PLANT PEOPLE Season One Episode Three 'Fighting Fire With Fire' Transcript

MIKE DOCKRY: Anyone can tell you, yes, fire is scary. Fire can be dangerous. Fire can cause a lot of destruction, but fire in many cultures, not just Indigenous cultures, fire is a rejuvenating force.

JENNIFER BERNSTEIN: And you can see the effects of fire almost everywhere in nature if you learn to look for the signs - from tall groves of white pine trees to the low-growing patches of wild blueberries.

MIKE: The forests are the way they are because of us. We've had this relationship with fire, with forest ecology for generations. Thousands of years.

JENNIFER: But this human connection to fire was shut down in the early 20th century, as changing attitudes about fire safety brought federal fire bans across the United States. With us today is an expert on fire management history.

MIKE: Bozho Ndenwémagnek. Kowabmat mshike mnise ndezhnekas. Cho nkendesin Ndodem. Neshnabe ndaw. Bodéwadmi ndaw. Shishibani ndebendagwes. Hello, all of my relatives. It's great to be here. I'm Mike Dockery. I'm a member of the Citizen Potawatomi Nation, and I'm an assistant professor at the University of Minnesota in the Forest Resource Department and American Indian Studies.

JENNIFER: Mike believes we're seeing the results of these bans now, and they come in the form of extreme wildfires.

A year ago, at a time when NYBG visitors should have been taking in the scent of fully bloomed roses and playing under the shaded trees of our children's garden, we were all inside, staring out the window as the smoke from the Canadian wildfires blanketed the Bronx.

[MUSIC BEGINS]

It may seem counterintuitive, but experts like Michael Dockry believe the way to prevent these huge, out of control fires is to intentionally bring fire back to the land, as his ancestors did for centuries.

MIKE: So when we exclude fire from the system, we're excluding Native people from the system. And now there's a real renaissance happening across Indigenous communities to bring that fire back.

JENNIFER: This is Plant People from NYBG. I'm your host Jennifer Bernstein, CEO & The William C. Steere Sr. President at the New York Botanical Garden. In this episode: Fighting Fire With Fire.

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JENNIFER: So let's start with the question that we ask all of our visitors: how did you become a plant person?

MIKE: I was born a plant person, I think. You know, when I was growing up, I could look out my window and see bur oak trees and leaves and the beautiful branches and then those acorns and the squirrels and the woodpeckers. I lived in, I guess you'd call it the suburbs, right outside of Green Bay. Houses, not rural by any means, but it's an old, oak forest. And so these were remnant old growth oak trees that I basically grew up sleeping underneath.

JENNIFER: Now, as a professor, Mike emphasizes the relationships between Indigenous people and the land in his classes.

MIKE: The concept of wilderness as places untrammeled by man, That's fictitious. It's not real. it wasn't recognized that Indigenous people were maintaining these forests like gardens. And so I really start seeing the system as a human ecological system. Like we are part and parcel of the forest.

JENNIFER: Setting intentional fires was one of many land management practices that Indigenous people used to cultivate the land around them. But this connection to fire was lost when the federal fire bans arrived in the early 1900s.

MIKE: We really do need to start living with fire. that origin is in thinking that fire is a destructive force. And not that fire is a sacred relative, not that fire is teaching us, not that fire is something that brings us medicines and relationship with the other beings. And we have a couple generations now of people that have, lived with a message that fire is bad. And this is a real challenge.

JENNIFER: But before we can talk *more* about the use of fire as a land management tool by Indigenous people, we need to understand why fire is

important to forest ecosystems. Mike explained this by focusing on one type of tree.

MIKE: White pine is a majestic species. They grow very tall, very straight. I think a lot of us in the northern part of the United States can understand what that looks like. We've probably seen pictures or been around white pine trees, just iconic, majestic trees. These trees rely on fire for regeneration; their seedlings need fire.

JENNIFER: Take a walk through the forest and you'll notice that white pine grows in clusters. This clustered growth is evidence of how fire can encourage plant life.

