



Phragmites and Prescribed Fire: Seasonal Prescriptions and Risk – Part 2

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Phragmites and Prescribed Fire: Seasonal Prescriptions and Risk Part 2

Lee Osterland, Fire Management Specialist



Can Phragmites, people and fire co-exist?
Yes, **BUT** you better do your homework!





At the last presentation I mentioned there are a few fuel and weather dynamics we've found that affect how readily Phragmites will burn, Let's discuss these briefly:

- RH below 60%
- Wind speeds 10 mph or greater
- Clear sky conditions – sunny
- Stem moisture below 19%
- Try to burn Phragmites within a year after being sprayed
- Altering fuel arrangement can aid you in getting the job done
- To have a successful Phragmites prescribed burn program you may need access to some specialized equipment
- Take advantage of unusual weather patterns



Check stem moisture with a moisture meter



Check the moisture levels at the base of plant and then randomly up the stem. Also, take a variety of readings throughout your burn area as these values will vary based on exposure to wind, sun, standing water, etc.



Burning within a short time after the spraying program allows you to take advantage of the fine fuels on the plant, ie. leaves, etc., which aids in the spread of the fire.



Lets discuss some of these other points while reviewing some past prescribed burns we've conducted here in Michigan



Conditions were ideal to conduct the prescribed burn on an island in Lake St. Clair in a very populated area

