



Wild Ones presents
'Native Plants, Phytoremediation & Green Infrastructure'
Webinar with Eric Fuselier Dec. 9th, 2021
Q&A

<https://wildones.org/phytoremediation-with-eric-fuselier/>

Questions

With regard to planting native plants out in the field, do those plants planted over a septic field area cause any issues for the septic field system

After buying our 1949 home in an industrial part of Minneapolis I noticed broken bottles lots of flat stones, cement, forks, spoons, old bottles etc. Obviously it was some type of landfill. Will I improve my soil by planting all my native plants? Are there some that are better than others?

Are there plants that help with salt runoff?

Would you give an example of a chemical that is affected by phytoremediation

I planted some native and pollinator plants over an area that had a broken septic tank pipe. A few of the plants have not done well this past year, but this was the first year. Could the old septic tank pipe contents be too toxic or too rich in nutrients for the plants?

How does a plant recognize a contaminant? I'm thinking of our nature park with wetlands where dogs peep and poop and cattle range nearby, also contributing pee and poop.

When the plant takes up the contaminant and releases it into the air, won't it just get rained back down on the land? Stay tuned . . .

Answers

(provided by Wild Ones National Board President Sally Wencel)

Plants have different root systems and some plants are likely better for planting over septic fields. I don't think Eric will be addressing this issue in a specific way. (I could be wrong.)

Eric will be addressing which native plants work best

Eric will talk about pollutants later in this presentation. "Salts" are a broad category and include metal salts.

Eric will address different categories of contaminants in a bit.

Eric will cover a list of native plants that are best for performing phytoremediation.

How can heavy metals be composted? Will they really break down? This was suggested as possible when removing plants that have been used for phytoextraction.

I believe Eric mentioned removal and not composting. Heavy metals require special handling.

Id like some advice about disposal when trying to remove lead or arsenic.

How do you dispose of the contaminated plants?

live answered

Which species of native plants best sequester carbon per acre?

I believe Eric will cover this soon.

What precautions can a property owner take with hyperaccumulation plants to safeguard they are not consumed by wildlife before destroyed?

If any of these plants, shrubs and trees have fruits or seeds that birds and other animals eat, would they get contaminated?

live answered

Are native plants used exclusively for these processes?

Non-native plants can perform many of the same functions but often don't provide the ecosystem services.

How do we know that a plant is having the desired effect? Is testing necessary? How can we tell an amount of chemical removed?

is that equisetum in the bioswale?

Sure looked like it to me!

Also recommendations for plant species to remove arsenic

Who does one contact to test for contaminants and test for the efficacy of the remediation?

1. Any suggestions for lead around older homes that shed paint long ago?

Eric will be addressing lead specifically

2. Has there been any study specifically on PFAS?

When using native plants for phytoremediation, wouldn't the animals and insects which feed on the plants be put at greater risk of ingesting the contaminants? How has this been studied?

live answered

what are riparian buffers?

A vegetated area near/along side a stream. Important for increasing water quality

how far from a railroad tie might petroleum leach into the soil?

Narrator us way ahead if the slide show,

Sorry: Narrator IS

Will this list of helpful plants be available to us?

We will include this in the information made available with the recording.

does invasive phragmites have any value for removing legacy/current phosphorus to improve water quality?

Will pesticides taken up by plants harm insects that eat the leaves or seeds? Similarly for other contaminants?

is there a way to remediate round-up?

Is or has been, Wild Ones involved in trying to reduce unnecessary chemical use in the first place?

Yes, Wild Ones promotes sustainable landscaping practices, including but not limited to reducing use of pesticides, fertilizer and other inputs. We recognize the harm to wildlife and make it a major part of our education.

We have problem with fire fighting chemical used at our airport (I don;t remember letter name) t has contaminated mamy wells in an unincorporated area adjacent to our city municipal water sysstem WI DNR is providing bottled water to private well owners...what phytoremediation woull help and where to plant

We plan to post links to resource materials on plants for remediating various common contaminants when we post the YouTube video. Stay tuned.

Others have touched on this in questions above, but im curious as well, specifically in edible landscaping in an urban area where there are known contaminants in the soil, such as lead and arsenic, Would the fruit on woody shrubs/trees be safe to eat for animals and humans? thank you, Natalie

Has there been research or are there any resources on native plant remediation in arid regions where lack of water and drought are factors, for instance, a shrub steppe ecosystem?

If a plant such as goldenrod takes up chemicals, when it dies back in the fall and composts itself does it put the chemicals back into the soil?

Who are the leading researchers in the area of Phytoremediation?

If you use woody plants to sequester the pollutants do the leaves need to be collected and disposed of?

live answered

Do the fallen leaves of hyperaccumulator trees require safe disposal?

Curious about quantity of plants needed to be effective? Would one plant only phytoremediate its root area or does the effect extend somehow with that magical mycorrhiza network?

