

Forestry BMP Overview

Riparian Training



TEXAS A&M

FOREST SERVICE

Hughes Simpson
Program Coordinator

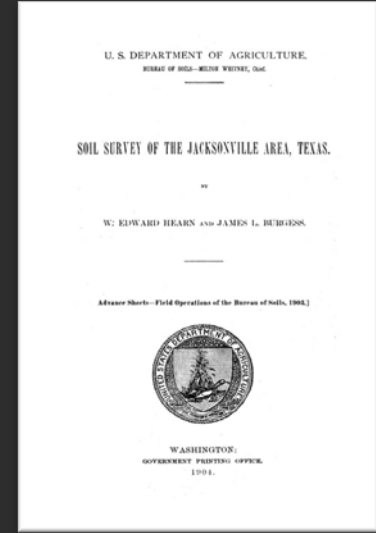
Planning and Layout



Aerial Photos



Topographic Maps



USGS Soil Surveys



Field Reconnaissance



Landowner Maps



Weather Reports

3 Types of Streams

➤ Perennial

➤ Intermittent

➤ Ephemeral

Common Indicators for Classifying Streams

- Stream flow

(What percentage of the year is the stream flowing?)

- Definition of the stream channel

- Shape of the stream channel

- Presence of water pools

- Vegetation in and around the stream

- Presence of aquatic insects or wildlife

- High water marks

- Soil and Debris movement

Other Things to Consider When Classifying Streams

- USGS Topographical Maps
- Historical Knowledge
- Time of Year/Current Weather Patterns

Perennial Streams

- Flow 90% of the time during a normal year
- May pool or dry up during drought years
- Have well-defined channels in a serpentine pattern
- Little to no vegetation growing in the channel
- May have visible aquatic insects and wildlife present



Intermittent Streams

- Flow 30-90% of the time during a normal year
- May pool or dry up during summer months
- Have well-defined channels *usually* in a serpentine pattern
- Some growing vegetation may be present in the stream channel



Ephemeral Streams

- Flow less than 30% of the time during a normal year usually immediately after rain events or shortly thereafter
- May or may not have well-defined channels
- Channel is primarily straight
- Growing vegetation may be present in the stream channel



Lets classify this stream!



Well defined
channel

Channel is
somewhat
serpentine

Lets take a
closer look at
the vegetation
in and around
the stream



In-stream Vegetation



Some In-stream
vegetation present

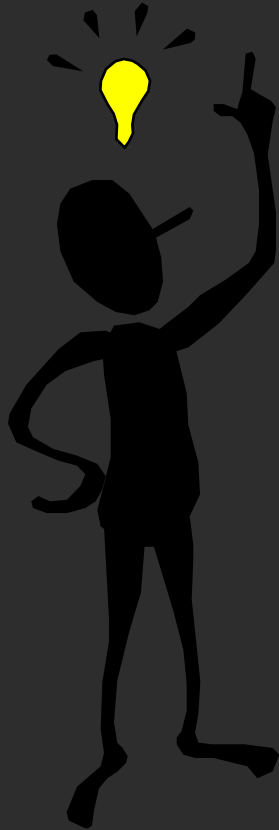
Streamside Vegetation



Does anyone know
what this is?

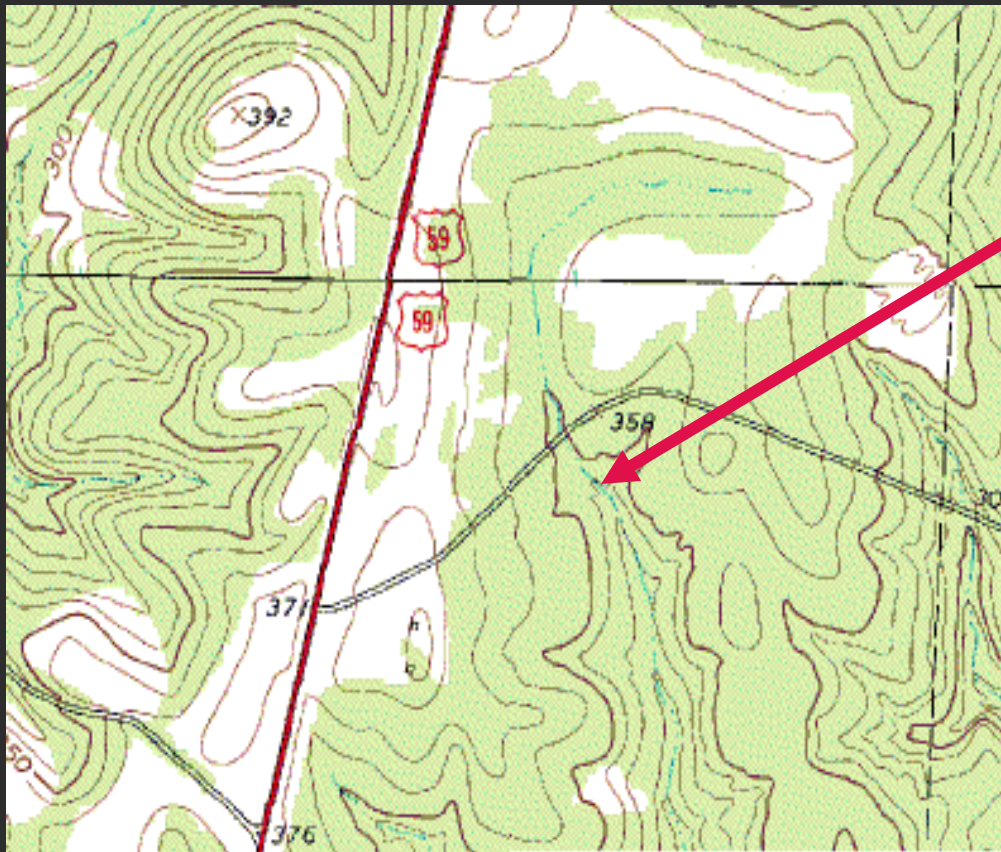
What about now?

Historical Information



I know from being at this site
several times throughout the year
that this site does dry up in late
summer for about 2 or 3 months