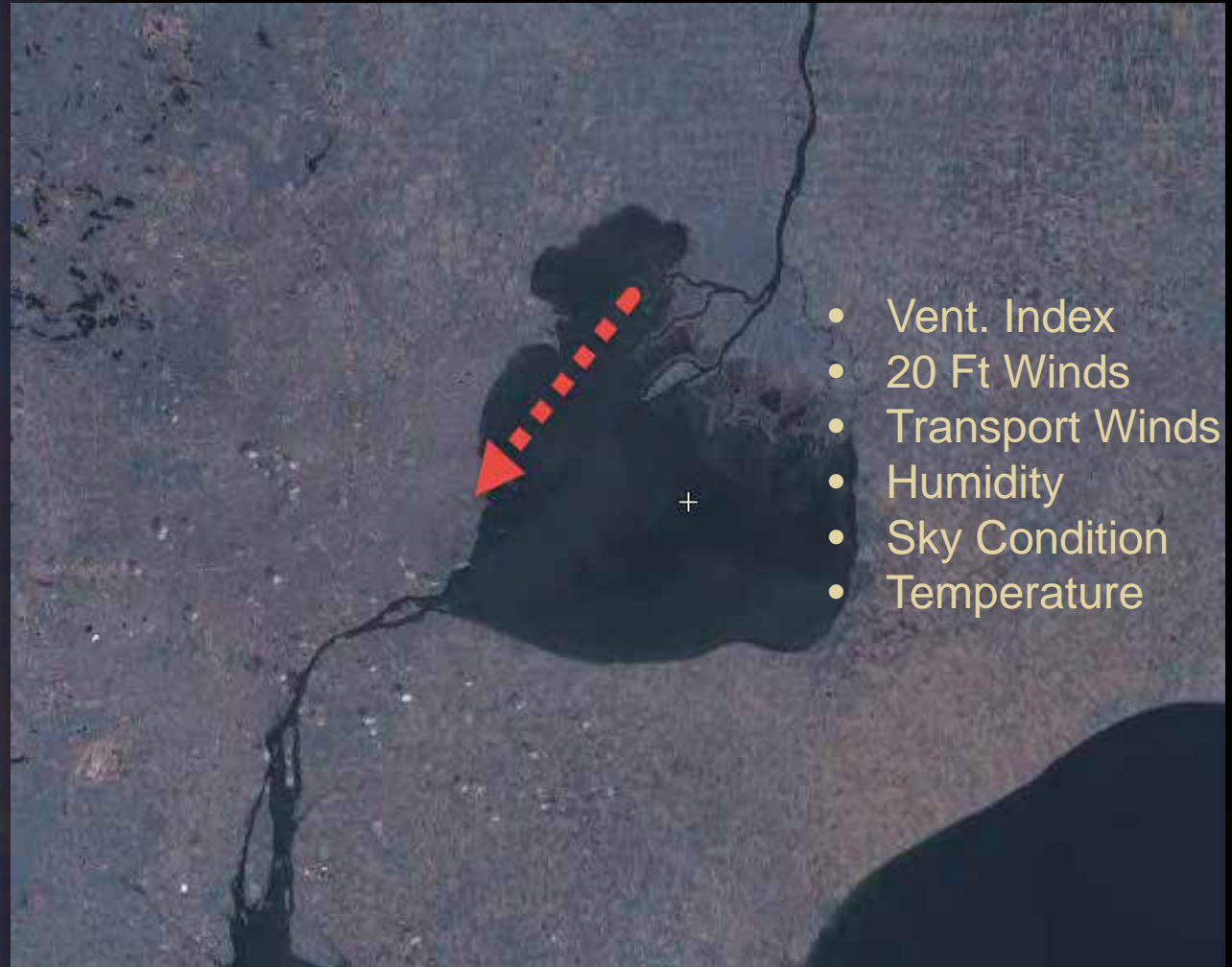




Smoke column as viewed from a “sky cam” which is located on the roof of the Renaissance Center in downtown Detroit: Public reaction was....ah....”interesting”



Several hundred acre Phragmites prescribed burn that was conducted under “perfect” weather conditions. Too perfect!! Ash particulates dropped out of the smoke column 20+ miles away onto a populated area.



- Vent. Index
- 20 Ft Winds
- Transport Winds
- Humidity
- Sky Condition
- Temperature

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Historically, this is the way Phragmites prescribed burns have been conducted and there still is a place for this technique. Experience, and the need for a better way, have taught us there are various tactics that can be utilized to minimize smoke and heat output.



Altering the fuel arrangement allows you to control the fire's flame lengths, intensity and generally allow for a less complex prescribed burn. There are other benefits to this tactic as well and we'll discuss those shortly.



Manipulating Fuel Arrangement



Utilizing existing features for control lines is always a good practice, however they aren't always in the most ideal locations.