MIKE: When you look at those white pine trees and they're growing in a clump together, or groups of them together, and they're rising above the forest canopy. What did this look like 130 years ago when these trees were seedlings?

JENNIFER: The answer is beneath your feet. You're likely walking on a floor of forest duff. Those are layers and layers of decomposing leaves, branches, and other matter. You'd need to dig down deep to get to the rich mineral soil that white pines need to grow.

MIKE: So leaves fall on top of the soil, forest floor, and you get a buildup of this duff, this layer of organic material over that soil.

And in our Northern climates, we have pretty slow decomposition. So you have this buildup you know what it feels like you walk in the forest and it's…

JENNIFER: Soft. Mm hmm.

MIKE: Soft. Exactly. Right. White pine seedlings…they don't regenerate very well in that condition with that soft, thick duff layer.

They need mineral soil. So how is that created?

What would happen historically would be fire, would burn down that duff layer so that that opening now is mineral soil and all of those seeds from those pine cones can then explode and grow.

And over time, the trees grow up, and then we have this grove of white pine.

JENNIFER: This is where Indigenous land management can enter the life cycle of the pine: ritual fire to burn away the duff, creating a healthy home for future pine trees. Fire can also clear a path for water and sunlight to reach the saplings.

MIKE: If you don't have fire in that system, if you don't create a condition that is open – meaning light nutrients, water, and mineral soil – you're not going to get regeneration of pine.

JENNIFER: Without fire, other opportunistic plants will take the white pine's place.

MIKE: So what happens in the Northern part of the U.S., you'll see maple coming in. That's a tree that likes shade, can grow in that duff layer; in fact, those forests have wonderful duff layers in them.

So as one pine tree falls down, whether it's wind or old age or insects or something, maybe it was sick, these maple are there ready to grow in that space. So over time those pine forests would be replaced by something else. Without fire, we run a real risk of not having those forests that need that light and that mineral soil like pine. There are other species too. Birch is a similar one.

So the suppression of fire, the suppression of Indigenous land use practices, that suppression has led to forests that are not as resilient as they could be.

JENNIFER: Today, Mike is one of the voices leading the charge to bring fire back to the land, both through cultural Indigenous fire and by something called a prescribed burn or a controlled burn. These are intentional fires ignited to burn away duff and other forest debris. Prescribed fire can encourage forest growth, as Mike describes.

MIKE: One of the main reasons for prescribed fire is to reduce the fuel loading. So the concept would be a smaller, lighter fire versus letting the fuel build and burning that fuel down so that any fire that comes after it won't get raging, versus one giant wildfire that's out of control. Like we've seen across the United States, we're having these mega fires, they call them.

JENNIFER: Indigenous cultural fire shares this goal of reducing fire fuel. But it also comes with the added benefit of engaging with religious traditions, heritage, and cultural connection.

MIKE: The outcome might be the same, but I think the goals are different.

And even now when we see the Indigenous fire coming back, there'll be elders. They'll probably be a feast. There'll be youth, maybe saying a prayer. It's a community event. It's a real ceremony to bring this back and it's pretty, um, it's profound.

JENNIFER: So you're joining us today from St. Paul where you teach in both the Forest Resource and American Indian Studies departments at the University of Minnesota. How did you become interested in studying wildfires specifically? I know that you're a member, as you said, of the Citizen Potawatomi Nation. Did that influence your interest in this arena?

MIKE: Yeah, when we translate to English, "the people of the place of the fire" or "the fire keepers", that really has been a journey for me as well. Growing up with those oak trees, those trees are there because of fire. Those bur oak rely on fire. I didn't realize that at the time when I was growing up. And then as I started studying forestry in the university, I was fascinated by how these trees grow, how they grow together, you know, how do they live and die and reproduce? And fire was at the center of a lot of that.

And our Native people have lived with fire for thousands of years.