When you remove contaminated plants do you just remove the above ground part and leave the roots to regrow? Or do you remove the whole thing?

In phytoaccumulation, by non-woody plants (grasses etc) does the above ground plant have to be physically reoved and properly disposed of each year?

If I use runoff from my metal roofs to irrigate gardens, am I inadvertently contaminating with zinc?

any info on effect to herbivores that eat the contaminated plants?

I noted that you did not mention tule, rush, caitail to remediate Nitrates; as water moves through a water system laberinth. (Bio Slime on talks and culms.) Before it reaches another body of water.

What universities are conducting significant research on a lot of what has been presented tonight?

Where do you dispose of the plants once they accumulate the contaminate? How often do you harvest the plants and trees?

I believe that arsenic was often used in old orchards-are there ways to remediate any remaining arsenic in the soil?

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If I were to plant jerusalem artichokes in heavy metal contaminated soil, would I get heavy metal poisoning from eating them?

What do you suggest to remediate/mitigate stormwater runoff containing road salt from municipal roads and/or private driveways (NaCl or KCl)?

Worked in envir. remediation for years, coal tars and chlorinated solvents were main contaminants, saw no use of phytoremediation. What;s restricting its use.

are any of the Rhus species (sumac) good for pollutant uptake?

would red cedar help with particulates?

Eric, in Racine, WI, We Energies has a coal-fired power plant just down the road from a shooting range. Amazing.

Will you talk about PFAS remediation tonight?

When native plants are used for phytoremediation, does pollen/nectar contain any VOC or metals that would harm pollinators?

What organizations are doing and funding the research to determine which plants are effective for specific pollutants?

Would you speculate that these kinds of plants would also be successful at removing juglone from the soil? Less of "contaminant" so to speak, but still...

Can you explain in more detail what you indicated was required to promote hyperaccumulation or accumulation by the native plant you listed of lead?

Does the EPA have a division devoted to phytoremediation?

Do you have a table that matches the contaminants and the plant species that can remediate them?

Wow! That was amazing!

What an important and informative webinar!! I will pass along to many!!

I mentioned that I live on some landfill but I am not sure what type of contaminants.

what is Eric's contact information?

does the contaminants build up in the pollen and nectar in plants so the pollinators are affected?

Great presentation!

This was VERY informative. The best webinar I've seen this year. Thank you Eric.

Resources to direct and share with public officials?

What about moss to take up lead and other heavy metals?

Tire wear particles from roads have been found to be highly toxic to aquatic life - synthetic turf fields concentrate these toxins. What can be done with plant remediation?

Thanks for attending!

Glad to hear you enjoyed it!

Thank you for attending!!!

Glad you enjoyed it!

Keep an eye out for a follow up email with the recording, we will be including any additional information that we can!

Fantastic presentation! Thank you for sharing your work. For phytoextraction, you mentioned composting as an option for processing the harvested biomass. To further reduce the contaminants through the composting process, you would recommend 'hot' or active composting instead of passive composting, correct?

Edible: I cringed when I saw sunflowers over and over. I feed out many pounds of seeds every year. So my squirrels and birds could be taking that in?

Wouldn't the preservation or restoration of natural ecosystems, in order to engage in larger scale phytoremediation, require a strong political component working to pass state or federal laws requiring their creation or preservation?

How to request a copy of the presentation

live answered

Lead: we were taught to never plant food crops within 6 or 8 feet of a painted house.

Would it be safer for pollinators if non-native plants are used for phytoremediation?

Conservation Districts can inform you of where to get your soil and water tested.

Any reference books or websites that we can turn to to get more information?

Keep an eye out for our follow up email with the recording, we will provide any additional information we have.

Thank you!

Thank you for attending!

Barr Testing in Minneapolis [something] Elm Street SE. did our neighborhood wide testing to track a TCE plume from an old chemical lab on East Hennepin and further north from a drycleaning site, which leaked started traveling to the Mississippi River. Barr was used by the EPA for this testing so I assume they are excellent

How many years will it take for something like atrazine in an old farm field to dissipate with native plantings?

I have a 70 year old pin oak planted at the curb. I'm trying to keep it as healthy as possible. What native plants can I plant near it to help deal with pollution from cars & air pollution in general

Has Eric published any books/manuals on his expertise? Can he recommend books or manuals for education?

How do you find suppliers of the large numbers of native plants that are required for relatively large projects?

Does asphalt leaching into the soil

Do you have any bad polluters in Arkansas?

One of the best Webinars I have attended

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Thank you so much, this was a great presentation!!

Darn! I forgot we're in a different time zone and tuned in only to catch the very end. :(Can't wait to view the recording! Thank you for offering such valuable information!

Would Wild Ones consider letting members subscribe to a whole year's worth of webinars, rather than one by one?

Would it be possible to schedule future webinars at 7 p.m. Central Time. 6 p. m. is a harder time for me because of dinner preparation?