FIREWISE *Alaska*

Alaska Wildland Fire Coordinating Group

TABLE OF CONTENTS

Wildland Fires:
Part of Alaska Living 2

Element 1:
Firewise Homes 6

Element 2:
Firewise Landscaping 10

Element 3:
Emergency Water Supply 14

Element 4:
Access and Signs 16

Element 5:
Home Fire Safety 18

Element 6:
When Wildfire Threatens 20

Appendix
Firewise Resources 24
Firewise Pruning 26
Firewise Plants 28
Firewise Communities 30

Acknowledgments

Firewise Alaska is a reference guide developed by the Alaska Wildland Fire Coordinating Group. The 2009 revision was coordinated by Sue Rodman, M.S., of the Anchorage Fire Department. Special thanks to the AWFCG Wildland Fire Prevention & Education Committee for their review and edits. In memoriam, Robert Wheeler, Ph.D., of the University of Alaska Fairbanks Cooperative Extension Service initiated this revision along with providing valuable edits and suggestions.

Graphic Designers: Carolina Pacheco Vargas and John Ray
Printed by A.T. Publishing and Printing, Anchorage, Alaska 2009.
As is already printed at the cost of $1.50 per copy.

wildland fires happen, be ready.

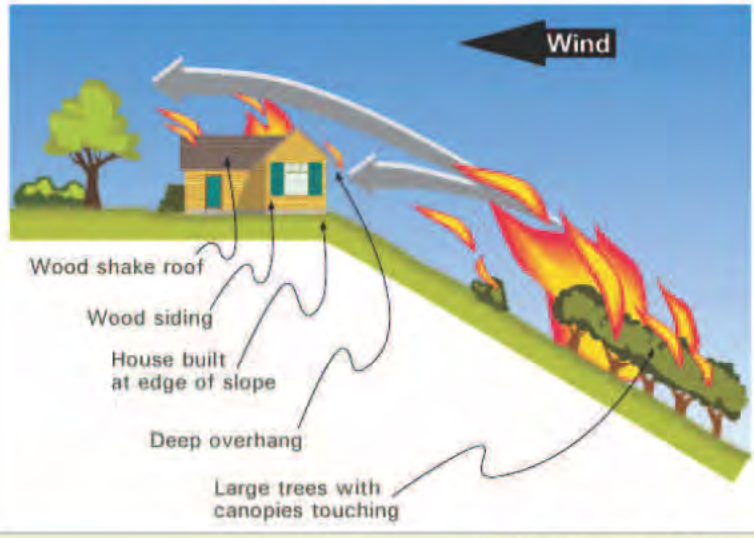
Living in the wildlands is a reality for Alaska residents. Bush, urban and suburban (road system) communities all coexist with the wildlife, the expansive landscapes and the exposure to all kinds of weather from hot summers to cold winters. It is our choice to live here with all the risks and consequences involved. People can live compatibly with wildland fire if they are aware of and prepared for local fire conditions. The more populated and closer a community is to fire prone areas, the greater the need for a proactive approach and a community's involvement in fire risk reduction activities.

Fire plays an essential role in Alaska's wildlands. Fire plays an equally important social role in communities and rural lifestyles throughout the state, and helps to shape the wild and expansive habitats that Alaskans call home.

Homeowners can take effective measures to protect their homes and property. Adopting Firewise principles can reduce your risk of damage or loss to your property and community. This Firewise Alaska guide provides specific ways for you to protect your Alaska home from burning and how to create your family's safety plan.

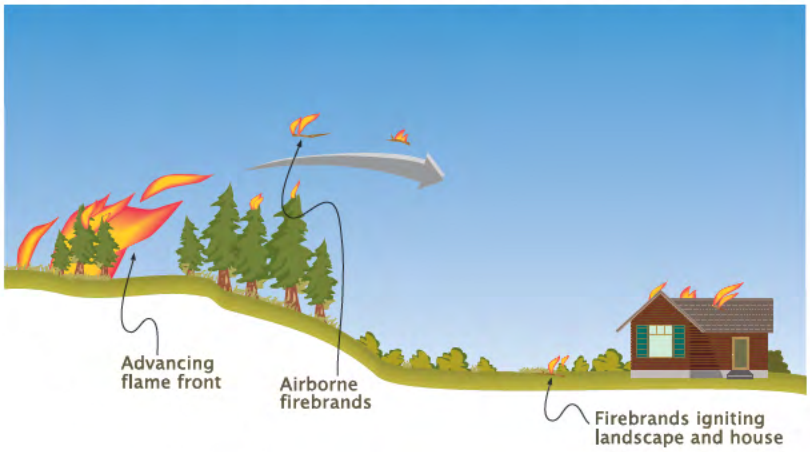
It is vitally important for the homeowner to take effective measures that will help their property survive a wildland fire. When wildland fire strikes, firefighters must prioritize their efforts and may not reach every home. A Firewise home is more likely to survive a fire.

