

# Intro to Wildland Fire Behavior (S-190) Practice Test (Sample)

## Study Guide



**Everything you need from our exam experts!**

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# Introduction

Preparing for a certification exam can feel overwhelming, but with the right tools, it becomes an opportunity to build confidence, sharpen your skills, and move one step closer to your goals. At Examzify, we believe that effective exam preparation isn't just about memorization, it's about understanding the material, identifying knowledge gaps, and building the test-taking strategies that lead to success.

This guide was designed to help you do exactly that.

Whether you're preparing for a licensing exam, professional certification, or entry-level qualification, this book offers structured practice to reinforce key concepts. You'll find a wide range of multiple-choice questions, each followed by clear explanations to help you understand not just the right answer, but why it's correct.

The content in this guide is based on real-world exam objectives and aligned with the types of questions and topics commonly found on official tests. It's ideal for learners who want to:

- Practice answering questions under realistic conditions,
- Improve accuracy and speed,
- Review explanations to strengthen weak areas, and
- Approach the exam with greater confidence.

We recommend using this book not as a stand-alone study tool, but alongside other resources like flashcards, textbooks, or hands-on training. For best results, we recommend working through each question, reflecting on the explanation provided, and revisiting the topics that challenge you most.

Remember: successful test preparation isn't about getting every question right the first time, it's about learning from your mistakes and improving over time. Stay focused, trust the process, and know that every page you turn brings you closer to success.

Let's begin.

# How to Use This Guide

**This guide is designed to help you study more effectively and approach your exam with confidence. Whether you're reviewing for the first time or doing a final refresh, here's how to get the most out of your Examzify study guide:**

## 1. Start with a Diagnostic Review

**Skim through the questions to get a sense of what you know and what you need to focus on. Your goal is to identify knowledge gaps early.**

## 2. Study in Short, Focused Sessions

**Break your study time into manageable blocks (e.g. 30 - 45 minutes). Review a handful of questions, reflect on the explanations.**

## 3. Learn from the Explanations

**After answering a question, always read the explanation, even if you got it right. It reinforces key points, corrects misunderstandings, and teaches subtle distinctions between similar answers.**

## 4. Track Your Progress

**Use bookmarks or notes (if reading digitally) to mark difficult questions. Revisit these regularly and track improvements over time.**

## 5. Simulate the Real Exam

**Once you're comfortable, try taking a full set of questions without pausing. Set a timer and simulate test-day conditions to build confidence and time management skills.**

## 6. Repeat and Review

**Don't just study once, repetition builds retention. Re-attempt questions after a few days and revisit explanations to reinforce learning. Pair this guide with other Examzify tools like flashcards, and digital practice tests to strengthen your preparation across formats.**

**There's no single right way to study, but consistent, thoughtful effort always wins. Use this guide flexibly, adapt the tips above to fit your pace and learning style. You've got this!**

## **Questions**

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- 1. What kind of vegetation typically fuels wildfires?**
  - A. Mostly aquatic plants**
  - B. Invasive species only**
  - C. Dry, flammable vegetation such as grass, shrubs, and trees**
  - D. Only evergreen trees**
  
- 2. How can "fuel arrangement" affect fire behavior?**
  - A. By determining the color of the flames**
  - B. By influencing the spatial distribution of fuel types**
  - C. By changing the temperature of the surrounding atmosphere**
  - D. By affecting humidity levels**
  
- 3. What is a primary concern during extreme fire behavior conditions?**
  - A. Increase in humidity levels**
  - B. Rapid spread of fire**
  - C. Decrease in wind speeds**
  - D. Reduction in available fuels**
  
- 4. What is an indicator of a high fire danger rating?**
  - A. Wet soil content**
  - B. High moisture in vegetation**
  - C. Low humidity and high winds**
  - D. Cool temperatures**
  
- 5. What is the significance of the surface area to volume ratio in fuels?**
  - A. It affects the moisture content of the fuel**
  - B. It determines how quickly fuel can ignite**
  - C. It indicates how long the fire will burn**
  - D. It shows the stability of the fuel structure**

**6. What type of fire behavior is categorized as 'Problem Fire Behavior'?**

- A. Fire that spreads slowly and is easily manageable**
- B. Fire activity posing potential hazards to personnel**
- C. Fire within a controlled burn area**
- D. Fire that is extinguished quickly**

**7. What typically happens to relative humidity (RH) when foehn winds begin?**

- A. RH stays constant**
- B. RH increases significantly**
- C. RH drops**
- D. RH fluctuates widely**

**8. What is the purpose of a "control line" in firefighting?**

- A. To measure fuel load**
- B. To establish a safe distance for personnel**
- C. To prevent the spread of fire**
- D. To track fire movement**

**9. What defines dry fuels?**

- A. Fuels that are well hydrated**
- B. Fuels that contain high oils**
- C. Fuels that have low moisture content due to environmental factors**
- D. Fuels that are freshly fallen**

**10. How is "fire behavior" best defined?**

- A. The speed at which a fire spreads**
- B. The impact of weather on fire**
- C. The way a fire reacts to various factors**
- D. The overall intensity of a wildfire**

## **Answers**

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1. C
2. B
3. B
4. C
5. C
6. B
7. C
8. C
9. C
10. C

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## **Explanations**

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## 1. What kind of vegetation typically fuels wildfires?