...And Other Useful Info



According to this
USGS topographical
map, this is an
intermittent stream

Ground View



Aerial View

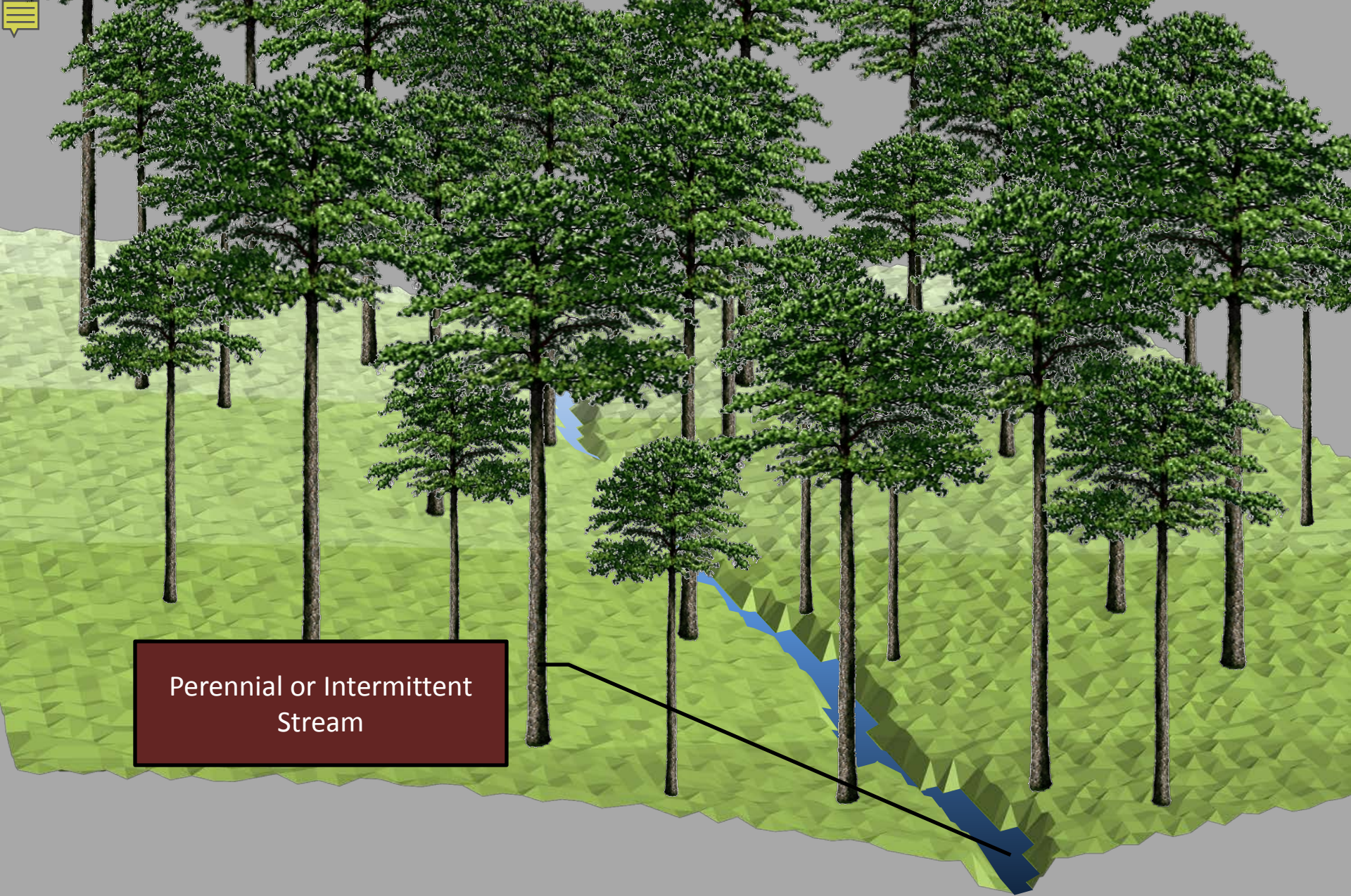


Streamside Management Zones

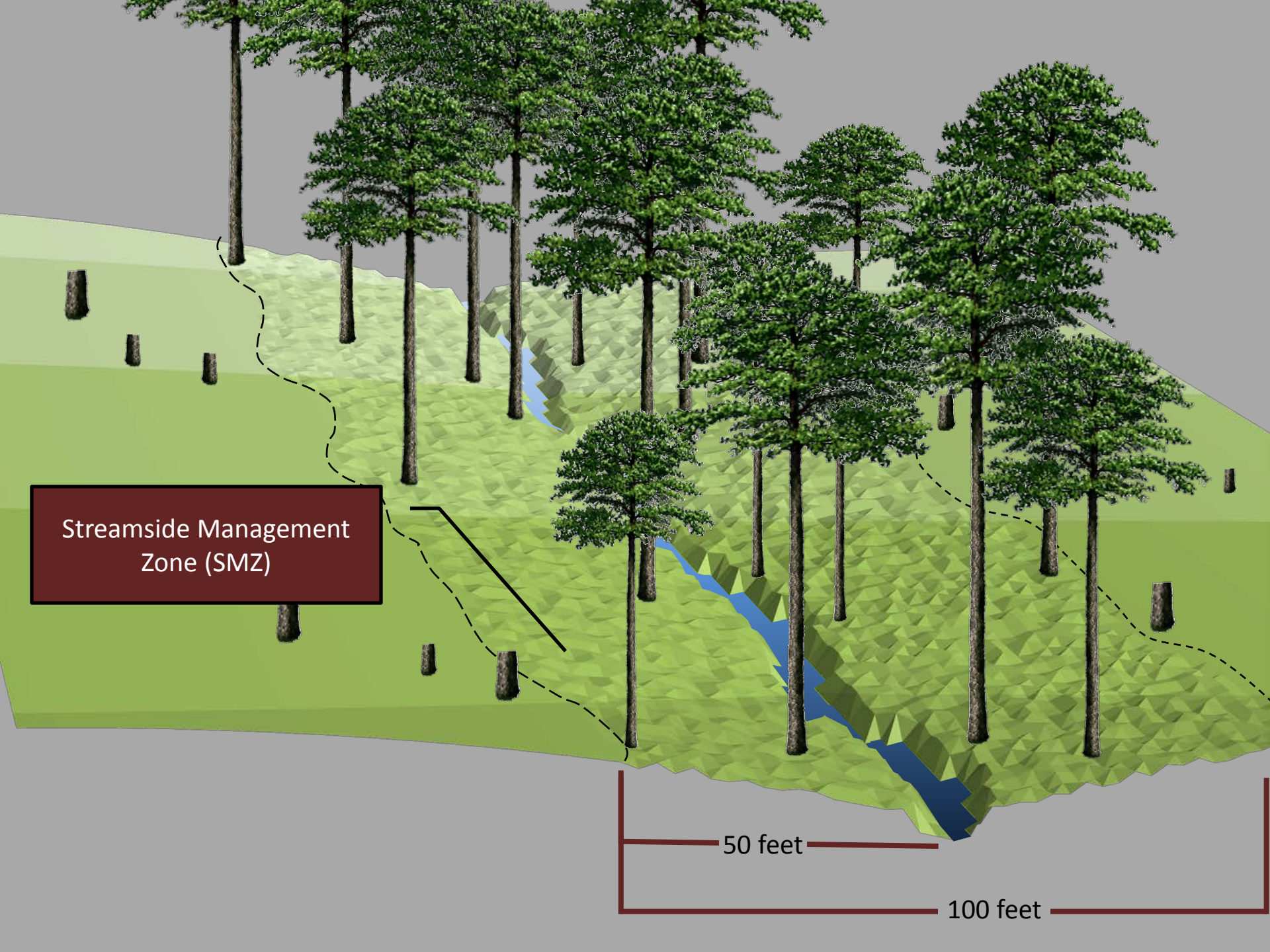
- Leave 50' wide strip along perennial and intermittent
- Minimize disturbance within these zones (50 ft² BA/acre)
- Minimize cutting bank trees. Avoid crossings if possible
- Don't push / fell debris into stream
- Use directional felling / Avoid felling across streams
- Keep roads, landings, and firebreaks outside SMZs

