PURDUE EXTENSION | FORESTRY & NATURAL RESOURCES

Results of Prescribed Fire Survey

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2018 INPFC Meeting

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Background

Why conduct this survey?

- Establish a baseline of Rx fire use in Indiana

- Identify Rx fire knowledge gaps

- Identify educational opportunities

- Provide a direction for future council efforts

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Survey – who, what, when, where, why?

- **52 questions**

Rx Fire Use

- **Rx fire experience, training, and knowledge**
- **Seasonality of Rx fire**
- **Vegetation types**
- **Purpose of Rx fire**
- **Rx fire barriers**

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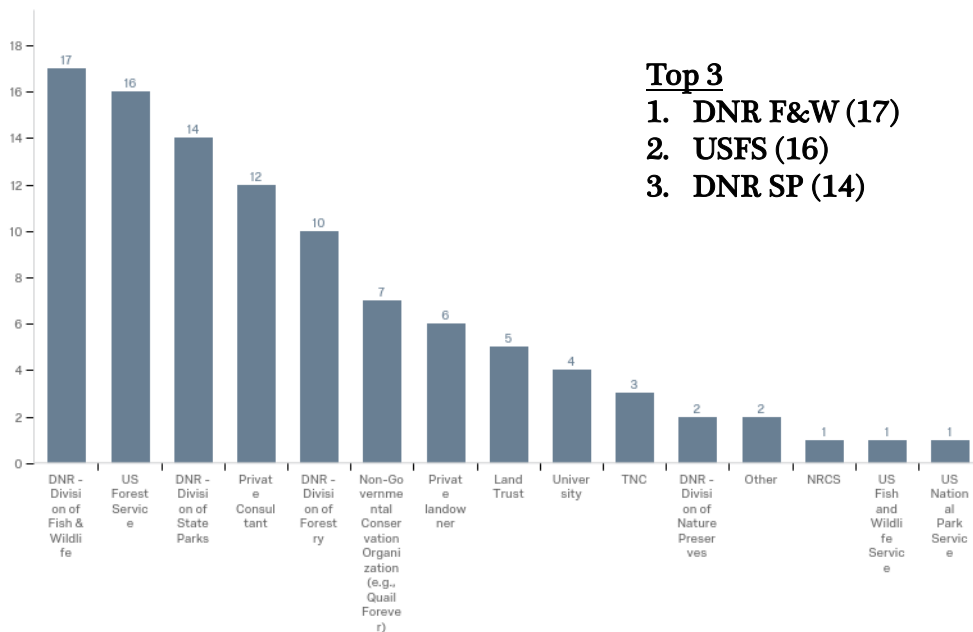
Survey – who, what, when, where, why?

Rx Fire Technical Assistance for Private Landowners

- # of landowners contacted about Rx fire
- Reasoning for recommending Rx fire
- Seasonality
- Vegetation types
- Perceived barriers
- Training opportunities

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Results

- **101 Respondents**
  - **43 State agency staff**
  - **19 Federal agency staff**
  - **15 NGO + Land trusts**
  - **14 Private consultants**
  - **6 Private landowners**
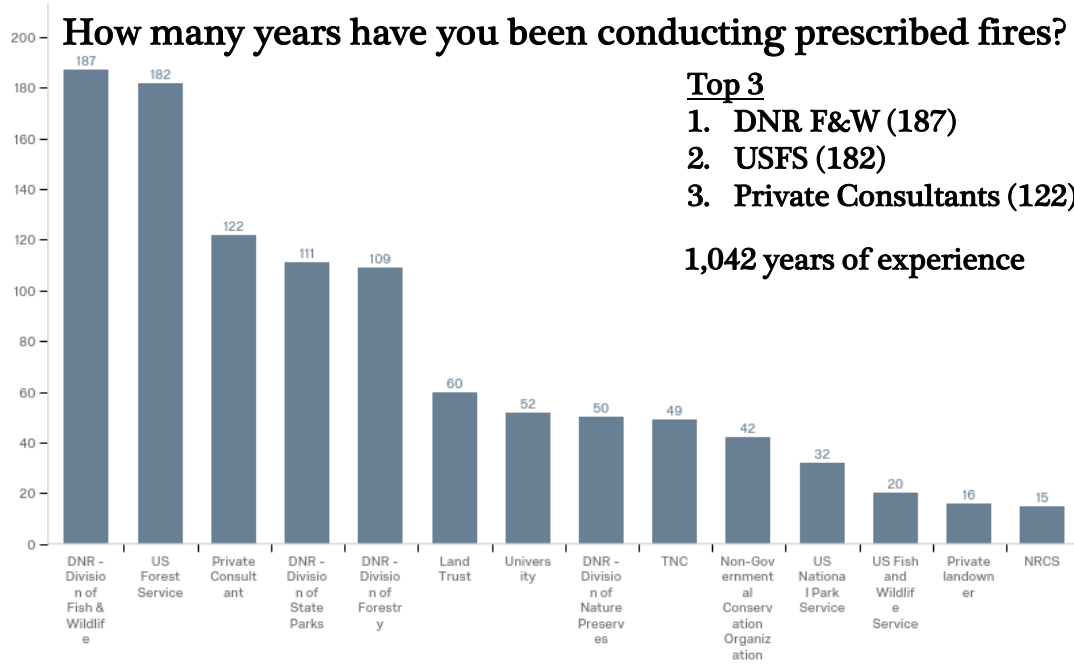 - **4 University staff**

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Results - respondents
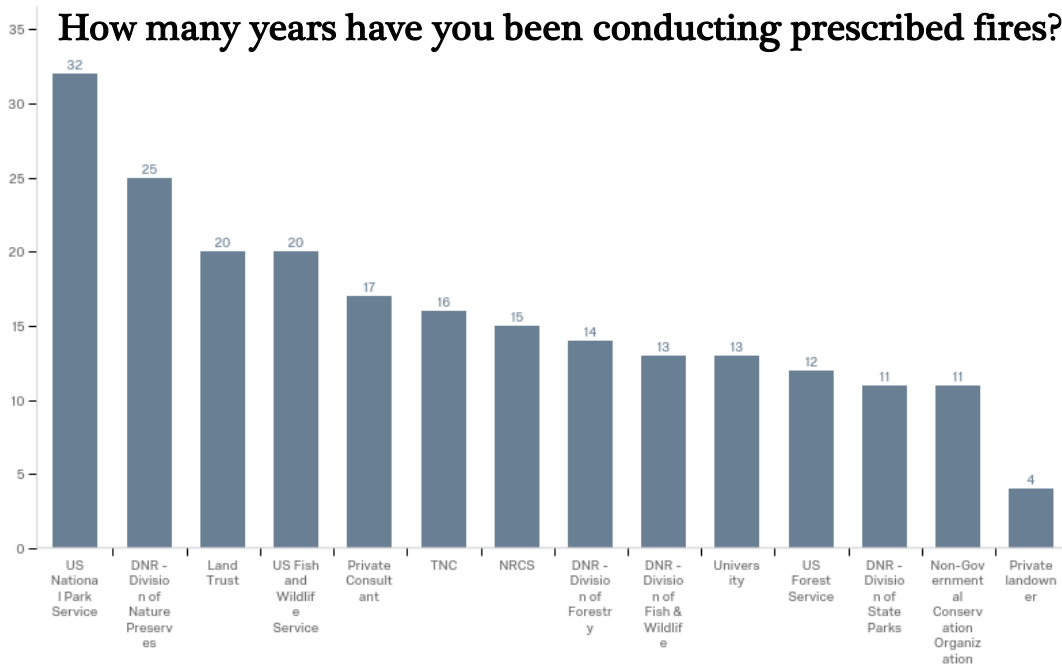

