biomass. You are only seeing, it's like an iceberg thing, you're only seeing about twenty to thirty percent above ground. The rest of it is going on below ground. So there's just enormous below ground competition and rivalries and whatnot, and I think that's what takes the time for everything to sort out and simmer down. Even over time I'm sure that's just going to—is that something you've thought about Mike?

Rues: Yeah. You have the early pioneer plants that kind of come through like the Black Susans, and they look beautiful, but they're not pre—you know it's a brand new plant. And as time goes on, they disappear to some of the more disturbed edges and the other plants seem to fill in towards their natural distribution. I guess you could look at it—if you see a certain type of distribution that matches what you know native prairie that exist still have. It's not the—you kind of collect in your mind the conservative grasses versus the more weedy, early pioneer plants. And you start seeing a difference, and now also how they are distributed. You get more—instead of having bunches, you have them kind of spread out. So, it's just a different aesthetic that you only get by looking at, and I think that's what Ann means. You also see some of the things that are borderline. You'd like to have as many species as you want in a small area. You see them starting to be pushed out by the more aggressive plants, and you start realizing five acres is—

[End Track 12. Begin Track 13.]

5 Rues: —too much. We have an intermittent stream here. We don't have a full ridge top. So, some species that lives on the very top of the ridge, we have trouble keeping in this area because it's the mid-level plants that going to take over eventually. And what really bothers me is the pressure from all the exotics because there's just one lake here surrounded by thousands and thousands of acres of Autumn Olive. And now this honeysuckle is almost like a cancer. I hope something develops. And you talk about labor, well, the labor is going out
10 there every year and clipping them and putting a little dab of herbicide on their stem to kill them. And we clear off one area in three years, four years later it's full of bush honeysuckle again. Not the big ones. Not like in Saint Louis where they're this tall. But little ones. And you know in ten years, it could be like a Saint Louis forest.

15 Wakeman: Yeah.

Rues: So, I don't know what to say about that. Of course, people that grow up in Saint Louis now think that's beautiful.

20 Wakeman: That's normal. Yeah.

Rues: Because that's what they're used to. So, this one geneticist says—I'm just going to throw this in because he says, "We're just awash in genes." And I can just see it as an ocean of genes swirling and eddying and competing and constantly changing. So, I don't know if
25 we can hold it at what this place looked like in 1824 when it was first bought from the government and people started planting tobacco here. I don't know if that's possible the way we're changing it. I mean, mankind is drastically simplified and changing the environment. I just don't know. That I've learned after twenty years of watching than seeing what I hoped. That's not how nature's going to work its way out.

30

Corrigan: Now, say somebody like the Domke's place which is a couple hundred acres, or even—

35 Wakeman: Oh. They're like 800 acres.

Corrigan: And Jones' which is like 900 acres.

Wakeman: Yeah.

40 Corrigan: Is it—because some of the things you mentioned to me I didn't think about earlier. Is it easier, not easier, let me put it this way—

Rues: It's more viable. Their places are much, much more viable.

45 Corrigan: The spaces.

Rues: But they're still going to have to kill the Japanese Honeysuckle and Autumn Olive. That's not going to go away. Because the birds keep bringing it in. Yeah.

Wakeman: Those blasted birds. (laughter)

5

Rues: Yeah. The birds were trying say, "Keep bringing me the weeds."

Corrigan: But with a larger space like that, they're able to have that hilltop, to have that water—

10

Wakeman: Right. A wider range of habitats. Yes.

Rues: Oh, yes. Definitely.

15

Corrigan: Okay. Does that make—is restoration easier or smaller—like you have five acres you have to manage now. Take it to 900. Is it that much more labor intensive? Or is it a different type of management?

20

Wakeman: It would be different. Yeah. Because we're strictly gardening it here. We manage everything here. Or we're trying to. Not so much lately. But yeah, it's a whole different ballgame on a larger scale. Yeah.

Corrigan: Okay.

25

Wakeman: Yeah. I don't think they'll get in quite the species that I've been able to, but it just boils down to it's better to save an intact prairie, even if it's degraded, than to recreate one. Because it just takes so long.

Corrigan: Is there much intact in Missouri?

30

Wakeman: There's a little bit. Tucker Prairie up on I-70 is a remnant.

Corrigan: Where's that at?

35

Wakeman: It's right on I-70. It's here in Callaway County. The University [of Missouri-Columbia] and MDC are co-managing it. It was the first Nature Conservancy property purchased in Missouri. So, that's pretty cool. It was kept as a hay meadow for the fancy horses at William Woods [University]. That was a direct quote, "For the fancy horses at William Woods."

40

Corrigan: But other than that, it hadn't really been—

Wakeman: Part of it was pastured and part of it was hay meadow. Now, the Tucker family did try to improve the pasture by eliminating all the forbes, the wildflowers.