Don't Operate in Saturated Soils





Perennial or Intermittent
Stream



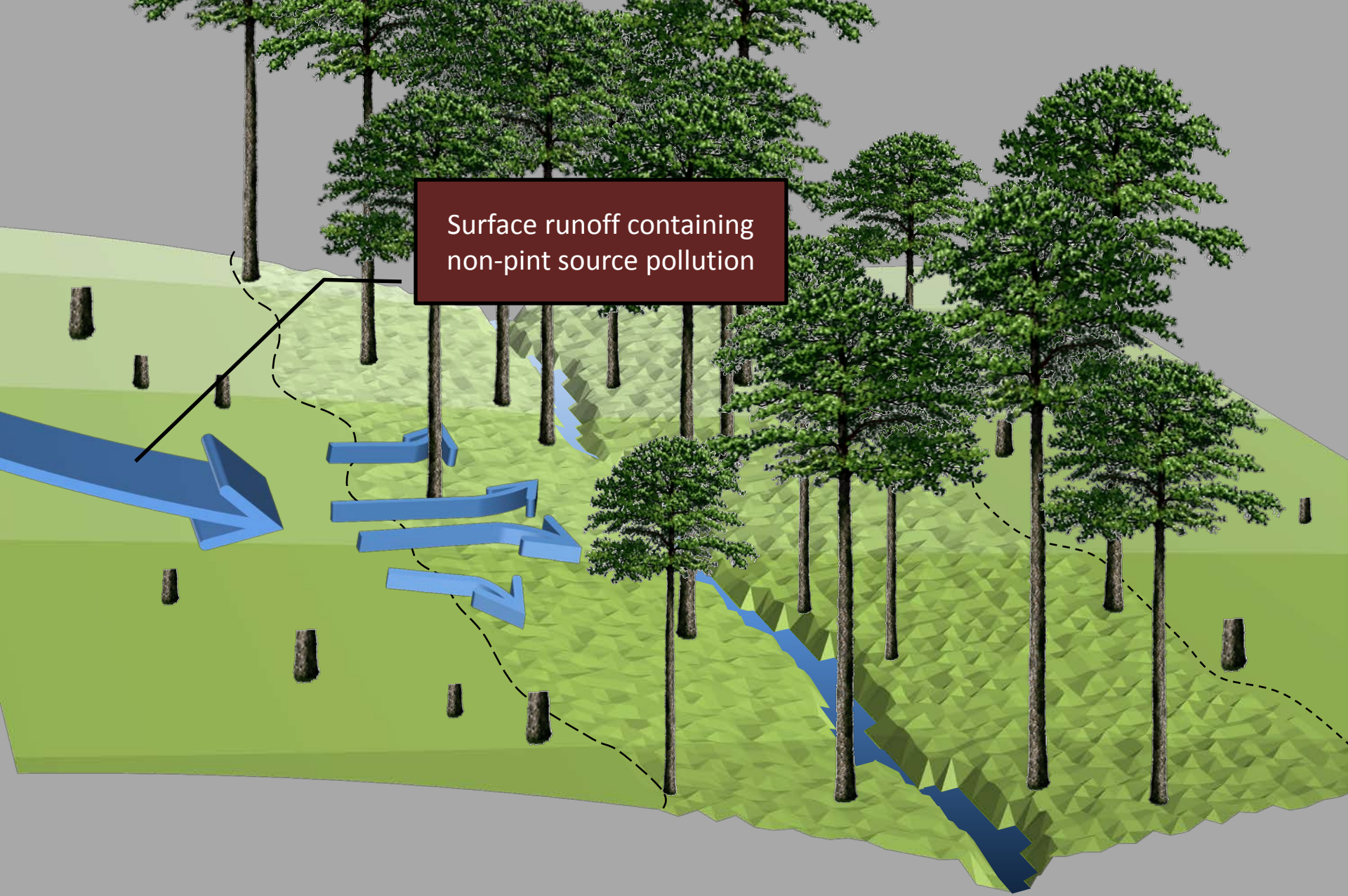
A 3D perspective diagram illustrating a Streamside Management Zone (SMZ). A blue stream flows through a green, low-poly landscape. Numerous tall, green coniferous trees are scattered throughout the scene. A dashed black line follows the course of the stream. A dark red rectangular box on the left contains the text "Streamside Management Zone (SMZ)". A solid black line points from this box to the dashed line. At the bottom, two horizontal red lines with vertical end caps indicate distances from the stream: "50 feet" and "100 feet".

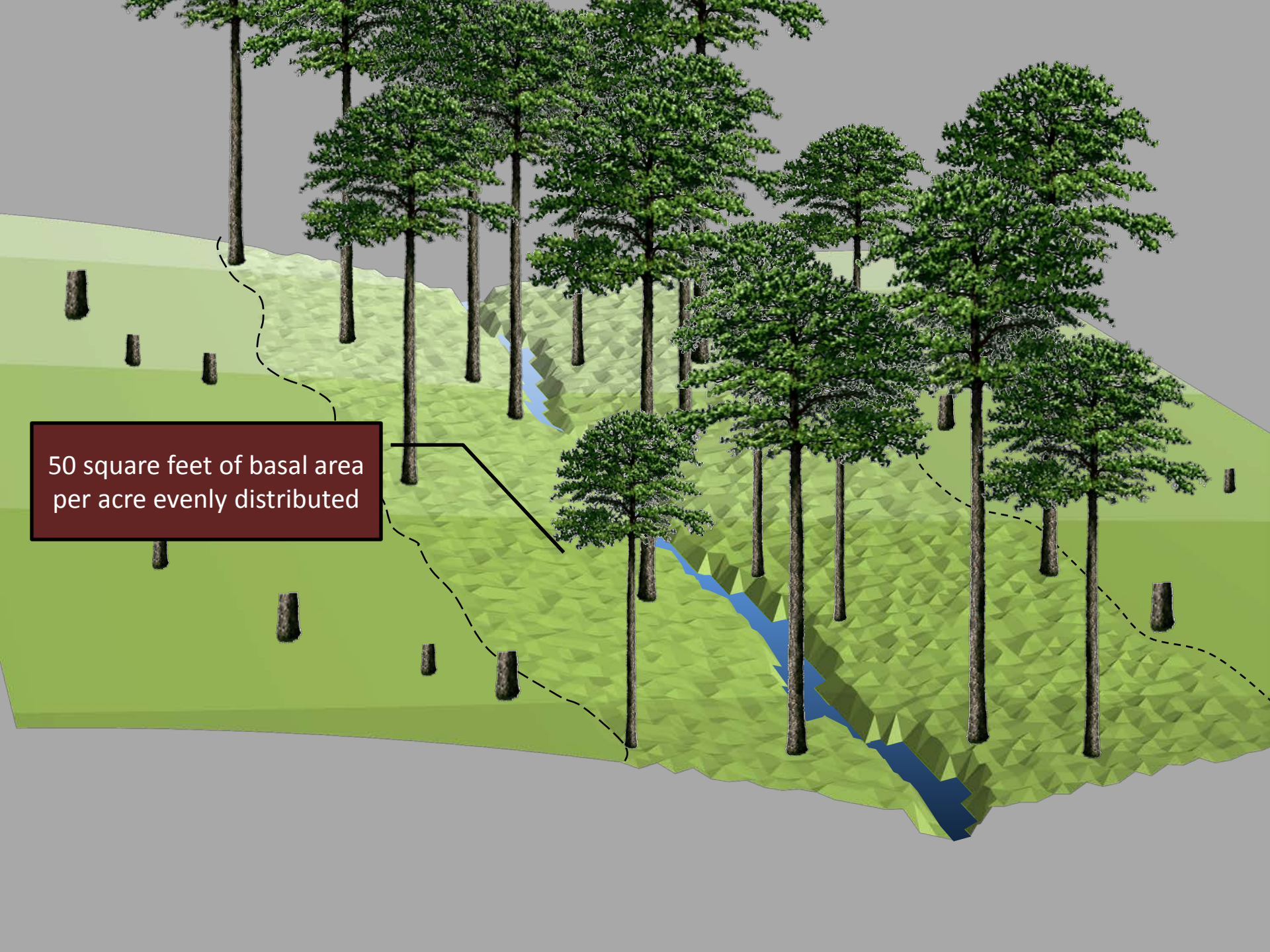
Streamside Management
Zone (SMZ)