Top 3
1. DNR F&W (17)
2. USFS (16)
3. DNR SP (14)

Results - experience

How many years have you been conducting prescribed fires?

Top 3
1. DNR F&W (187)
2. USFS (182)
3. Private Consultants (122)

1,042 years of experience

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Results - experience

How many years have you been conducting prescribed fires?

Results - training

**Do you have your Wildland Firefighter Type II (Red Card) Certification?**

67% Yes	33% No

◼ Yes   ◼ No
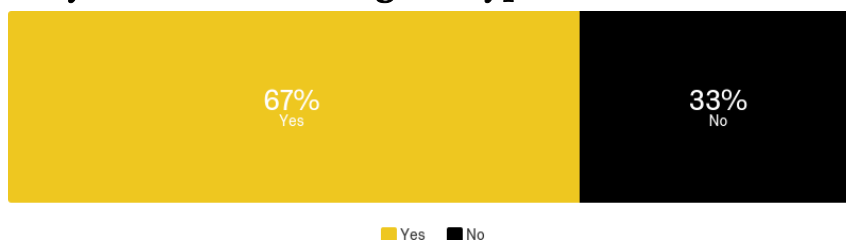
Have you attended the Indiana DNR's "Prescribed Fire for Managers"…

64% Yes	36% No

◼ Yes   ◼ No

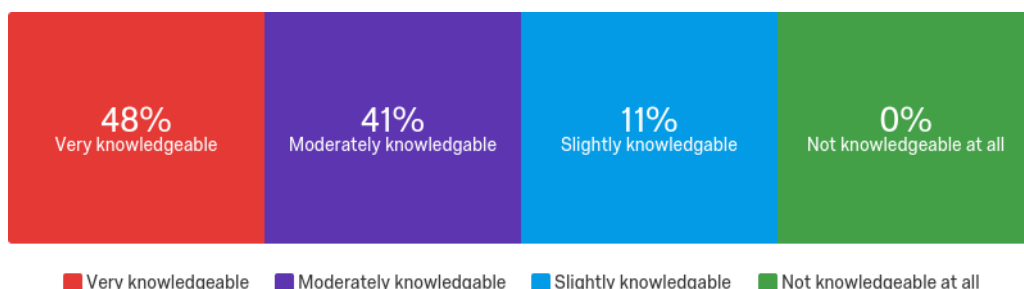**PURDUE EXTENSION** | **FORESTRY & NATURAL RESOURCES**
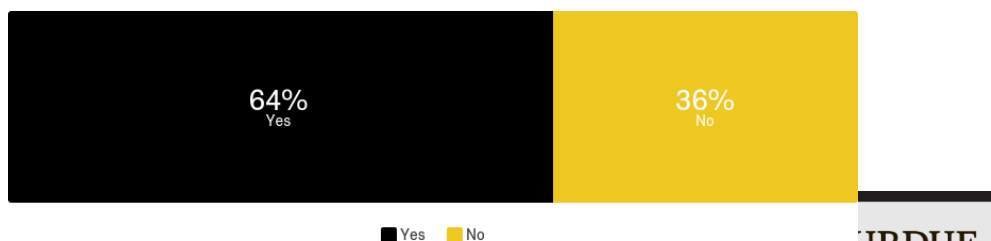
Results - training

Outside of the requirements to become Wildland Firefighter Type II certified, how many prescribed fire trainings have you attended?
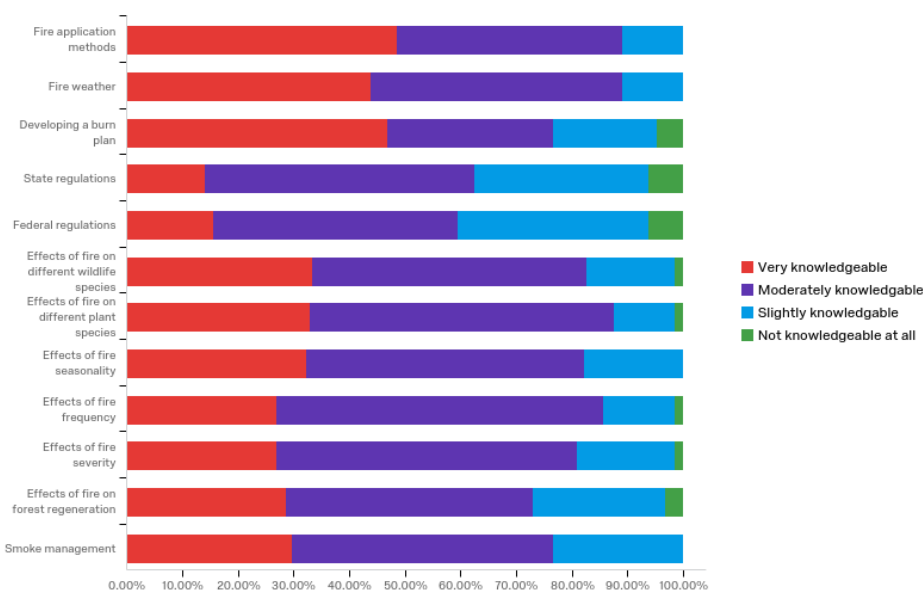
| 36% 1-2 | 14% 2-3 | 45% 3+ |

■ 0 ■ 1-2 ■ 2-3 ■ 3+

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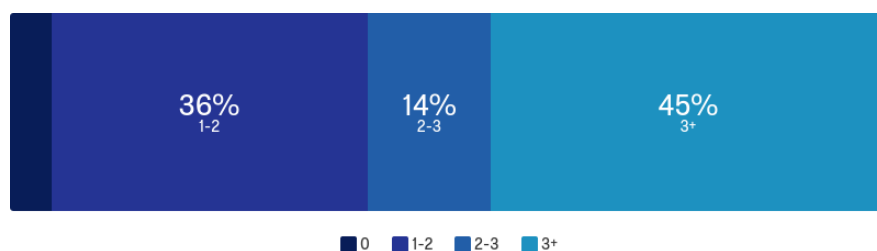
Results - knowledge

How would you gauge your knowledge of these different topics related to prescribed fire?