- A. Mostly aquatic plants
- B. Invasive species only
- C. Dry, flammable vegetation such as grass, shrubs, and trees**
- D. Only evergreen trees

Wildfires are predominantly fueled by dry, flammable vegetation, which includes grasses, shrubs, and trees. This type of vegetation has characteristics that make it especially susceptible to ignition and rapid spread of fire. Grasses can dry out quickly and offer a continuous fuel bed, shrubs can provide both surface and aerial fuels, and trees, depending on their moisture content, can contribute significantly to fire intensity and spread, especially when they are unhealthy or have been stressed by drought or disease. This diversity of fuels in ecosystems allows fires to spread through different layers, from the ground cover of grasses to the higher canopy of trees. Understanding the composition of these fuels is crucial for predicting fire behavior and implementing effective fire management strategies. Other types of vegetation, such as aquatic plants or extensive areas covered only by invasive species or specific tree types, do not generally contribute to wildfires in the same way, as they lack the necessary conditions for combustion or are not prevalent in fire-prone areas.

## 2. How can "fuel arrangement" affect fire behavior?

- A. By determining the color of the flames
- B. By influencing the spatial distribution of fuel types**
- C. By changing the temperature of the surrounding atmosphere
- D. By affecting humidity levels

Fuel arrangement significantly influences fire behavior by determining how fuel is distributed across the landscape. This spatial distribution of fuel types is critical because it affects how easily fire can spread, the intensity of the fire, and how long the fire may burn. When fuels are arranged in such a way that they are tightly packed or in close proximity, the fire can easily transfer from one fuel source to another, leading to rapid fire spread and increased intensity. Conversely, if the fuels are more dispersed, it may hinder the fire's ability to propagate, thereby slowing its movement and reducing intensity. Understanding fuel arrangement helps fire managers predict fire behavior and develop effective strategies for fire suppression and safety planning.

### 3. What is a primary concern during extreme fire behavior conditions?

- A. Increase in humidity levels**
- B. Rapid spread of fire**
- C. Decrease in wind speeds**
- D. Reduction in available fuels**

During extreme fire behavior conditions, the rapid spread of fire is a primary concern due to the potential for fires to grow uncontrollably and pose a significant threat to life and property. Extreme fire conditions often occur when environmental factors such as high temperatures, low humidity, and strong winds coincide, creating a perfect environment for fires to become more intense and accelerate in their spread. When a fire spreads rapidly, it can overwhelm existing firefighting resources and complicate evacuation efforts, putting lives at risk. This aspect is particularly dangerous because it can lead to sudden flares of fire that may change direction abruptly, making it difficult for fire crews to anticipate the fire's behavior. Factors like an increase in humidity levels, decrease in wind speeds, and reduction in available fuels typically serve to mitigate fire behavior, making them less critical concerns in comparison to the danger posed by rapid fire spread during extreme conditions. Understanding these dynamics helps fire professionals make informed decisions about fire management and safety in challenging situations.

### 4. What is an indicator of a high fire danger rating?

- A. Wet soil content**
- B. High moisture in vegetation**
- C. Low humidity and high winds**
- D. Cool temperatures**

A high fire danger rating is indicated by low humidity and high winds. Low humidity means that the air is dry, which can increase the likelihood of ignition and the spread of fire, as moisture in the environment helps to keep vegetation and fuels less flammable. Additionally, high winds can exacerbate fire conditions by carrying embers away from the main fire and allowing it to spread more rapidly. This combination of dry air and strong winds creates an environment where fires can ignite easily and become uncontrollable. Other factors like wet soil content, high moisture in vegetation, and cool temperatures generally work against high fire danger ratings, as they provide moisture that can help prevent fire initiation and slow its spread. Therefore, understanding weather conditions, particularly humidity and wind speed, is crucial for assessing fire danger.

## 5. What is the significance of the surface area to volume ratio in fuels?

- A. It affects the moisture content of the fuel**
- B. It determines how quickly fuel can ignite**
- C. It indicates how long the fire will burn**
- D. It shows the stability of the fuel structure**

The significance of the surface area to volume ratio in fuels primarily relates to how easily and quickly the fuel can ignite and support combustion. A higher ratio means there is more surface area available for the fire to interact with the air, which is crucial for the ignition process. When fuels have a larger surface area relative to their volume, they can absorb heat more effectively, leading to quicker and more efficient combustion. This is critical for understanding fire behavior, as fuels that ignite more readily are likely to contribute to faster fire spread and intensity. While the duration of burning may be influenced by various factors such as the type of fuel, moisture content, and environmental conditions, the surface area to volume ratio plays a pivotal role in the initial stages of fire behavior rather than determining how long a fire will continue to burn. Therefore, the most relevant aspect of this ratio is its influence on ignition and the rate of fire spread.