And now I'm looking at fire with a lot of guidance from tribal partners; fire as a necessary piece of our relationship to these forests, not just oak forest, but pine forests, other prairies, even savannas. And trying to understand how we can rekindle our relationship with fire again and restore some of these forests because we've excluded fire from these systems.

And I think as we engage and deepen our relationships with fire, with the ecosystem, with our forest, we are deepening our relationships with each other as well. And that really can help lead us forward.

And our elders tell us that. They tell us that these relationships are important. And this is how we sort of move forward in society today. Very forward thinking with this, this idea of bringing fire back into our communities and into our forests.

JENNIFER: Yeah, that sort of repair and putting ourselves in right relationship with nature is, it's such an important imperative right now.

But I want to talk a little bit about some of that history. What are the earliest accounts of these cultural fires in America?

MIKE: I don't think there's a culture on the planet that wouldn't have stories about fire the settlers that came to the Americas saw forests that were managed with a lot of fire use through many, many generations.

And these are a lot of the accounts because, they're written down so a lot of those, paintings, the landscape paintings of the Americas, the writings, those accounts of the early forest in the Americas is our accounts of Indigenous relationships with those forests, although it wasn't recognized.

And those are the kinds of things that show you, Oh, this is deeply cultural, this fire.

JENNIFER: The federal government banned these kinds of fires when industrialization brought unprecedented destruction to the land.

MIKE: There were some really large fires in the early 1900s that were the result of unsustainable logging practices. Massive liquidation of forest. In the aftermath of that is a lot of branches, we call it slash. So branches, twigs, leaves, stumps…

JENNIFER: Fuel, right?

MIKE: Yeah, we made a big pile of fuel. And when you have a dry condition and sparks, so if you think about railroads, railroads start coming in. Those early railroads, that's coal, right? Burning embers coming out of the chimney from a coal fired locomotive, spewing out lands on this slash – massive fires. The Hinkley fire here in Minnesota. There's one, the Peshtigo fire in Wisconsin, where I'm from. These were things that cause a lot of fear. That caused loss of life, transformed the land. And as the U.S. Forest Service was kind of coming online, that was the antithesis of sustainable forestry activities.

And so those fires and the public demand to keep timber flowing sustainably over time led people to think who were in those early positions, those early foresters to look at the land and say, this fire is bad. There was also, you can bring the cultural racism into the fore here too, because that was an Indigenous land use practice. And so as the government is trying to break Indigenous communities and their tie to land, one of the ways to do it is to break the use of fire. And so these things come together and you see the policy for the U.S. Forest Service and the federal government is, I think they called it the 10 a. m. policy. If they see fire, they want it out by 10 a. m. and now there's historical fire towers across the U.S. So massive infrastructure, massive effort was had to stop fires. Smokey, the bear comes on the scene, with a message saying fire is bad.

JENNIFER: Yeah, and still when you go into the national parks, I mean, one of the first things you see is the fire risk.

MIKE: And Smokey standing next to the fire risk sign.

JENNIFER: Yeah.

MIKE: And Smokey is one of those things like Mickey Mouse. Pretty much everyone on the planet can recognize Mickey Mouse or Smokey Bear.

And the message is complicated now. Here in the Midwest, and across the globe, really, we hear our Indigenous brothers and sisters talking about water as life.

Fire is the same, fire and water are very similar, right? You can drown in water, water can be very scary, you can have floods, it can wash things away, it's extremely powerful, but it's also the core of our beings, and fire fits right alongside that.

JENNIFER: You know, when we think about, these environmental concerns that we're confronting, they're paralleled by the kind of fracture in our communities and the increasingly, you know, fewer places where we can go and be in community and carrying out rituals. So having a more holistic view for how we do these things so that we can re-knit these bonds, both with nature and with each other is, it's beautiful.

And I know you're a major proponent of a more diverse land management community, more diversity I assume in the profession. So for you, is it about this is it about making sure that all of the voices are in the right rooms?