50 feet

100 feet

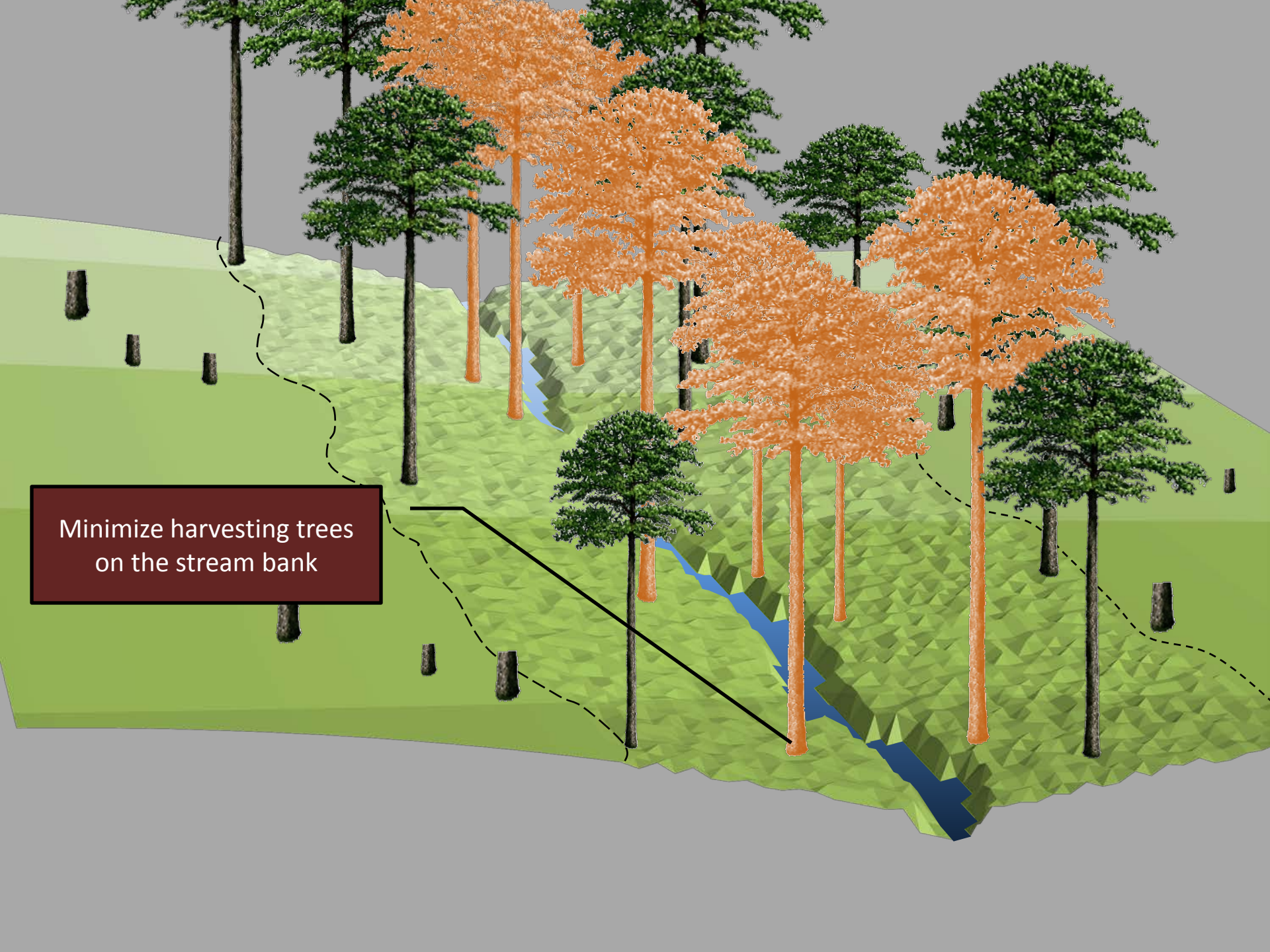
Surface runoff containing
non-point source pollution