48% Very knowledgeable	41% Moderately knowledgable	11% Slightly knowledgable	0% Not knowledgeable at all

Very knowledgeable • Moderately knowledgable • Slightly knowledgable • Not knowledgeable at all

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Results - knowledge

How would you gauge your knowledge of different topics related to Rx Fire?

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Results – Rx Fire Use

Do you conduct prescribed fire on private or public land?

| 17% Private | 42% Public | 41% Both |

■ Private ■ Public ■ Both

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Results – Vegetation types

In which vegetation types do you conduct prescribed fires?

Top 3
1. NWSG
2. Forest
3. Prairies

Bottom 3
1. Barrens/glades
2. Regenerating forests
3. Cool-season grass fields
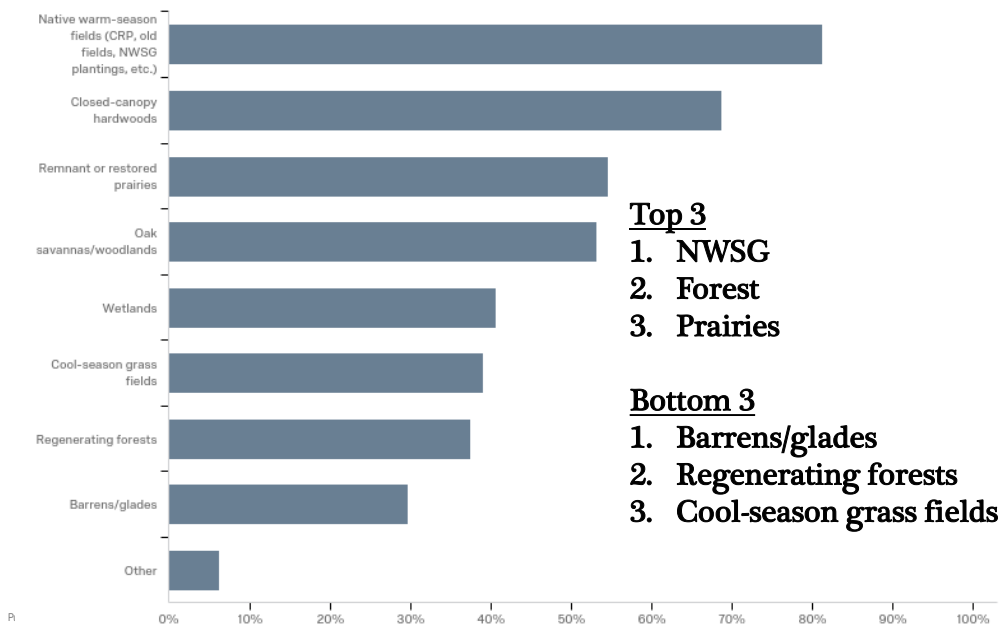
Results – Vegetation types

In which vegetation types do you conduct prescribed fires?

Forested (e.g., oak savannas/woodlands, closed canopy hardwoods, regenerating forests)

38

0   100

Non-forested areas (e.g., prairies, barrens/glades, native grass fields)
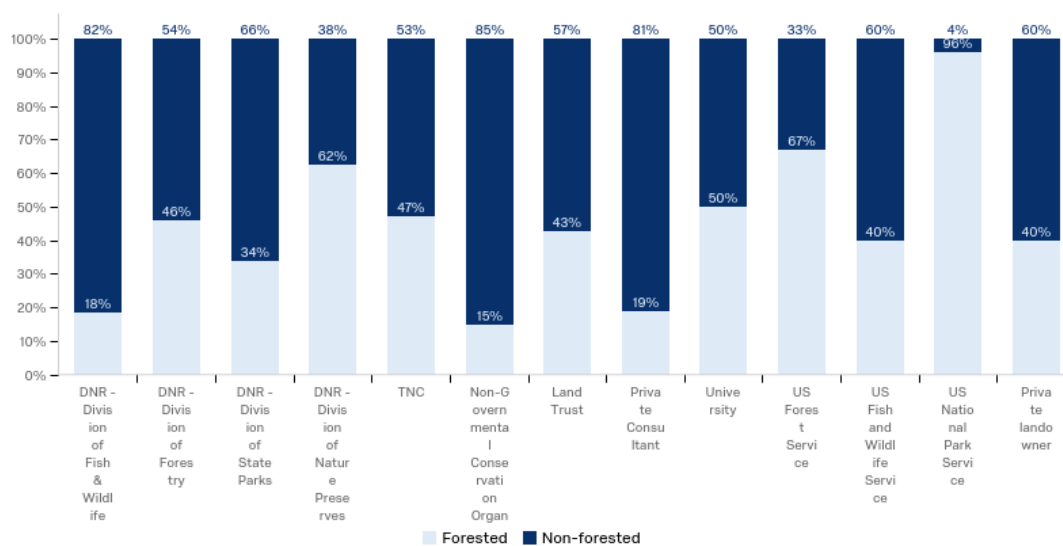
61

0   100

Results – Rx Fire Use

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Results – Rx Fire Seasonality

Indicate what percentage of your prescribed fires occur in each month...
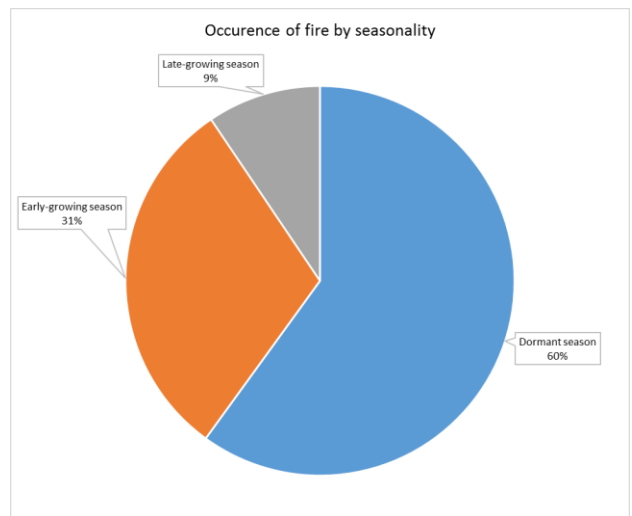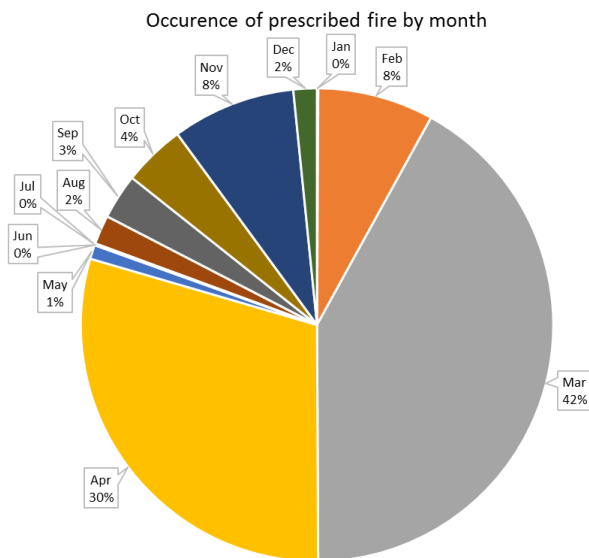
Occurence of prescribed fire by month