MIKE: I do a lot of work thinking about diversity in terms of our employees in natural resource organizations or in our universities. And, intuitively it makes sense that if we have more perspectives on something, we can come up with better solutions to our problems.

In fact, we can even frame our problems better when we have diverse views and perspectives. And because Indigenous communities have been marginalized, to say the least, physically removed, burning was made illegal in many places. So cultural practices are turned illegal where you could lose your livelihood or your freedom by participating in them.

These are things that have really separated us from the real work of developing relationships with our natural world. And having a diversity of students, having a diverse employee background will help us make the best decisions we can. Another thing that I didn't mention, but I think it's really important to understand is that our tribes are leading the way in doing this work. The Native land, the reservation land, the land that the tribes are actively managing, look a lot more resilient and healthy than the other lands.

So when I go around the country and I talk to people from federal agencies, one of the questions is, Well, how are the tribes doing it?

We want to emulate what they are doing, because they've brought fire back. They have bigger trees, their forest look like old growth, even though they're harvesting them consistently. That innovation based on tribal values. It's not a just sit back and watch all these trees grow by themselves. It's, we have to have a relationship and it's okay to cut down a tree. It's okay to use a tree if we're doing it in a good way. Wood is a beautiful material. You feel good. You walk into a room. If there's a wooden table, if there's, you know, beautiful windows that are made out of wood. If there's a wooden floor, right? Wood is a wonderful thing and it's renewable.

Wood is carbon neutral. Wood stores carbon. So if I can take a tree that sucked carbon out of the air and then make a beautiful table out of it…

JENNIFER: You've sequestered some carbon.

MIKE: I've sequestered carbon and I've deepened my relationship with it. And I am living in a beautiful place and we start to see that and that's important.

Now, are we going to harvest trees and mill lumber on every single acre? No, of course not. But when we look at those tribal lands in the United States, they're doing better management than many of the other agencies that do land management. They are the example.

We can harvest wood and wood can grow again.

[MUSIC IN]

JENNIFER: After the break, Mike and I discuss how wildlife respond to forest fires. Plus, we'll learn more about how to keep our homes safe from fire. Stay with us.

BREAK

JENNIFER: Welcome back! I'm Jennifer Bernstein, and this is Plant People from NYBG. Here at the Garden, we spend most of our time talking about plants. But when I talked to Mike Dockry, I learned that it’s not just plants and animals that need fire. People do too.

MIKE: I guess I've dealt with this my whole career, starting on the finger lakes, national forest in New York, where there was this blueberry patch campground. And we heard stories from people that they'd been going for generations, essentially, with their grandkids, they go there, pick.

Well, what happens when we don't have fire and we're not opening up this environment? Well, that blueberry patch gets smaller and smaller and smaller and smaller.

When we don't have the fire, when we aren't actively engaged in that relationship with blueberry, they go away. They're succeeded by other plants. Blueberries from Minnesota over to Maine, that's one of the main things that tribes are really wanting to foster. And you're not just talking about blueberry then, you're talking about food for us, sacred ceremonial food in some cases. You're talking about food for other creatures – bear, moose. So yeah, there is somewhat of a destruction. But what it leaves behind is a rejuvenated ecosystem and a more resilient system.

JENNIFER: That example of the campground is really terrific because, you know, people develop a relationship with the place. They became attached to it because of the plants that were there. And then I can imagine that, the conversation about how to rejuvenate that place was made more easy to understand because people were connected to it.

They had a relationship with it. And so they were invested in how it's managed. So how do you think about when a fire crosses over from being something beneficial to being something harmful? How do you manage that? How do you ensure that it doesn't happen?

MIKE: From my perspective, the bottom line is we can either get lower intensity fires more broadly across the landscape, or we're going to get massive conflagrations. So we can either sort of plan and do it in more of a systematic way in places that make a lot of sense to minimize the risk moving forward. Or we can kind of sit back and watch everything go up. And when it goes up in those big fires, the burning is a lot different.