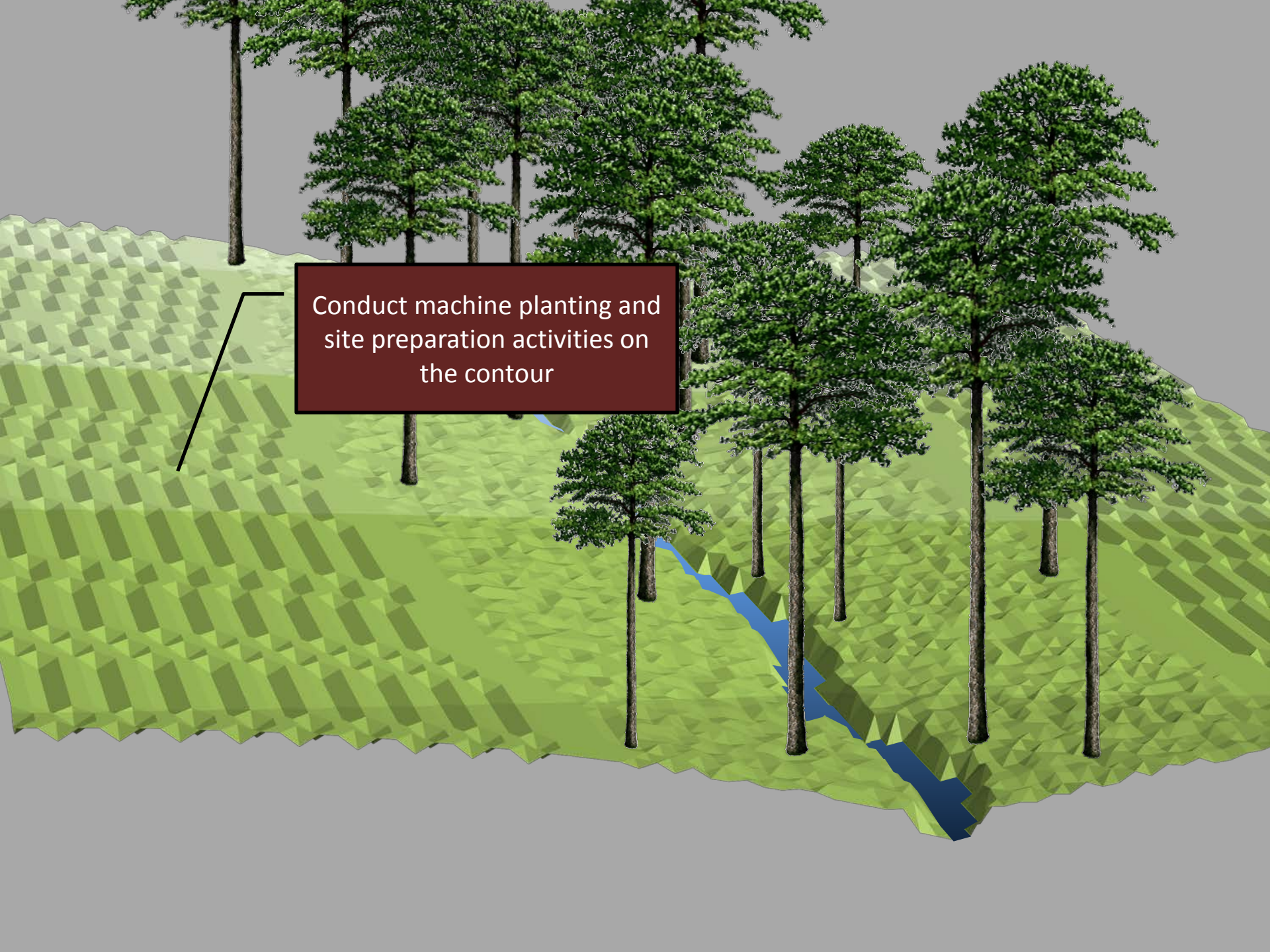
50 square feet of basal area
per acre evenly distributed

This 3D visualization depicts a forest landscape. The ground is represented by a green, low-poly mesh. A blue stream flows through the center of the scene. Numerous tall, green coniferous trees are scattered across the terrain. A dashed black line outlines a specific area on the left side of the image. A dark red rectangular box with white text is positioned on the left, with a black line pointing from the text to the dashed boundary. The background is a solid light gray.



A 3D perspective illustration of a forest landscape. The terrain is represented by a green, low-poly mesh. A blue stream flows through the center of the scene. Several trees are present: some are green and conical, while others are orange with a more rounded canopy. A dashed black line follows the contour of the stream bank. A dark red rectangular box with white text is positioned on the left side of the image. A solid black line points from the text box to a specific orange tree located on the stream bank.

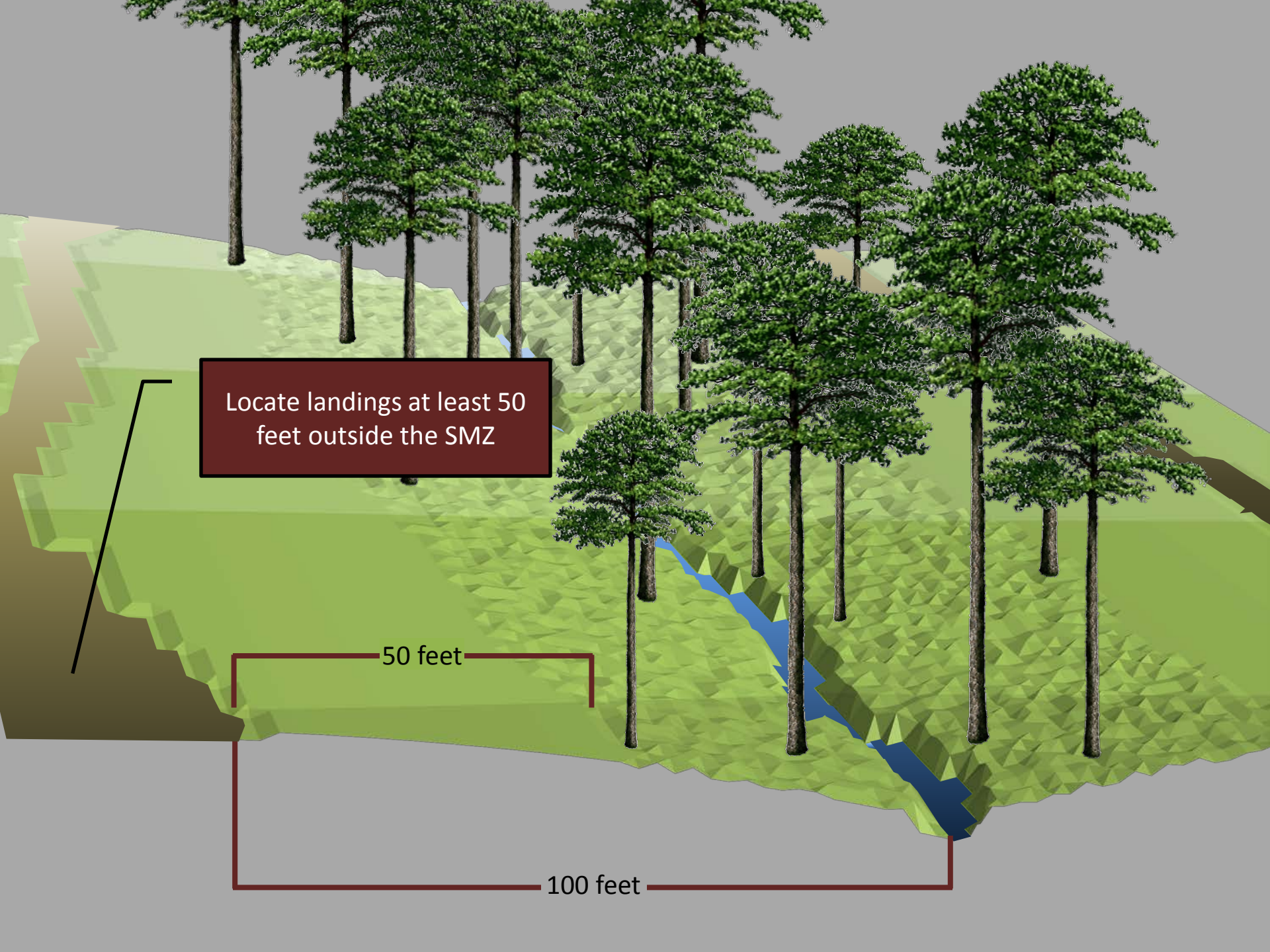
Minimize harvesting trees
on the stream bank