Occurence of fire by seasonality

Results – Rx Fire Seasonality
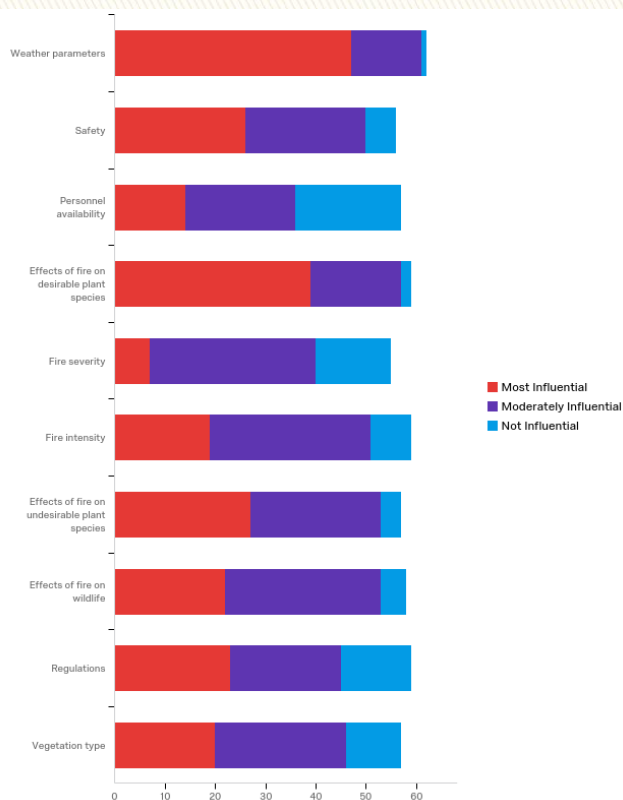
Please group the factors that influence the time of year you conduct prescribed fire.

Results – Rx Fire Seasonality

Please group the factors that influence the time of year you conduct prescribed fire.

Q19_0_GROUP - Most Influential

Most influential
1. Weather (76%)
2. Effects of fire on desirable plants (63%)
3. Effects of fire on undesirable plants (44%)

Results – Rx Fire Seasonality

Please group the factors that influence the time of year you conduct prescribed fire.

Q19_2_GROUP - Not Influential
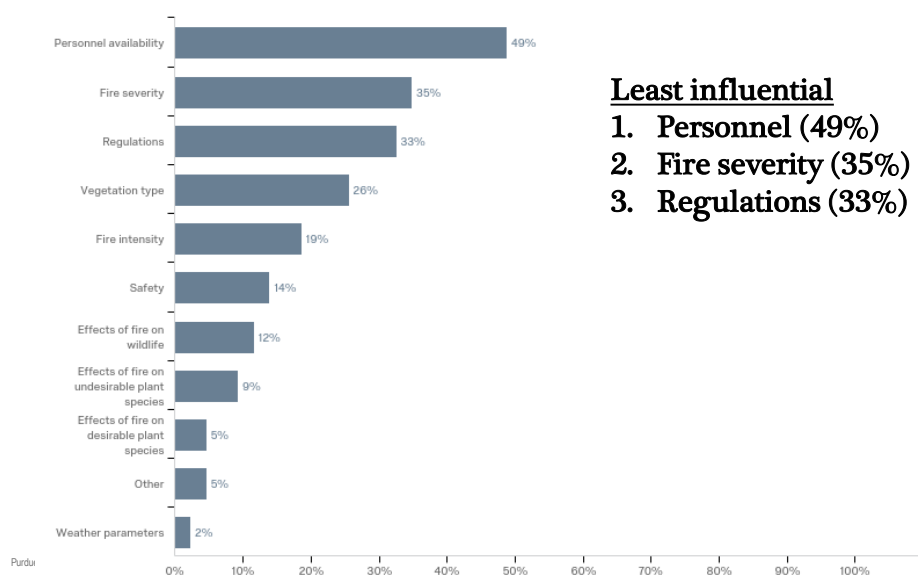
Least influential
1. Personnel (49%)
2. Fire severity (35%)
3. Regulations (33%)

Results – Reasons for burning (forest)

Please group the reasons you conduct prescribed fire in forested areas

Q12_0_GROUP - Top Priority

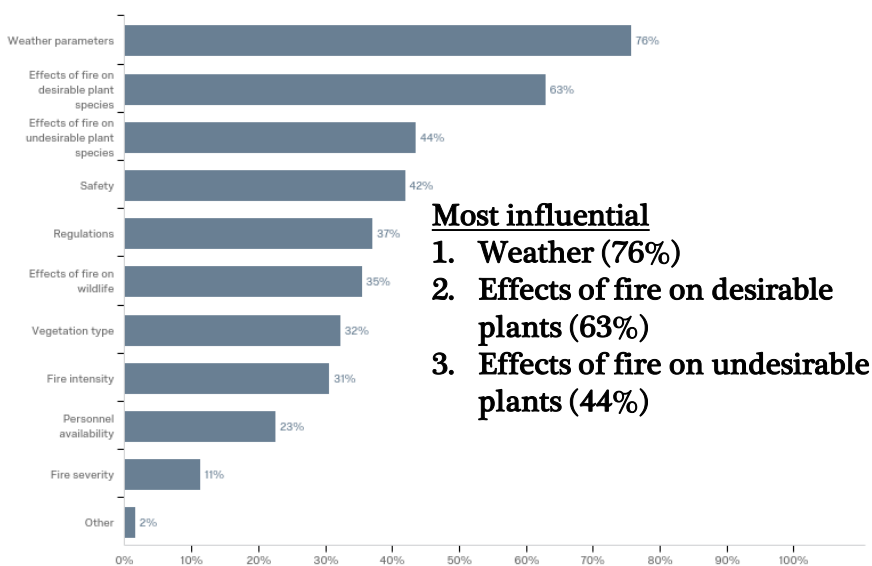| Category	Percentage
Enhance oak regeneration	67%
Manage fire-dependent ecosystems	57%
Encourage fire-tolerant or fire-dependent plant species	50%
Improve habitat for wildlife in general	44%
Control invasive species	41%
Control woody encroachment	37%
Improve habitat for specific wildlife species	33%
Encourage forbs (wildflowers)	19%
Reduce fuel loads	17%
Other	4%
Prepare sites for NWSG planting	2%
Reduce native-grass density	
Improve forage for grazing	