45

Corrigan: But it was never plowed or turned—

Wakeman: No. It was not plowed.

Corrigan: Okay.

5

Wakeman: That seems to be a big thing. Which tells me that native plants' roots systems have a lot more going on than we have any idea. It's pretty cerebral, isn't it? (laughter)

[End Track 13. Begin Track 14.]

10

Wakeman: We've learned all this just by doing it. We had no idea what we got into.

Corrigan: Are there other places in Missouri that you are aware that are still that kind of, not restoration, but they're still intact?

15

Wakeman: They are finding more up north. When the Department of Conservation was doing their natural areas inventory they didn't have the parameters. The people that would go out and look at the countryside and try to find these little remnant pieces, they didn't have the parameters set up for it, so they didn't recognize them until they had developed all their other parameters. They did north Missouri first, and then they did different regions. But there are some places up North. Dunn Ranch is one of them. It had been pastured, so it was hard to see what was there, but by taking the cattle off and managing for native plants, or the prairie grasses, they kind of came back. There are quite a few hay meadows in southwest Missouri. Even as far as Benton County, and up in that region. There are a lot of hay meadows that people continually would cut hay on. There are pieces around that still have these intact remnants. It's just a matter of—it's always a sad thing to see that so-and-so plowed it up just so they could plant soybeans.

20

25

Corrigan: And when you're going out to try to do seed collecting, if you are going to go that, is that something—are you doing it from say like September to—or what's the time period that you're collecting them, but then you're not re-sowing them, did you say, until two years later?

30

Wakeman: Right. Right. Seed collection actually starts in May. The early spring bloomers. You know, Violets, Indian Paintbrush, Lousewort, Wood Betony is a better name for it. They ripen up in June. Late May to early June. Another one is Wild Hyacinth. And then it just carries through the season. It's not just a fall thing. There's other species. What you try to do is collect the seed as soon as it's ready. There are even some species where you need to put the seed out as soon as you collect it because when you think about it that's when they fall out and hit the ground. When they're ripe. So some species you do actually have to get out, or plant, as soon as you collect them. But they don't wait. Those are the ones that we're going to do later on for that restoration in Columbia.

35

40

Corrigan: And did you say, where was that in Columbia?

45

Wakeman: It's at Bonnie View Park.

Corrigan: That's right.

Wakeman: It's in west Columbia.

5

Corrigan: That's right. You said that.

Wakeman: It's off of Fairview—just south of Rollins, I believe it is. I don't know if you are familiar with—might be another—it's Garland Russell.

10

Corrigan: I don't know that name.

Wakeman: The Russell Family. I'll mention it after the interview. If you remind me.

15

Corrigan: Yeah. I'll remind you. Did you have another question? Sorry.

Scanlan: No, do you have anymore?

Corrigan: Okay. Oh, yeah. Sorry. I didn't mean to—those are all interesting, fascinating things I didn't know about prairie grass.

20

Wakeman: Yeah. Yeah.

Corrigan: Now, I'm curious about one thing though, we talked about invasive species, people bring in things for other reasons, but what about—is there a problem with people trying to maybe move some native plants—

25

Wakeman: Yeah. I know where you are going with it. Yeah. Some people feel that there is, but my viewpoint is that there's so few of them anymore that I just don't think—there's been a big argument academically about if you bring genes in from this plant from south Missouri is it going to swamp the north Missouri genepool. But there's so few of them anymore, is that even a viable, outside the academic circles, is that a viable argument?

30

Corrigan: Okay.

35

Wakeman: I don't know. Okay. One of the plants that I really, really love is Royal Catchfly. It does very well here.

[End Track 14. Begin Track 15.]

40

Wakeman: Historically, it was not probably never found here. But it's a wonderful plant. It's red. Hummingbirds love it. The cloudless sulfur butterfly loves it. It does very, very well here. I've planted a lot of it because it's gorgeous. Interesting thing about this plant is that all the other states around Missouri it's an endangered plant. It's a federally listed plant. But it's very happy in Missouri. So why not plant it? What's wrong with that?

45

Corrigan: Yeah.

Wakeman: Yeah.

5 Corrigan: That's interesting. What was the name of it?

Wakeman: Royal Catchfly.

10 Corrigan: Because if it is endangered in the surrounding states, if it goes extinct—I think what you're alluding to is, "Is it better to have it somewhere where it is thriving versus, knowing that it is a native plant at least in North America here or in this region?"

15 Wakeman: Right. That's one of the things that I disagree with the specialists in the native plant societies. They're not comfortable with plants being used as garden plants. Well, how else are we going to keep them if we're not gardening with them? Because there are so many places that are gone. The Ozarks is a pretty good refuge for all these species because people can't plow the soil. That's not the case here.

20 Corrigan: I was going to say, are things more protected in the Ozarks? Has the landscape—has that protected things more?