DANGEROUS MATERIALS AND CONDITIONS FOR SLOPED SITES



Utah State University Forestry Extension
Firewise Landscaping for Utah
http://extension.usu.edu/forestry

FIRES ADVANCE BY DIRECT FLAME CONTACT AND BY AIRBORNE FIREBRANDS



Utah State University Forestry Extension
Firewise Landscaping for Utah
http://extension.usu.edu/forestry

Fires advance by direct flame contact and by burning embers. Homes ignite in the same way:

1) direct flame contact with combustible materials on or adjacent to the home, and
2) burning embers landing on or near the home.

Your Firewise home has a good chance of surviving a wildland fire without firefighter assistance. It's important to remember that burning embers collecting on or near your home before and after the main fire passes can still lead to home loss if no one is there to put out these fires.

The Caribou Hills Fire of 2007 burned quickly through grass on the Kenai Peninsula.

Firewise Self Assessment Checklist

Within 15 feet of structure
Remove all conifers and dry or dead vegetation
Edge the building with small plants, flowers or gravel

From 15-30 feet of structure
- ❑ Thin or clump conifer trees to ~15 feet between extending branches
- ❑ Prune limbs of mature conifers to 6-8 feet
- ❑ Remove shrubs beneath trees
- ❑ Remove all dry or dead vegetation

From 30 - 100 feet of structure
(increase distance if slope is >30%)
- ❑ Thin conifers to 10 -15 feet between extending branches
- ❑ Thin black spruce in clusters <10 feet in diameter with 15 feet between clusters
- ❑ Prune limbs of remaining conifers to 6-8 feet
- ❑ Remove shrubs beneath trees
- ❑ Remove all dry or dead vegetation

General Landscaping
- ❑ Maintain lawn at 3" or less and keep well watered
- ❑ Keep trees healthy with frequent watering
- ❑ Dispose of flammable debris from your property
- ❑ Keep areas under stairs and decks free of debris; Enclose with non-combustible screens
- ❑ Clean the roof and gutters of needles, leaves, and branches
- ❑ Provide a 15 foot clearance between your chimney and nearest tree branches
- ❑ Prune trees in fall for best health - spruce bark beetle reference guide at www.fs.fed.us/r10/spf/fhp

Building Materials
- ❑ Cap chimney with spark arrester
- ❑ Roof should be fire resistant; If not, keep clear of leaves, mosses and lichens
- ❑ Screen all exterior vents, such as attic openings

Access and Signs
- ❑ Address marked with reflective numbers at least 4" high on house and driveway
- ❑ Clear vegetation alongside driveway and road edge
- ❑ Driveway should be 12 feet wide with a turnaround for emergency vehicle access