<u>Top 3</u>
1. Enhance oak regeneration (67%)
2. Manage fire dependent ecosystem (57%)
3. Encourage fire dependent plants (44%)

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Results – Reasons for burning (non-forest)

Please group the reasons you conduct prescribed fire in non-forested areas

Q65_0_GROUP - Top Priority

Top 3
1. Control woody encroachment (81%)
2. Improve habitat for wildlife in general (58%)
3. Manage fire-dependent ecosystem (52%)

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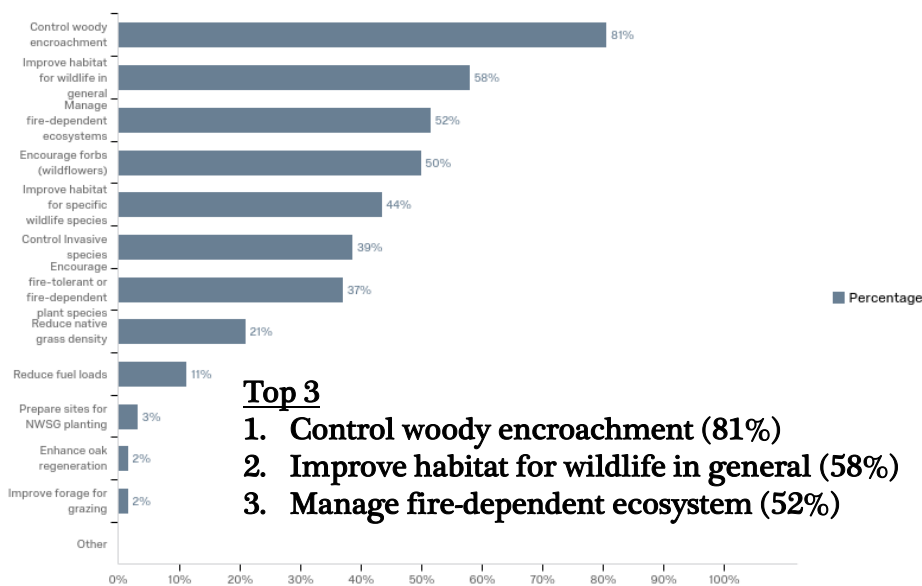
Results – Barrier to Rx Fire

Q13_0_GROUP - Barrier

Top 3
1. Acceptable burn weather (94%)
2. Smoke management (69%)
3. Time (63%)
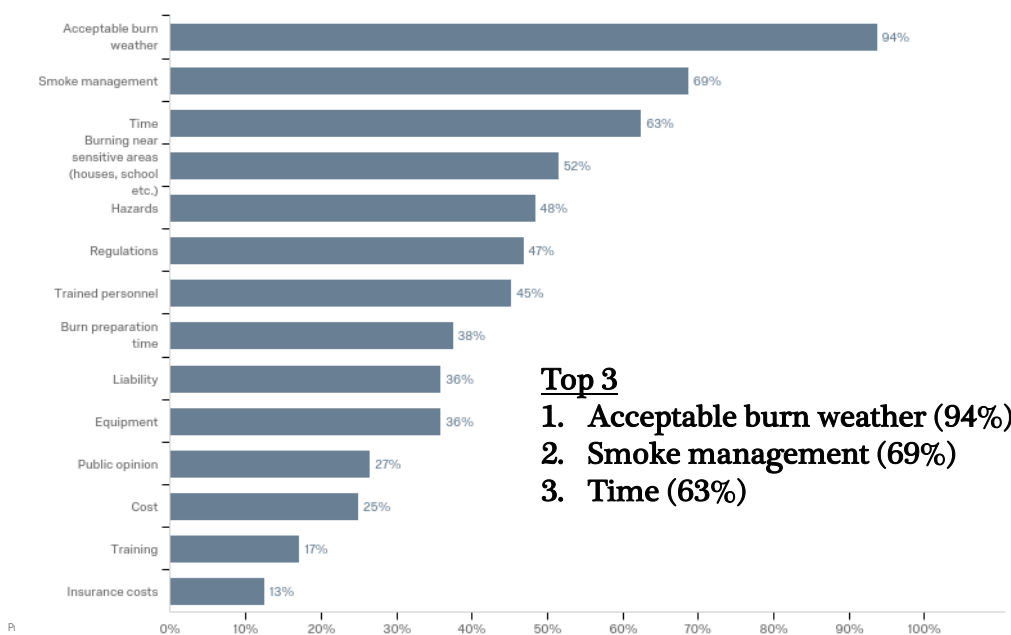
Results – Non-barrier to Rx Fire

Q13_1_GROUP - Not a Barrier

Top 3
1. Insurance costs (80%)
2. Training (78%)
3. Public opinion (70%)

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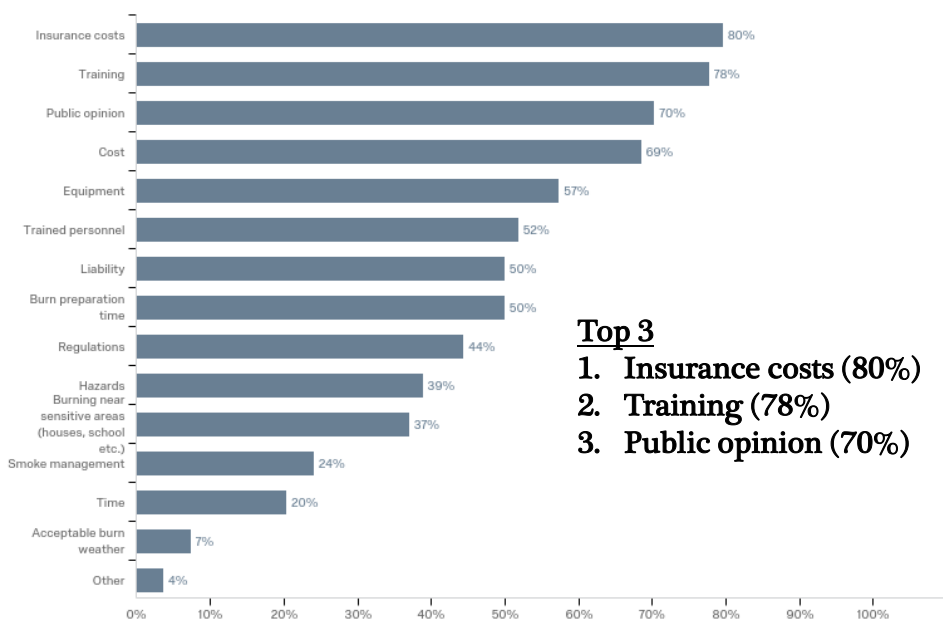
Results – Training needs

Are you interested in seeking further training related to Rx fire?