You know, a small ground fire is still going to put smoke into the air. And we have real issues with things like asthma, right? These are discussions we need to have, but what's the risk in a short term with a low intensity fire at the time we choose. You know, the right time. so the smoke is going a certain way and, we think about these things, or are we just going to get washed over by a massive wall of flames and heat that not only do they burn the forest and the plants, but they change soil structures, they change seeds.

JENNIFER: We can reduce risk by only lighting prescribed fires in certain weather conditions. For example, when it's not too dry or windy. And when done well, a burn can make a huge difference. For example, in 2005, Yosemite firefighters worked with local Indigenous communities; the goal was to burn away the invasive Himalayan blackberry and encourage the growth of culturally significant plants. This partnership was important for those plants…and for people.

MIKE: The ecosystems are not necessarily developed or evolved to deal with the mega fires that we see right now. And so we have a choice to make, and how do I see it happening? It's our relationships.

That's actually why when I worked for the Forest Service, I really liked the public involvement, having public meetings. I love bringing different perspectives together because we form relationships doing that.

And this is where I really think our elders and our Indigenous community members that hold knowledge are telling us we have to fix these relationships that are broken. We've broken our relationships with each other, we've broken our relationships with these ecosystems, with these plant relatives, and we need to restore those to move forward.

And that's what I focus on, that's why I think this is important.

JENNIFER: As I spoke to Mike, I kept thinking about the place where I grew up. I'm originally from New Mexico. It's a place that I love, but also a place with a complicated relationship to fire. In 2022 two prescribed burns set by the U.S. Forest Service turned into the most destructive wildfire in my home state's history. I asked Mike for his perspective on what happened.

MIKE: It sets things back when prescribed fires get out of control, but I will also say that if we're not putting prescribed fire on the landscape, we're going to see more of those large fires. You know, whether it's a spark from a car going by,

somebody's careless with a cigarette or fireworks, we're going to have these large fires.

And it's tragic when we have loss of life, loss of property, and that kind of thing, there's no guarantee it wouldn't have happened anyway. That's how I look at it. I understand and, there's legal issues and there's, you know, if your house was burned down or you lost a loved one in these, again, that's that listening to each other. What are your perspectives on this? That's some pretty heavy stuff. That's an instance, one particular instance…

JENNIFER: One instance. Right.

MIKE: But why did it happen? It didn't happen because the prescribed fire got out of control. That's what happened that day, but what happened again, listening to Indigenous people, Indigenous elders, it happened because we have a broken relationship. It happened because we're pumping carbon into the atmosphere at unsustainable levels. We're changing the climate, which is affecting precipitation, which is affecting heat and temperature, which is affecting wind. It happened because we have this broken relationship with the earth and with each other. And so we need to focus again on restoring that.

We also need to think about where we're building our houses. There's a lot of places that 50 years ago didn't have houses and now they do, in fire-prone ecosystems. We see this every year, it's more and more expensive to protect structures that are probably built in places that they shouldn't be.

And there's also a lot of effort happening to make these – it's FireWise. FireWise communities, you can look that up. It's programmed to make sure that your house, your property, if you are in that, we call it Wildland Urban Interface, the WUI.

If your house is there, there's a lot of things you can do to sort of minimize the risk of spreading that fire. You know, it's like clearing brush back from the roofs, maybe having a metal roof, these kinds of things; having access to water access to fire breaks potentially on the property, depending on how big it is.

There's a lot of things we can do with these houses, but we fundamentally need to think about how can we turn the corner now to live with fire after a century or so of suppressing fire.

JENNIFER: So, in places like New York City where prescribed burns are illegal because it's such a densely populated place, are there alternative, Indigenous land management practices that people should know about?

MIKE: I think in places that are dense urban environments, there still is probably a role for some prescribed fire, some fire use, especially if we're doing, for example, here in Minneapolis or St. Paul, doing some small prairie restoration. So real small.