Conduct machine planting and
site preparation activities on
the contour



Locate roads outside of
the SMZ

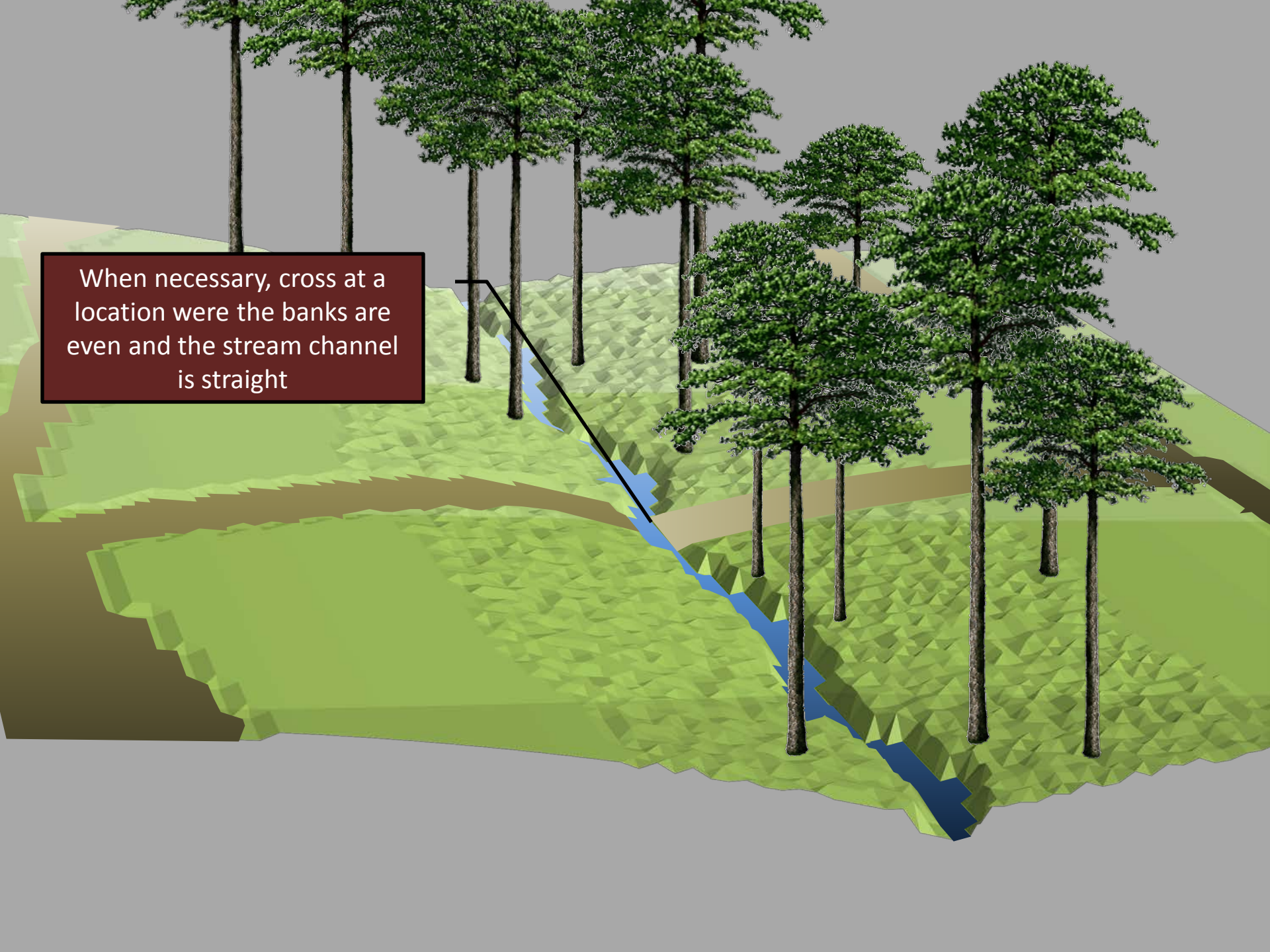


A 3D perspective diagram of a forest landscape. The terrain is represented by a green, low-poly mesh. A blue stream flows through the center of the landscape. Several tall, green pine trees are scattered across the terrain. A dark red rectangular box with white text is positioned on the left side of the landscape. Two dark red lines with horizontal segments indicate buffer distances: one labeled '50 feet' and another labeled '100 feet'. A black line points from the text box towards the stream area.