84% Yes   16% No

Yes   No

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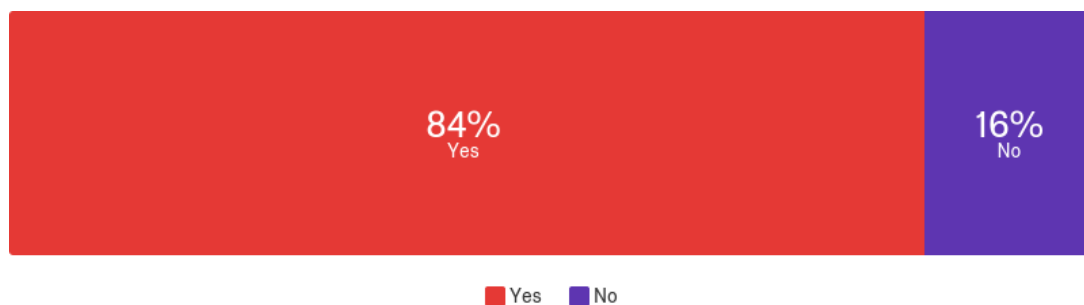
Results – Training needs

If additional training opportunities were available, which topics would you be interested in learning more about?

Chart (top to bottom):
- Effects of fire on specific wildlife species: 85%
- Prescribed fire in forested areas: 74%
- Effects of seasonality of prescribed fire: 74%
- Effects of fire on oak regeneration: 64%
- Prescribed fire regulations in Indiana: 58%
- Prescribed fire application techniques: 47%
- Prescribed fire liability: 34%
- Writing a burn plan: 30%
- Prescribed fire insurance: 25%
- Other: 11%
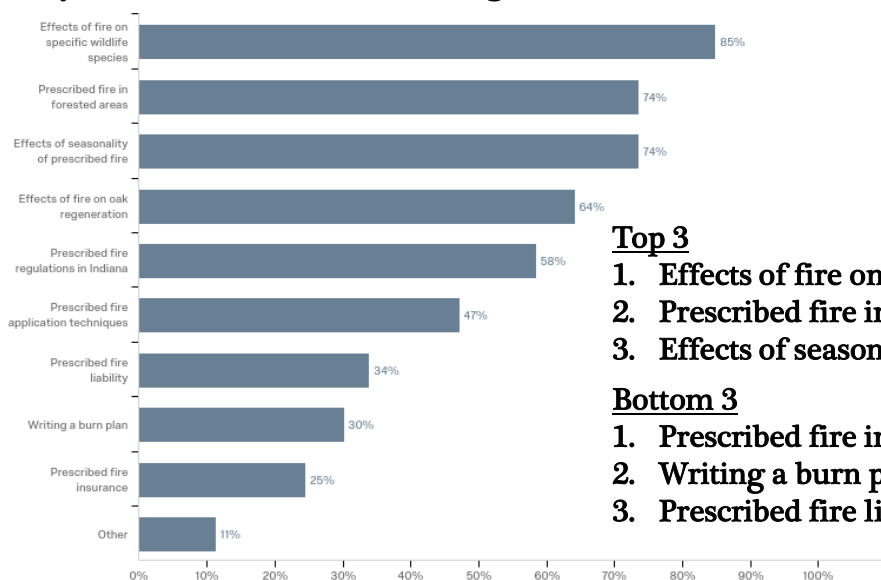
Top 3
1. Effects of fire on wildlife (85%)
2. Prescribed fire in forests (74%)
3. Effects of seasonality of fire (74%)

Bottom 3
1. Prescribed fire insurance (25%)
2. Writing a burn plan (30%)
3. Prescribed fire liability (34%)

Technical Assistance for Landowners

Results – Technical assistance contacts

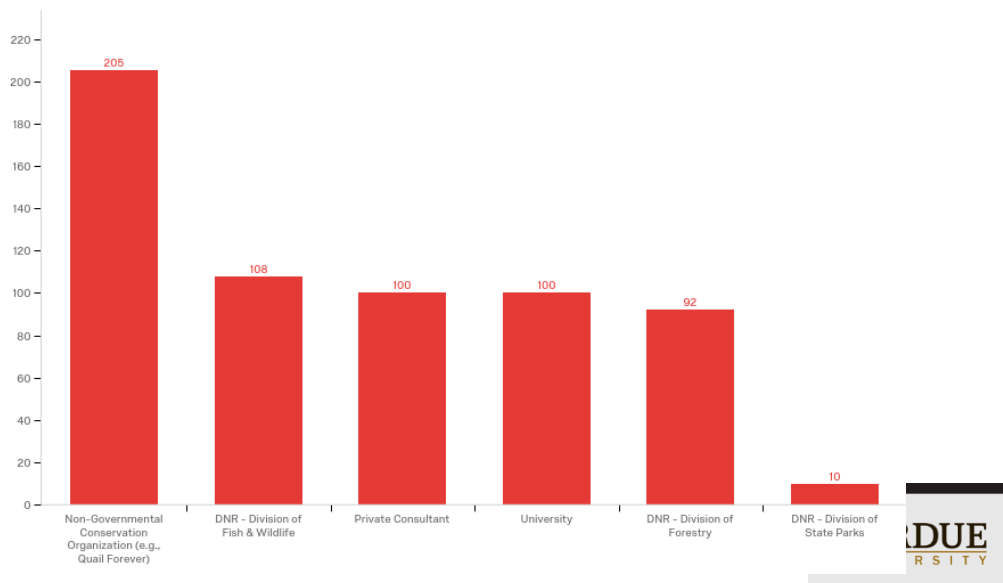In an average year, how many landowners do you speak to regarding the use of prescribed fire.

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Results – Why recommend fire?

Identify your reasoning for recommending prescribed fire to private landowners

Control woody encroachment — 97%
Encourage forbs (wildflowers) — 84%
Improve habitat for wildlife in general — 81%
Improve habitat for specific wildlife species — 66%
Control Invasive species — 56%
Manage fire-dependent ecosystems — 53%
Enhance oak regeneration — 50%
Reduce native grass density — 50%
Prepare sites for NWSG planting — 47%
Encourage fire-tolerant or fire-dependent plant species — 47%
Reduce fuel loads — 25%
Improve forage for grazing — 3%
Other —