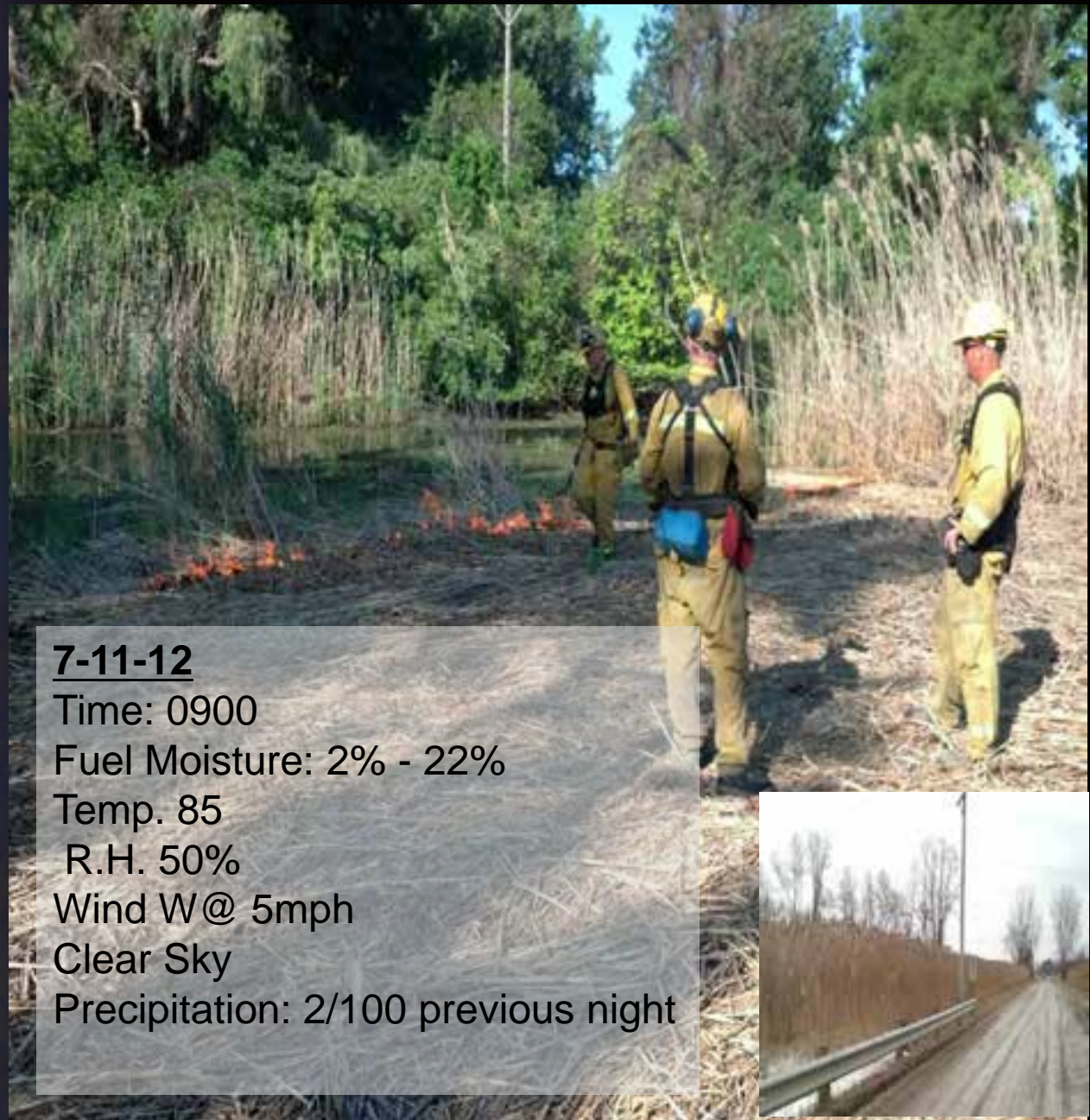


What's the big deal?
Juuust Buuurn It Already!!









7-11-12

Time: 0900

Fuel Moisture: 2% - 22%

Temp. 85

R.H. 50%

Wind W@ 5mph

Clear Sky

Precipitation: 2/100 previous night







One side benefit of rolling Phragmites for burning is that the burned off stems, which make walking difficult or injure dogs pads, are minimized.



03/26/2014



By manipulating the Phragmites fuel loading on this prescribed burn we were able to successfully conduct operations adjacent to I-75





Let's continue in shifting gears and explore other tactical options to burning Phragmites in populated areas



The prescribed burn location was a river running through a very populated area. Originally the proposal was to potentially burn the entire island, but due to the proximity to high value areas that wasn't feasible. What we did was use fire behavior and fuel moistures to guide us in developing a sound fire management plan.



Remember the:
“Do your homework” statement!!

















What about equipment used? We've definitely learned a few things over the years and having the "right" tools to do the job is invaluable.



Prescribed burn operations were routinely conducted over ice as this was the only way to “get the job done”. Thankfully, today there are more options for doing business which makes the job less complex and risky.





Conducting prescribed burns during the winter months challenges traditional equipment, clothing, and techniques



Wheeled vehicles and soft ground conditions of a wetland environment aren't always compatible!!



Flare gun being utilized to ignite a remote patch of phragmites



Conducting operations with specialized equipment demands additional training for some personnel and attention towards safety attributes at briefings







Flamethrower operations being conducted. These are great tools to get an extremely high amount of heat into a small area to get ignition.