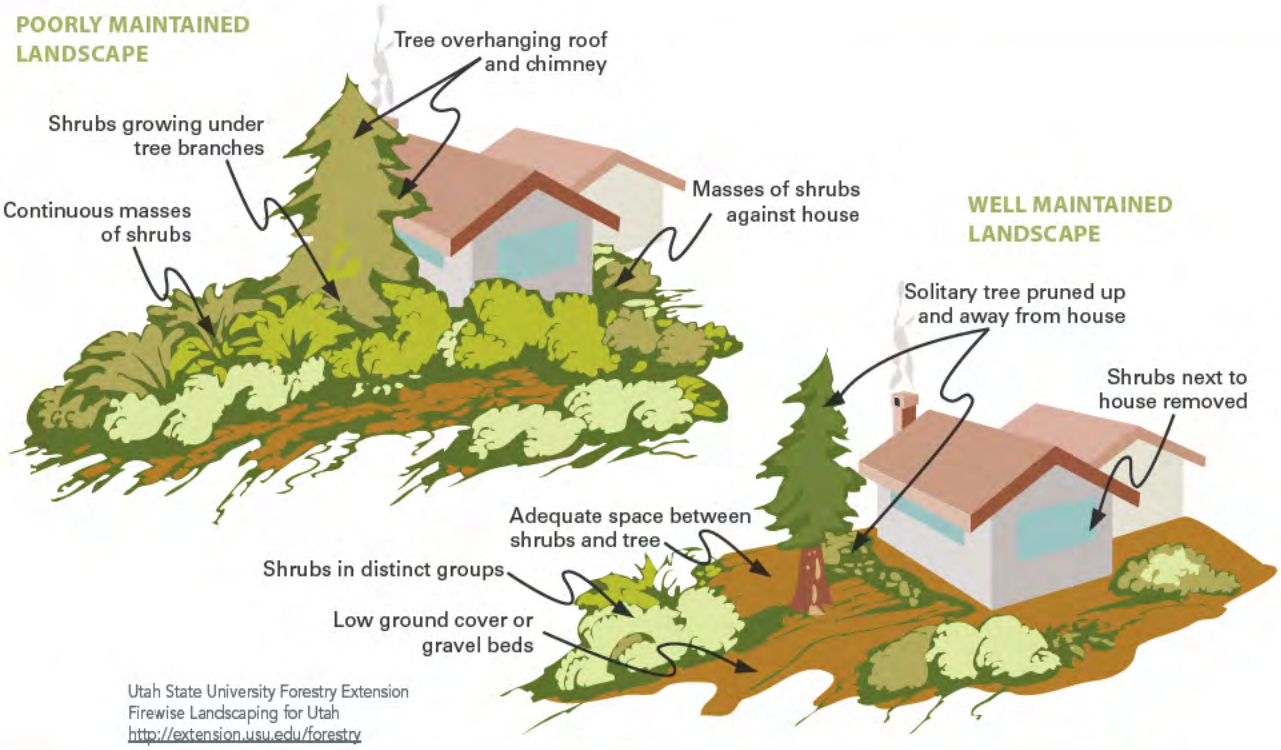
General
- ❑ Keep garden hoses and fire tools (shovels, rakes, or pulaskis) readily available
- ❑ If you have a well, consider installing a pump and generator
- ❑ Keep storage areas clean; Do not accumulate combustibles such as oily rags and newspapers
- ❑ Check spark arresters on all motorized equipment; Store 30 feet away from structures or inside garage

Hazardous Material
- ❑ Use non-combustible cribbing for fuel tanks with a 10 foot area cleared around the tank
- ❑ Stack firewood at least 30 feet from house and clear 10 feet around pile
- ❑ Do not stack firewood under trees or on downhill side of property

Fire Plan Inside
- ❑ Locate nearest fire station and post emergency numbers by several home telephones
- ❑ Test smoke and CO alarms monthly and change batteries twice a year; Keep fire extinguisher current
- ❑ Clean chimney and stovepipe regularly
- ❑ Identify emergency action plan for entire family & pets
- ❑ Identify Safety Zone where family meets in an emergency
- ❑ Prepare emergency supplies for transport (food, water, valuables and important documents)

How Fast Can Your House Run?

Oregon State University Extension Service
3893 SW Airport Way Redmond, OR 97756
http://extension.oregonstate.edu/deschutes/index.php



Objective: Your home and other structures can survive a wildland fire without firefighter assistance.

Things can be safely stored under the decks only if kept clear of debris. A 3 foot gravel perimeter is recommended around the house.

A non-combustible roof protects your home from burning embers.

- Install a sprinkler system on the roof ridge during spring and summer if roof replacement to non-combustible material is not feasible.
- Keep your roof and gutters clean. Remove needles, leaves, lichens and branches.
- Prepare vent covers from plywood or other solid material to install when a wildfire approaches.
- Install gutter guards or covers.
- Ensure that chimney spark arrestor is securely attached and is made of wire mesh screen (≤ 5/8 inch).
- Cover attic and ridge vents with wire mesh screen (1/8 inch).

House siding responds to fire; it may burn from direct flame contact.

- Inspect foundation and flashing.
- Remove organic debris that collects in cracks.
- Caulk or cover gaps to reduce access for burning embers.

Windows will crack if wildfire is close.

- Screen all windows that open to prevent entry of burning embers.

Decks and stairs trap embers.