## 6. What type of fire behavior is categorized as 'Problem Fire Behavior'?

- A. Fire that spreads slowly and is easily manageable**
- B. Fire activity posing potential hazards to personnel**
- C. Fire within a controlled burn area**
- D. Fire that is extinguished quickly**

'Problem Fire Behavior' refers to fire activity that poses significant risks and hazards to personnel, making it difficult to manage and control. This type of behavior often entails unpredictable flames, erratic fire spread, or intense heat that can compromise safety protocols and operational effectiveness. When crew members encounter a fire that is categorized as 'Problem Fire Behavior,' they must remain vigilant and may need to adapt their strategies to mitigate risks. Understanding and recognizing these behaviors are essential for making informed decisions when responding to wildfires, ensuring the safety of all personnel involved. The other options describe fire scenarios that are more manageable or contained, which do not align with the characteristics of 'Problem Fire Behavior.' For instance, fire that spreads slowly and is easily manageable does not pose immediate threats, and a fire within a controlled burn area is typically under supervision, posing minimal risk. Similarly, a fire that is extinguished quickly lacks the sustained hazardous conditions associated with 'Problem Fire Behavior.'

**7. What typically happens to relative humidity (RH) when foehn winds begin?**

- A. RH stays constant**
- B. RH increases significantly**
- C. RH drops**
- D. RH fluctuates widely**

When foehn winds begin, relative humidity typically drops. This phenomenon occurs due to the warming effect associated with these winds. As the air descends on the leeward side of a mountain range, it compresses and heats up, which reduces its relative humidity. The warmer air can hold more moisture, leading to a decrease in relative humidity levels. This drop in RH can exacerbate fire conditions, as lower humidity means drier air, which can enhance fire behavior and spread. Understanding this relationship between foehn winds and relative humidity is crucial for fire behavior analysis and risk assessment in wildland fire management.

**8. What is the purpose of a "control line" in firefighting?**

- A. To measure fuel load**
- B. To establish a safe distance for personnel**
- C. To prevent the spread of fire**
- D. To track fire movement**

A control line in firefighting serves the crucial function of preventing the spread of fire. It is typically a constructed barrier that is created to stop or limit the advance of a wildfire. Control lines can be made through various means, such as clearing vegetation, using natural features like rivers or roads, or creating fire breaks with dozers or hand tools. The goal of establishing a control line is to create a safe boundary that will help contain the fire within a designated area, allowing firefighting efforts to be more effective and focused. By effectively blocking the potential paths of fire spread, control lines provide a strategic advantage for fire suppression operations, ensuring that resources can concentrate on keeping the fire contained and minimizing damage to surrounding areas. This is a fundamental aspect of wildfire management, highlighting the importance of control lines in the overall effort to combat wildfires.

## 9. What defines dry fuels?

- A. Fuels that are well hydrated
- B. Fuels that contain high oils
- C. Fuels that have low moisture content due to environmental factors**
- D. Fuels that are freshly fallen

Dry fuels are characterized by having low moisture content due to environmental factors such as temperature, humidity, and wind. When fuels are dry, they ignite more easily and burn more rapidly, which can significantly influence the behavior of a fire. This low moisture content can result from extended periods without precipitation, high temperatures, and low humidity, contributing to an increased risk of wildfire. In contrast, well-hydrated fuels would possess a higher moisture content, making them less flammable and leading to slower burn rates. Fuels that contain high oils might indeed burn more intensely but are not necessarily low in moisture content. Freshly fallen fuels can be somewhat moist depending on the environmental conditions at the time of their fall, and they might not be classified as dry fuels. Understanding the condition of fuels in relation to their moisture content is vital for assessing fire risk and behavior.

## 10. How is "fire behavior" best defined?

- A. The speed at which a fire spreads
- B. The impact of weather on fire
- C. The way a fire reacts to various factors**
- D. The overall intensity of a wildfire

The definition of "fire behavior" encompasses how a fire interacts with various elements in its environment, including fuel types, weather conditions, topography, and more. This interaction affects not only the rate of spread, but also the intensity, direction, and overall dynamics of a fire. By focusing on the way a fire reacts to these factors, one can gain a deeper understanding of the complexities involved in fire behavior, which is crucial for effective fire management and safety. While the speed of spread, the impact of weather, and overall intensity are all important aspects of fire dynamics, they represent narrower views of the broader concept of fire behavior. Understanding fire behavior in its entirety allows for better predictive modeling and planning in wildland fire scenarios.

# Next Steps

**Congratulations on reaching the final section of this guide. You've taken a meaningful step toward passing your certification exam and advancing your career.**

**As you continue preparing, remember that consistent practice, review, and self-reflection are key to success. Make time to revisit difficult topics, simulate exam conditions, and track your progress along the way.**

**If you need help, have suggestions, or want to share feedback, we'd love to hear from you. Reach out to our team at [hello@examzify.com](mailto:hello@examzify.com).**

**Or visit your dedicated course page for more study tools and resources:**

**<https://wildlandfirebehaviorintro.examzify.com>**

**We wish you the very best on your exam journey. You've got this!**

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