And this is something I heard from tribes out West saying, we don't have to start with the 20 million acres. We can start with a quarter acre here, a quarter acre there. And again, the goal is to foster our relationship. Maybe it's gardening on your patio. Maybe it's a community garden space. Maybe it's just taking a walk in a park and looking at the trees every day for a year and thinking about them and watching how they change.

Let's get out there and look at those plants, touch those plants, talk to those plants, observe those plants, be with those plants because they will teach us.

And so that's what I would say for dense urban environments. And then as we start learning more and more about how landscapes really need that fire, maybe there are places where the municipality might come together and say, okay, here's a 10th of an acre that we do want to put some fire on. Maybe it doesn't fit with zoning, but maybe our zoning has to change around how we look at that.

So, you know, I'm talking with the New York Botanical Garden. I would say, go to the Botanical Garden and check it out.

JENNIFER: I would say that too.

MIKE: Yeah, right. That's an easy one. I'm sure most people have access to it. You can jump on the train or something and get there. And again, what does that do? That forms a relationship.

And if you go by yourself, that's great. Or if you bring a friend or maybe you meet a new friend, that's part of a holistic understanding of who we are at this moment on this planet.

JENNIFER: And here at NYBG, we have a 50-acre forest at the heart of our garden, which is a particularly unique place to experience. I love what you're saying about developing a relationship with the plants around you. I think a lot of

people just think all of the plants are the same and they don't think about them very much.

But in fact there is a lot to be learned if we look more closely and paying more attention is a big part of what we need to do in general.

MIKE: Yeah. Listen to each other and listen to those plants.

JENNIFER: And I think we can all benefit from listening to the work of you and other tribal leaders. How can research institutions like NYBG support this work on ecosystem management and supporting Indigenous-led efforts?

MIKE: I think one of the ways is doing what you're doing is highlighting Indigenous voices in these conversations and making sure that if you're talking about climate change, if you're talking about wildfires, if you're talking about ecosystems, if you're talking about water and you don't have Indigenous people at the table, you need to figure out why that's happening, and you need to form relationships with Indigenous people and get them at the table.

That's huge. So providing that platform, engaging in a relationship, that's really the only way to do it, is listening to Indigenous people. And the beauty is, we're here.

We're still here. That the governmental effort in erasing Indigenous people, that didn't work. Like my tribe was removed from the southern part of Lake Michigan to Kansas and then Oklahoma; we still have a relationship with those lands.

We’re still relevant in those discussions. And even though people are looking at tribes and their land management as a beacon of hope for how to do this moving forward, they're not getting the funding that all the other land management agencies are getting.

The federal government really needs to fulfill the trust responsibility that they have. This is a legal responsibility. There's some really good executive orders out there right now saying that every federal agency needs to determine what the gap is between what the trust responsibility really is and how much is going towards that. And in forestry, we just completed a wonderful assessment, the Indian Forest Management Act assessment. And that's a decadal assessment. So once every ten years; the first one was 1993. We just did the fourth one, 2023, and we've documented that gap.

So you can imagine if tribal lands are managing even better, more sustainable than some of the federal lands, what could they do if they had equal money on an equal playing field?

Then we start to see real transformation at landscape levels.

JENNIFER: Well, I love what you said about how these forests that were encountered by the settlers, they were gardened and it makes me think about how so much of what we'll need to do to restore what we've degraded all across the world will be restored. It will be gardening.

We're, we're going to have to repair and we'll bring the skills of gardening and the knowledge of gardening and the knowledge of Indigenous people to the table. And so I think our audience here at the New York Botanical Garden can certainly relate to that. And I hope that they'll all be encouraged to learn more about what you're doing and others like you.

So thank you for spending the time with me today. I really appreciate it.

MIKE: Migwetch. Thank you.

JENNIFER: To find out more about Mike Dockry's work, check out the links in our show notes.

In our next episode, we'll learn all about invasive plants, why they get out of control, and what we all can do to help. We'll be joined by Dr. Evelyn Beaury, an incoming Curator in the science department here at NYBG.

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