Wakeman: Somehow, and I think it's just because of the lack of soil. You can't plow it. I think modern agriculture is a real death threat to native plants.

25 Corrigan: Is there a problem with—you mentioned CRP earlier. The program taking farmland, putting it back and making it more fertile. Having it sit idle. I guess I didn't really see your property here, but do you have off spray from local farms? Is there really close by corn and soybean fields or no?

30 Wakeman: Yeah. There's a field just across our south property now that is cropped. But he did put in a filter strip which has helped. He is upstream so that has helped us. Now, he didn't put that warm season grass filter strip behind the neighbors, and they're having a lot of run-off issues. You know, water that just runs off the field.

35 Corrigan: Okay. But you don't have to deal with that here.

Wakeman: No. Other than just an increase in our stream.

40 Rues: A significant increase, I'd say significant increase. The concrete you see out there. We had to do that, I'm going to say, because that used to be grassland and maybe the same amount of water came down eventually, it came down so much slower, that it was overflowing our gravel and washing it all downstream. So we had to put in a low water bridge. Before, we were able to raise it high enough and the water would stay. And one out of five years, maybe, it would come over a bit. But since he changed it to crop land, that has increased the run-off that it was flooding bad enough that we couldn't get in and out. We had 45 to go in and re-do the gravel since then. And I even talked to the county engineer, and I'm

5 just going to throw this in, that he was saying, "Yeah, ever since the corn prices and soybean prices went up, they've had a lot of land set aside put back in." And he's noticed either his drains underneath the highway were getting clogged up with silt or they're getting washed away more. And he was saying that's because of the increased farmland. He was implying that. No study on it. It's just what I noticed, and while I was talking to him, how best we could handle it up here is what he said.

Corrigan: Okay. No, that makes sense because there is definitely more water.

10 Rues: I was surprised how just plowing up eighty acres can make such a big change in the amount of water that rushes through causing erosion further downstream.

Corrigan: Because the plants aren't there to hold it in and absorb it.

15 Wakeman: Correct.

Rues: Right. Right. Even the leaves hold a lot of water when that comes down. All that water is not hitting the ground. The leaves might hold gallons and gallons of water and slowly drip.

20 Corrigan: Because you made a comment earlier. Did you say in the grass that seventy percent, or something about—

Wakeman: Is below ground. Yes.

25 Corrigan: Okay. But you're right the amount that each plant that would hold in its stem and its leaves—

Wakeman: Yes.

30 Rues: All that it buffers it. It just slowly lets it through, like a filter.

Wakeman: There was a professor—

35 **[End Track 15. Begin Track 16.]**

40 Wakeman: —at the University of Nebraska that did a lot of these studies. J.E. Webber. He's very famous. He would have these soil pits and they would trace how far down roots would go. And this was during the drought times. But he also learned how much grass could be in it or how much water could be intercepted by the leaves of just Big Blue Stem. It's like gallons after a rainstorm. So it doesn't even get down to the soil. But actually, what they're doing is they're trapping the rain for that plant because it will eventually trickle down the stem to water that plant. Any plants are awesome. (laughter) They're just amazing. They tell way more stories than these horticultural things. We just have to listen to them.

45 Corrigan: So is that still a problem with your driveway? Or have you fixed it?

Rues: We fixed it. We've got the concrete pad in. Put in a wall.

Wakeman: We think we fixed it. (laughter) We hope we fixed it.

5

Rues: It can come over now and it won't damage the driveway. It can still come over now. We designed it so it can come over without washing the gravel away.

Corrigan: Okay.

10

Rues: You can take a look on the way out.

Wakeman: Yeah.

15

Corrigan: Okay. And then, Ann mentioned earlier, obviously you have some interest in it, too, because he's been talking about it, too, but—

Wakeman: He's real good at killing exotics. And weedy species.

20

Rues: Yeah. Ann plants, then I kill. That's the simpler job.

Corrigan: Did she say you're a pharmacist by trade?

Rues: Yes.

25

Corrigan: Okay. So you have a science background, too, then.

Rues: Yes.

30

Wakeman: Yeah.

Corrigan: What was your undergrad in?

Rues: Biology.

35

Corrigan: Oh, okay.

Rues: Always liked biology.

40

Corrigan: I wondered. That's why I had to ask. Because wait a minute, you have a sense of this happening here too with the plants.

Wakeman: Oh, very much. Yeah.

45

Corrigan: That makes sense. Okay. And you're from Kansas, too?

Rues: Kansas City. My family is from Kansas. Always brought up as a Kansas refugee.

Corrigan: Okay. So your biology backgrounds are very helpful then.

5 Wakeman: Uh-huh. Uh-huh.

Corrigan: Okay. Did you have any other questions?

Scanlan: Unh-uh.

10

Corrigan: Okay.

Scanlan: I can wrap up, unless you have some more.

