

## Alaska Division of Forestry & Fire Protection

### Private Landowner Cost-share Practices & Rates

| Practice                        | Goal                                                                                                                                                                                       | Specifications                                                                                                                                                                                                                                                                                                                                                        | Mitigation Rationale                                                                                                                                                                                                                                                                                                                                                                               | Resilience Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cost Share Rate                                                                                                                                                                                                                                                    |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Sanitation Harvests</b>      | Reduce wildfire hazard and promote the regeneration of degraded forest stands to maintain carbon sequestration and storage.                                                                | Physically remove dead and dying trees to reduce fuel loading following increasingly frequent and widespread spruce beetle caused forest mortality events.                                                                                                                                                                                                            | This will decrease the risk of compounding effects from overlapping forest disturbances, improve tree regeneration and maintain forest productivity leading to continued carbon sequestration and storage in boreal spruce forest types.                                                                                                                                                           | Reducing fuel loads following forest pest outbreaks decreases the risk of expanding biological stressors amplifying the effects of climate change driven increases to frequency, size, and severity of fires in Alaska's boreal forest.                                                                                                                                                                                                                                                                                                                                                                                                                                           | \$657.20/acre (variable density thinning) + \$185.47/acre (silvicultural slash treatment)                                                                                                                                                                          |
| <b>Thinning</b>                 | Create a more open forest structure that is less at risk of severe wildfire, promote fire-resistant hardwood species, reduce competition and improve health in residual trees.             | <b>Boreal Forest:</b> Use mechanical thinning to alter forest structure and reduce the density of flammable vegetation. Thin to 8x8 ft. spacing in interior black spruce stands and 10x10 ft. spacing in white spruce/hardwood stands.<br><b>Coastal Temperate Forest:</b> Thin young-growth stands (<35 years old) to 220 TPA (Trees Per Acre) or 14x14 ft. spacing. | <b>Boreal Forest:</b> Creating a more open forest structure decreases the region's vulnerability to expected increases to the size and severity of wildfires in Alaska's boreal forest while maintaining continued carbon sequestration and storage.<br><b>Coastal Temperate Forest:</b> Improved growth and health in residual trees allow for continued carbon sequestration and storage.        | <b>Boreal Forest:</b> Thinning reduces the density of flammable vegetation, improves the size and health of residual trees, and in targeted buffer areas promotes fire-resistant hardwood species that act as a shaded fuel break to prevent the spread of fire to more flammable conifer stands. <b>Coastal Temperate Forest:</b> Thinning creates uneven-aged systems that are more resilient to a wider range of disturbances. Silvicultural treatments that delay the stem exclusion phase in Southeastern Alaska Sitka spruce/western hemlock forests have a positive impact on understory growth that increases species diversity and improves wildlife forage and habitat. | <b>Boreal Forest:</b> \$959.59/acre (chainsaw thinning) + \$185.47/acre (silvicultural slash treatment); <b>Coastal Temperate Forest:</b> \$959.59/acre (chainsaw thinning) OR \$541.45/acre (heavy equipment thinning) + \$185.47 (silvicultural slash treatment) |
| <b>Pruning</b>                  | Create a more open forest structure, increase the weather thresholds needed to initiate active crown fire behavior, improve residual tree health, and improve understory plant production. | <b>Boreal Forest:</b> Implement pruning in boreal spruce forest types to remove the lower branches of trees and eliminate ladder fuels from below to a height of 6ft.<br><b>Coastal Temperate Forest:</b> Implement pruning in conjunction with thinning in coastal temperate forests remove branches up to a height of 6ft.                                          | <b>Boreal Forest:</b> Removing ladder fuels in flammable stands reduces the vulnerability to climate change driven increases to frequency, size, and severity of fires in Alaska's boreal forest while maintaining continued carbon sequestration and storage. <b>Coastal Temperate Forest:</b> Improved growth and health in residual trees allow for continued carbon sequestration and storage. | <b>Boreal Forest:</b> Removing the lower branches of trees in flammable stands (e.g., boreal black/white spruce forest types) creates a barrier between surface fires and tree crowns, decreasing the likelihood of severe fire effects below certain weather thresholds. <b>Coastal Temperate Forest:</b> Pruning improves understory vegetation production and diversity in monocultural young-growth forest stands when implemented in conjunction with thinning.                                                                                                                                                                                                              | <b>Boreal Forest:</b> \$737.62/acre (or \$854.71 if not done with thinning or sanitation harvest); <b>Coastal Temperate Forest:</b> \$222.65/acre                                                                                                                  |
| <b>Scarification</b>            | Promote the regeneration of fire-resistant native hardwood species.                                                                                                                        | Implement scarification in targeted sites following timber harvesting or thinning operations to promote native hardwood regeneration.                                                                                                                                                                                                                                 | Encouraging fire resistant native hardwood regeneration reduces vulnerability to expected increases to the size and severity of wildfires in Alaska's boreal forest while maintaining continued carbon sequestration and storage.                                                                                                                                                                  | Creating suitable conditions for the natural regeneration of fire-resistant boreal hardwood species can maintain forest productivity, prevent soil loss, improve water quality, reduce the risk of colonization by invasive species, and provide buffer areas to prevent fire spread across flammable conifer stands.                                                                                                                                                                                                                                                                                                                                                             | \$259.13/acre (mechanical site prep)                                                                                                                                                                                                                               |
| <b>Invasive Species Removal</b> | Prevent the establishment of invasive plant species and remove existing invasive infestations.                                                                                             | Implement mechanical and chemical treatments for invasive species removal focused on <i>Prunus padus</i> & <i>Prunus virginiana</i> on private lands.                                                                                                                                                                                                                 | Climate change is increasing the available habitat for <i>Prunus padus</i> & <i>Prunus virginiana</i> , leading to new monoculture infestations that outcompete native species and degrade ecosystem functions leading to a reduction carbon storage and sequestration.                                                                                                                            | Eradicating invasive species infestations can restore native forest ecosystem structure and function, promoting increased species diversity and improving resilience to future climate conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | See practice worksheets for up to date rates.                                                                                                                                                                                                                      |