Locate landings at least 50 feet outside the SMZ

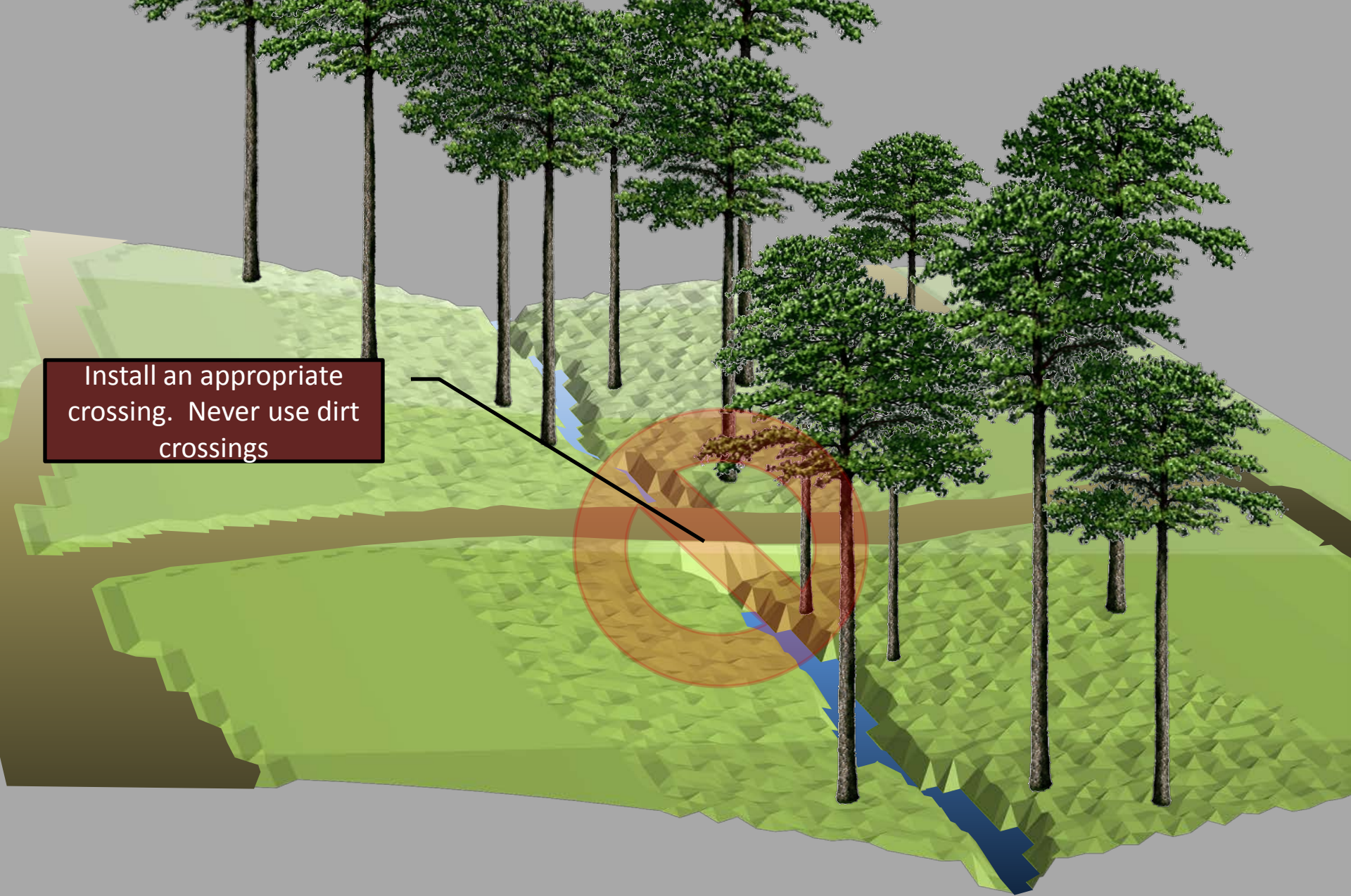
50 feet

100 feet

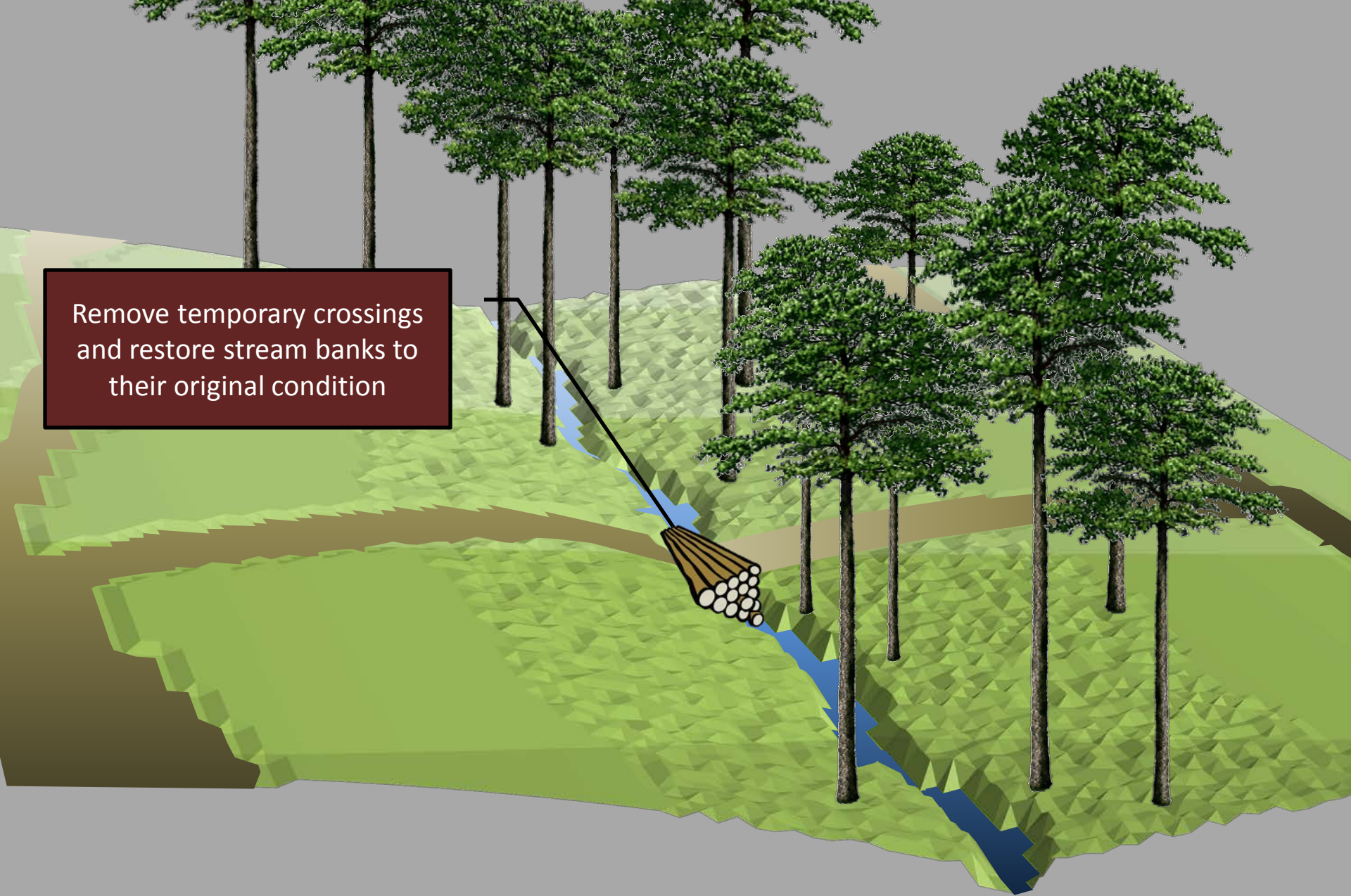
A 3D digital landscape featuring a winding stream that flows from the upper left towards the lower right. The terrain is rendered with a low-poly, green, triangular mesh. Several tall, slender evergreen trees with green foliage are scattered across the landscape, primarily along the stream's path. A dark red rectangular box with a black border is positioned on the left side of the image. Inside this box, white text provides a guideline for crossing the stream. A black line originates from the text box and points towards the stream, indicating the recommended crossing location.

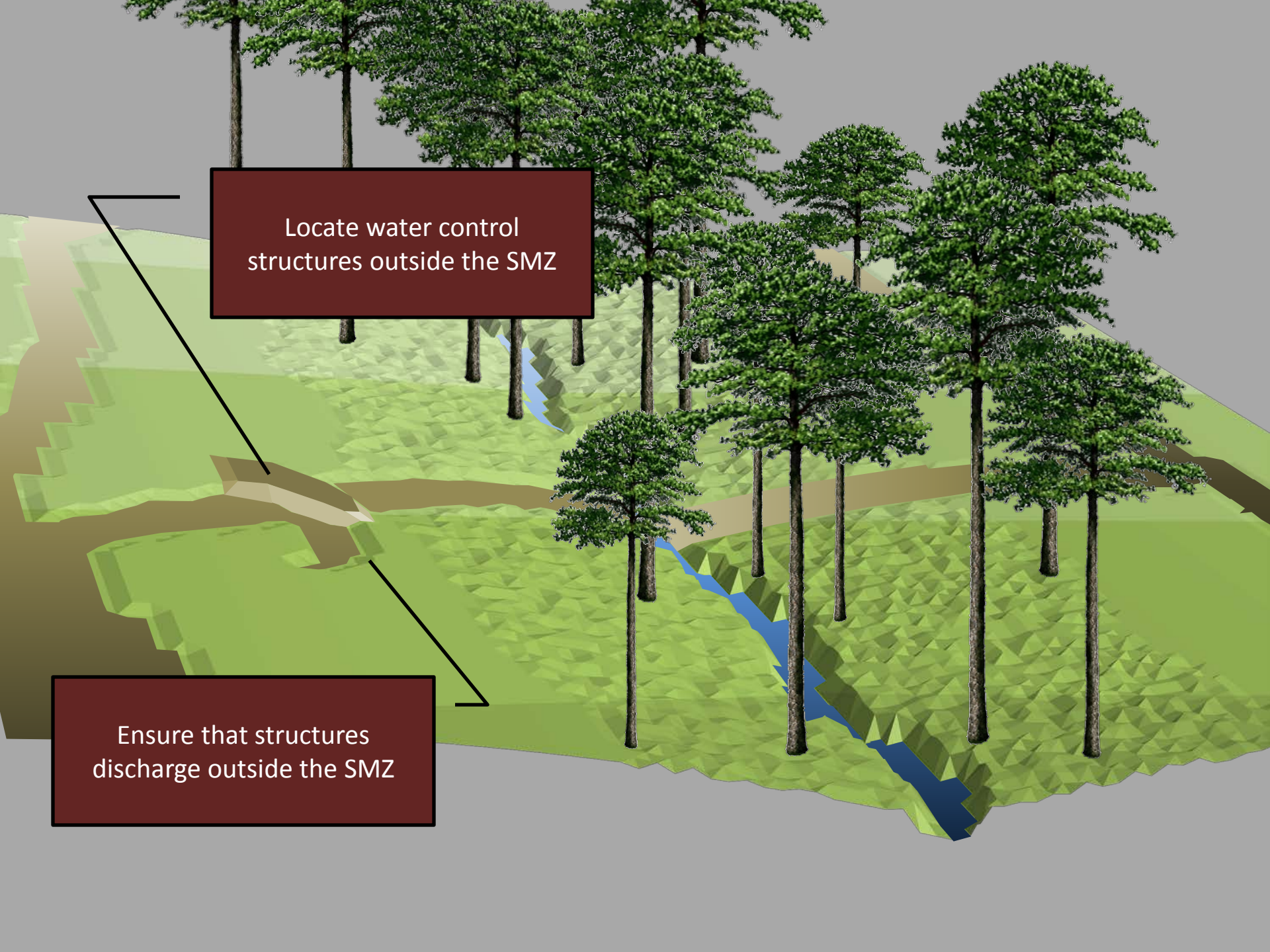
When necessary, cross at a location where the banks are even and the stream channel is straight