Top 3
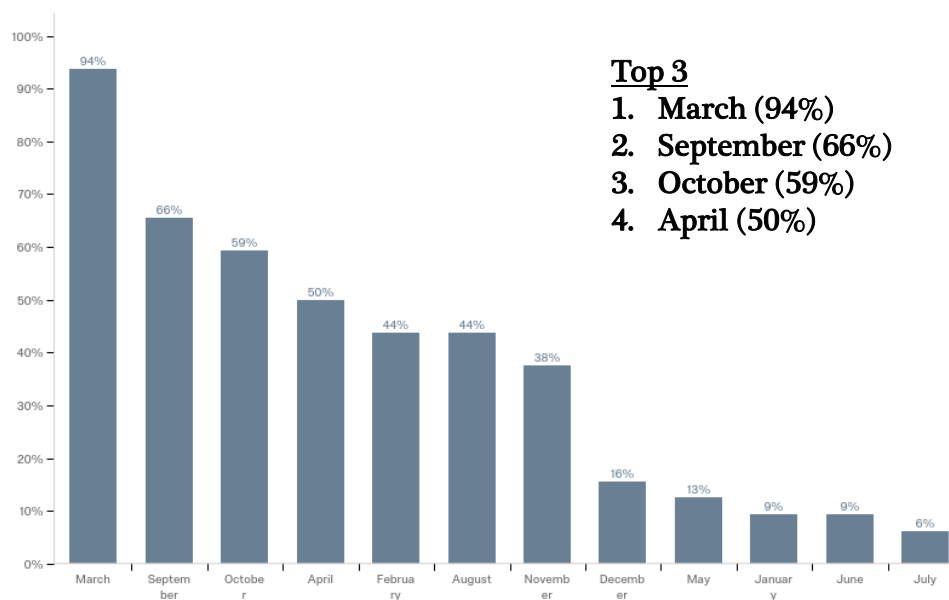1. Control woody encroachment (97%)
2. Encourage forbs (84%)
3. Improve habitat for wildlife (81%)

Bottom 3
1. Improve forage (3%)
2. Reduce fuel loads (25%)
3. Encourage fire-tolerant plants (47%)

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Results – When to use fire?

In which month(s) do you recommend landowners conduct prescribed fire?

Top 3
1. March (94%)
2. September (66%)
3. October (59%)
4. April (50%)

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Results – Factors determining when to use fire

Which factors dictate the month(s) you recommend landowner conduct prescribed fires?
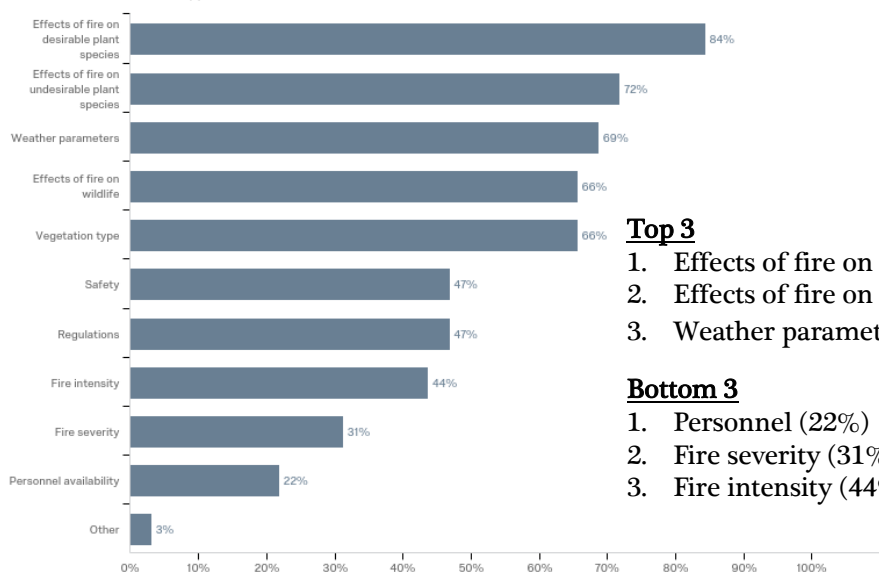
Top 3
1. Effects of fire on desirable plants (84%)
2. Effects of fire on undesirable plants (72%)
3. Weather parameters (69%)

Bottom 3
1. Personnel (22%)
2. Fire severity (31%)
3. Fire intensity (44%)

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Results – where to burn

In what vegetation types do you recommend private landowners conducted prescribed fires?

Native warm-season fields (CRP, old fields, NWSG plantings, etc.) — 94%
Remnant or restored prairies — 59%
Cool-season grass fields — 47%
Oak savannas/woodlands — 47%
Closed-canopy hardwoods — 47%
Regenerating forests — 31%
Wetlands — 28%
Barrens/glades — 19%

Top 3
1. NWSG fields (94%)
2. Prairies (59%)
3. Cool-season grass fields (47%)
   Oak savannas/woodlands (47%)
   Closed-canopy hardwoods (47%)

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Results – Perceived barriers

Please group and rank the potential barriers to private landowners conducting prescribed fire.

Bar chart of perceived barriers (percent):

- Training/Knowledge — 97%
- Liability — 87%
- Trained personnel — 80%
- Equipment — 77%
- Hazards — 67%
- Cost — 60%
- Acceptable burn weather — 57%
- Burning near sensitive areas (houses, school etc.) — 57%
- Insurance costs — 53%
- Regulations — 50%
- Burn preparation time — 47%
- Smoke management — 47%
- Technical assistance — 43%
- Burn plan preparation — 33%
- Public opinion — 20%
- Other — 3%
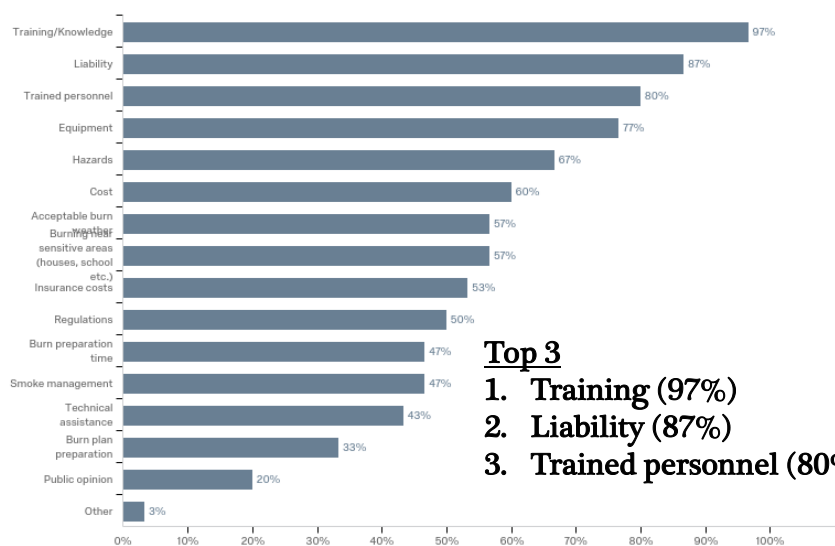
Top 3
1. Training (97%)
2. Liability (87%)
3. Trained personnel (80%)

Purdue University is an equal access/equal opportunity institution.