15 Corrigan: Yeah. Yeah. Go ahead. No. No. I think those were unexpected questions I didn't even think about when they started talking about the—

Wakeman: Yeah.

20 Corrigan: No, go ahead and wrap up if you want.

Scanlan: Okay. Well, what are you guys doing now outside of working around here?

Wakeman: Oh, we do some travel. We've got grandkids that we go see.

25

Corrigan: Since this is a historical record, do you want to go ahead and just say the names of your children? Or how many you have?

Wakeman: Oh, certainly. We have one son. He's married and we have triplet grandchildren.

30

Kaitlyn, Gavin, and Blake.

Scanlan: And how old are they now?

Wakeman: They just turned eleven a week ago.

35

Corrigan: And what's your son's name?

Wakeman: Tim.

40 Corrigan: Tim. Okay.

Scanlan: Okay. And is there anything we missed that you guys would like to talk about? Stories? Anything else?

45 Wakeman: Wow. That's a big one.

Scanlan: Yeah.

Wakeman: It's just something we continually try to get other people interested in.

5 Corrigan: Is it easier now that there's more discussion of it, at least some people are aware of it?

10 Wakeman: Probably are. Yeah. Probably is. I think you are right about that. It's more accessible as far as the techniques and what's involved with it. Where you can find the planting materials and whatnot.

Corrigan: Has that been aided by like the internet? Can people like—there's a niche.

15 Wakeman: That's a good question.

Corrigan: I didn't know if during your time, since you started, kind of pre-computers and internet, were people able to locate you or call you or seek you out? Did you ever wonder where they or how they found you?

20 Wakeman: How they did. I guess it's all pretty much still word of mouth. I mean, I think information is available online, but I still think there's a lot of more person-to-person contact. Word of mouth. It seems to be more of a hands-on kind of a situation than what the internet would provide. I mean, the internet is fabulous with technical support. You know, that kind of thing.

25 Corrigan: So the information is out there more on how-to's, and pamphlets, and seeds.

Wakeman: Yeah. And which herbicides are the better to use. Yeah.

30 Corrigan: Okay.

Wakeman: Yeah.

35 Rues: Or sites that, "I have this bug." And they can go and try to identify it on the internet. Or a flower.

Wakeman: Yeah

40 Rues: You can do that now.

[End Track 16. Begin Track 17.]

Wakeman: Yeah.

45 Rues: And you can learn about it. You can learn other people's experience with it. Yeah.

Wakeman: Yeah.

Corrigan: Yeah. I didn't think about that. I just was curious if that you think that's helped aid in your efforts.

5

Wakeman: In dispersing the word. Yeah. I think having a support group, a physical support group, is very beneficial when you start because it's a scary process when you first start it. You have no idea what you get in to. Yeah. But, it's awesome.

10 Corrigan: Now, what about long term maintenance? I'm curious—

Wakeman: Just prescribed burns. What we would like to do is have it hayed. If we can find somebody to come hay it, that would be a good alternative to burning.

15 Corrigan: Okay. That is an alternative, then.

Wakeman: Yeah. For establishment, no, I don't think there's any shortcuts around prescribed burns because natives, because they have evolved with that system of frequent fires, research has shown that even some of the seeds have to have exposure to smoke or chemicals found in smoke to germinate. Which is really interesting. But to get it established, you need to burn it every once in a while because by burning it you are exposing the soil so that the seeds can germinate. You're warming the soil which will help the mycorrhiza get active sooner. There's all kinds of benefits for prescribed burns.

20
25 Corrigan: Aren't there some—and I cannot remember the word I'm trying to think of—almost like shells or encasings around some of the seeds that are only dispersed once they are burned?

Wakeman: Right. I know you are thinking about pine trees, in particular. There's only a certain species that take a certain fire temperature for the cone to open up and eject the seeds. Yeah. I think that that goes back to what the chemicals in the smoke do to help chemically change the—the thing with native plants—or wild plants—I want to say native, but wild plants, the seeds have evolved protection so that as soon as they hit the ground they won't germinate which is important for the ones that have ripened up in October and November. They've got these chemical inhibitions in their seed coats that have to be either worn away, physically or chemically, before they're allowed to germinate. Now, not all the seeds of any particular species have—and there seems to be pretty variable amount of these germination inhibitors in them because there is a few that will germinate right away. And then, there's forty percent that will germinate the next spring. And there's another twenty percent two years later. It's interesting. Yeah. There's a lot of stories in these wild plants.

30
35
40 Corrigan: Well, great. I don't have any other questions.

Scanlan: I don't either.

45

Corrigan: Okay.

Wakeman: Okay.

Corrigan: Well, thank you very much.

5

Scanlan: Thank you.

Wakeman: Sure. Sure.

10 Corrigan: Let me go ahead and shut this off.

[End Interview.]