Install an appropriate crossing. Never use dirt crossings




Remove temporary crossings
and restore stream banks to
their original condition



A 3D perspective diagram of a landscape with a stream and trees. The terrain is represented by a green, low-poly mesh. A blue stream flows from the background towards the foreground. Several tall, green pine trees are scattered across the landscape. A brown, stepped structure, likely a water control structure, is located on the left side of the stream. Two dark red rectangular boxes with white text are overlaid on the image. The top box, with the text 'Locate water control structures outside the SMZ', has a black arrow pointing to the brown structure. The bottom box, with the text 'Ensure that structures discharge outside the SMZ', has a black arrow pointing to the stream downstream from the structure. The background is a plain grey.

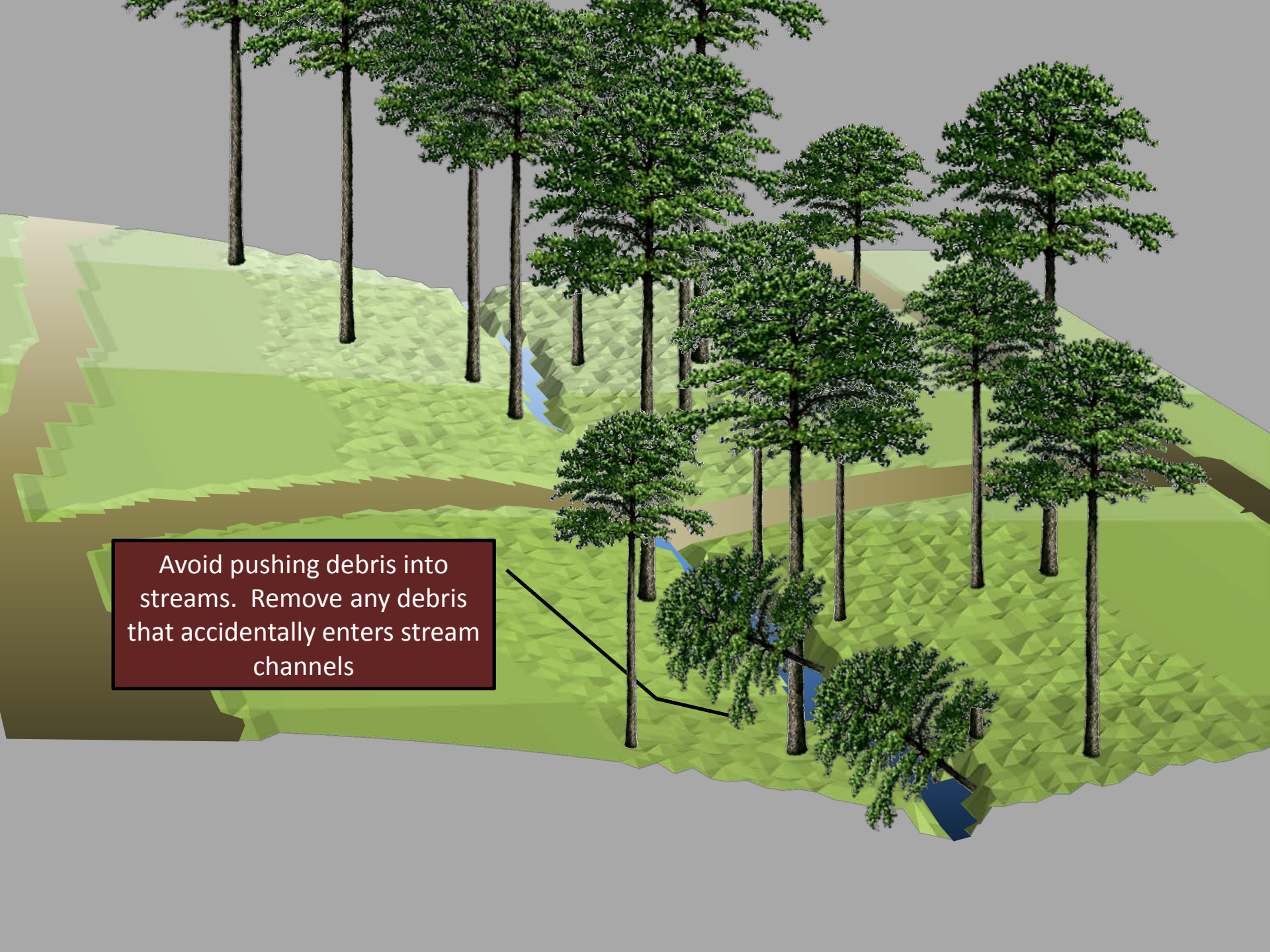
Locate water control
structures outside the SMZ

Ensure that structures
discharge outside the SMZ



A 3D perspective illustration of a forest landscape. The terrain is represented by a green, low-poly mesh. A blue stream channel flows through the center of the scene. Numerous green coniferous trees are scattered across the landscape. In the lower right, a large, dark brown log lies horizontally across the stream channel. A dark red rectangular box with a black border is positioned on the left side of the image. A black line originates from the right side of this box and points towards the stream channel.

Avoid felling trees across the
stream channel



Avoid pushing debris into streams. Remove any debris that accidentally enters stream channels

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