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Results – Perceived non-barriers

Please group and rank the potential barriers to private landowners conducting prescribed fire.

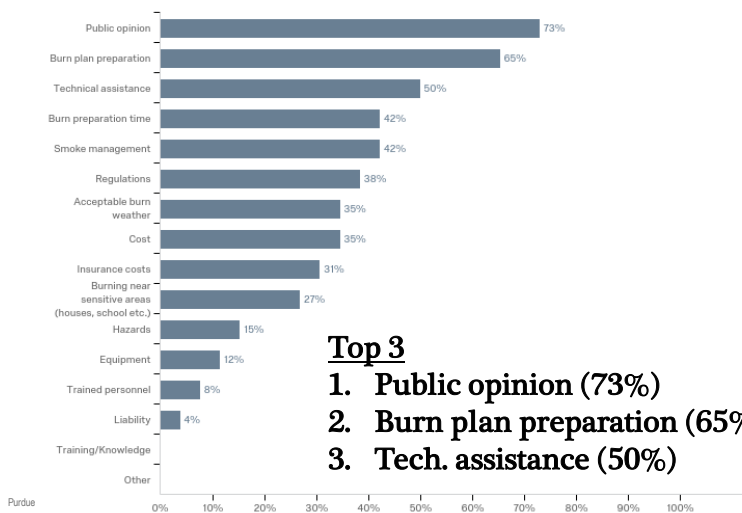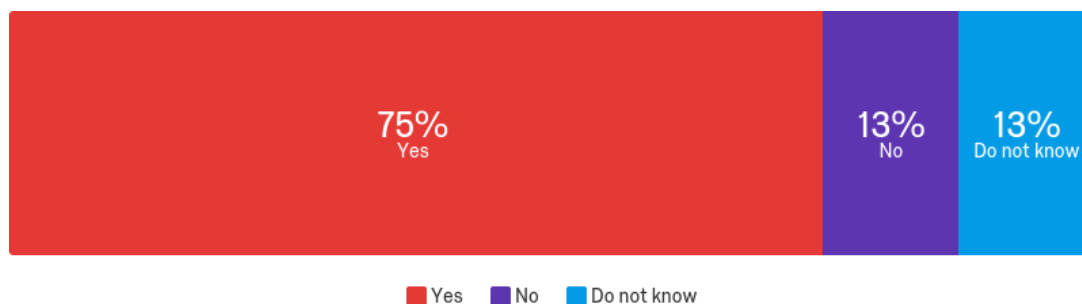Q35_1_GROUP - Non-Barriers

Top 3
1. Public opinion (73%)
2. Burn plan preparation (65%)
3. Tech. assistance (50%)

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Results – Training needs

Do you think private landowners are interested in seeking further education/training related to prescribed fire?

| 75%
Yes | 13%
No | 13%
Do not know |

Legend: ■ Yes ■ No ■ Do not know

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Results – Training needs

Which topics do you think private landowners would be interested in learning more about?
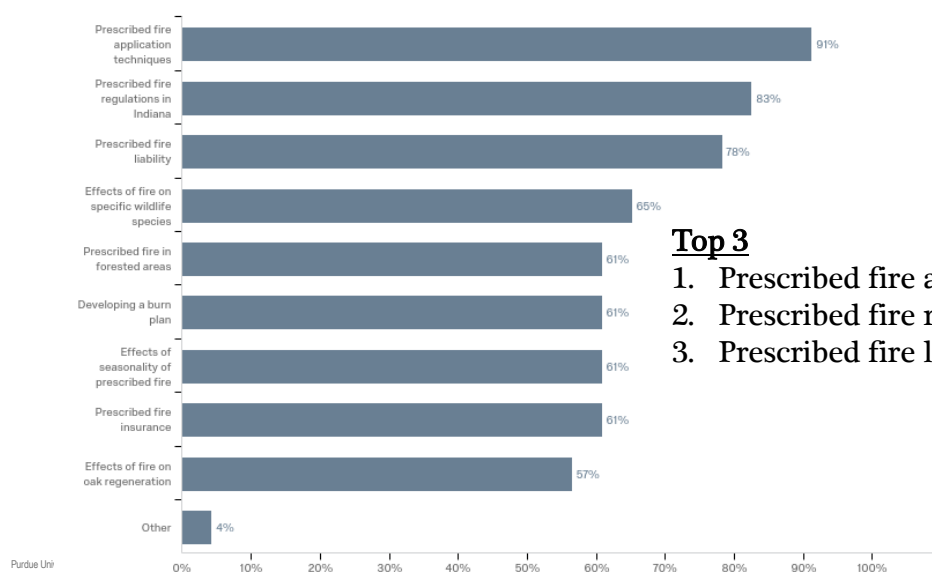
Top 3
1. Prescribed fire application (91%)
2. Prescribed fire regulations (83%)
3. Prescribed fire liability (78%)

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Summary

Rx Fire Experience/Knowledge

- 4 State Agencies, 4 Federal Agencies, Land Trusts, NGOs, Universities, Private Consultants, Private Landowners

- +1,000 years of experience

- 2/3 have been Red Card certification or more

- 89% very knowledgeable or moderately knowledgeable about Rx Fire

- Still opportunities to improve knowledge level

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Summary

Rx Fire Use

- Mix of public and private land Rx Fire

- Majority of fire is in non-forested areas (61%)

- 72% of fires occur in March-April

- 60% in dormant season; 9% in late-growing season

- Weather & effects of fire = most influential on season of burn

- Burning in forested areas for:
  - Oak regen (67%)
  - Manage fire-dependent ecosystem (57%)

- Burn in non-forested areas for:
  - Woody encroachment (81%)
  - Wildlife (58%)

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Summary

Barriers to Rx Fire Use
- Acceptable burn weather (94%)
- Smoke Management (69%)
- Time (63%)
- Burning near sensitive areas (52%)

Training needs
- 84% interested in more training opportunities
- Topics
    - Rx Fire & wildlife (86%)
    - Rx Fire in the forest (74%)
    - Effects of Rx fire seasonality (74%)

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Summary

Technical assistance to landowners

- > 600 landowners contacted about Rx Fire
- Rx Fire is recommended to:
  - Control woody encroachment
  - Encourage forbs
  - Improve wildlife habitat
- Rx Fire is recommended in:
  - March (94%)
  - September (66%)
  - October (59%)
  - April (50%)
- Season is recommended because:
  - Effects of fire on plants
  - Weather parameters
- Rx Fire is recommended mostly in:
  - Non-forested areas (94%) vs. Forested areas (47%)

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Summary

Technical assistance to landowners

- Perceived barriers
    - Training (97%)
    - Liability (87%)
    - Personnel (80%)
    - Equipment (77%)
- Training needs (Yes; 75%)
    - Rx fire application (91%)
    - Regulations (83%)
    - Liability (78%)
    - Rx fire and wildlife (65%)

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