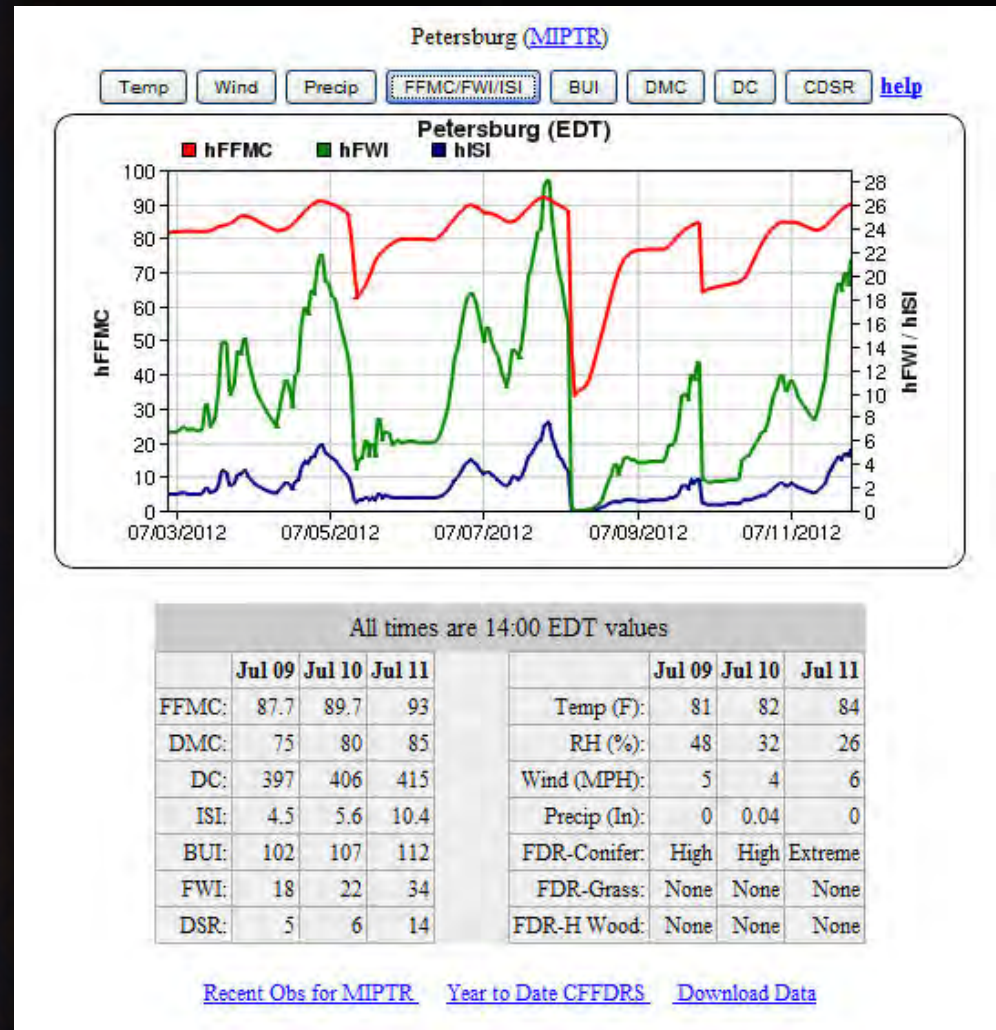
Utilizing watercraft as a mode of transportation is effective, but adherence to personnel safety is a must and everyone wears a life jacket.







Utilize weather “abnormalities” to conduct prescribed burn operations during periods that normally wouldn’t be conducive to burning







8-31-12

Fuel Moisture: 2% - 17%

Temp. 104

R.H. 38%

Wind: W @ 10mph

Clear Sky

Area was under drought conditions





Meet
objectives,
utilize a
variety of
tactics and
equipment



but above all,
firefighter safety
is foremost.
Everyone should
go home at the
end of the day!



Thank you! Questions?

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Q & A

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