- Remove debris and combustible items from the deck surface and underneath decks and stairs.
- Maintain a non-combustible surface beneath the deck (ie. mineral soil or gravel).
- Enclose gaps and areas underneath your home and deck with fire-resistant materials, such as metal screening (mesh 1/8 inch).
- Store firewood and tires at least 30 feet from the home.

A fire resistant perimeter around the home protects siding and decking from fire.

- Maintain a 3-foot gravel or other non-combustible perimeter around the home.
- Remove dense woody shrubs and needle-bearing trees.
- Use small flowers and shrubs to decorate (less than 18 inches tall). Keep well watered.

Embers collect in open garages and car ports.

- Seal gaps on garage doors with weather stripping.
- Enclose all vents with metal screening (mesh 1/8 inch).
- Remove combustible fluids and debris from open carports.

A non-combustible perimeter helps keep the fire from igniting your home or cabin.

Rock gardens and small perennials are an attractive Firewise solution. Remove needle bearing trees within 15 feet of the home.

Easy action items: Rake under decking and exterior stairs. Sweep leaves and needles off deck.

In one hour: Trim and water plants around the house.

Weekend project: Move the firewood off the deck, store >30 feet from the house.

Wooden fencing leads fire to the home.

- Do not attach wood fences directly to the house. Replace attachment point with a metal gate or metal fence section.
- Maintain at least a 1 inch gap between the bottom of the fence and ground. Keep clear of debris, vegetation and firewood.

Sheds and outbuildings need the same Firewise treatment as the home.

- Maintain a non-combustible perimeter.
- Thin vegetation and prune trees near buildings.
- Keep dog houses free of straw during fire season.

Ladder Safety

- Ladders should be properly secured on level ground before you climb.
- Use the 4-to-1 rule for extension ladders: for each 4 feet of distance between the ground and the upper point of contact (such as the wall or roof), move the base of the ladder out 1 foot. (http://www.homesafetycouncil.org)

This cedar shake roof can be cleaned to remove lichens and moss that have accumulated.

Additionally, a soaker hose can be installed on the roof's peak during the summer months to keep the roof moist during high fire danger or a fire event.

Storing firewood on or under your deck can lead to a home ignition.

Store firewood at least 30 feet away from your home.

Ready for a Retrofit?

Additional Firewise measures to take if you have the option to modify your home.

Roofing

- Install non-combustible roofing such as metal, asphalt shingles or fiber cement shakes.
- Enclose open roof eaves with heavy wood or cement soffit coverings.
- Locate soffit vents away from exterior walls and cover with nonflammable screen (mesh 1/8 inch).

Siding

- Use concrete, fiber cement, or metal siding.
- Use thick lumber, logs or heavy timbers if non-combustible siding is not feasible.
- Avoid vinyl siding, it may melt from the heat.

Windows

- Use triple or double pane windows.
- Use tempered safety glass for sliding glass doors and large picture windows.
- Use skylights with tempered glass.

Fencing

- Use lumber with fire retardant treatment or thicker dimension lumber >1 ½ inch. Consider using chain link fence.

Make the most of your efforts by starting at the house.

Thin and prune trees, one section at a time.

Separate islands of vegetation.

Objective:

A lean, clean and green landscape will slow fire's spread.

Prioritize Firewise landscaping within the first 30 feet from your home.

- Maintain lawn at 3 inches and keep well watered.
- Separate vegetation with grass, rock gardens and gravel walkways.
- Cut or prune needle-bearing trees (spruce, hemlock, pine, etc.) adjacent to the home to maintain 15 feet of clearance between tree branches and the roof line.
- Thin needle-bearing trees to 15 feet between extending branches.
- Prune tree branches up 6-8 feet from the ground.
- Remove shrubs and mow grass under trees.
- Remove dead vegetation.
- Use Firewise plants, prune often and keep well watered.
- Separate groups of shrubs by 10 feet.
- Remove all wood and bark mulch from this area.
- Water trees frequently. Watering at the drip line is most effective: the outer circumference of the tree branches.
- Store firewood and tires ≥30 feet from the home, and at least 10 feet from a wood fence.

Beyond 30 feet from your home, a healthy forest comprised of both birch and spruce can be maintained through regular pruning of branches, trimming shrubs and mowing grass beneath trees.

Prune trees in fall months.

- Prune spruce trees in fall to limit bark beetle activity.
- All pruning should be done in late fall or cold months to maintain good tree health.
- No pruning in the spring when trees are budding.

Easy action items:
Prune a tree
Water plants

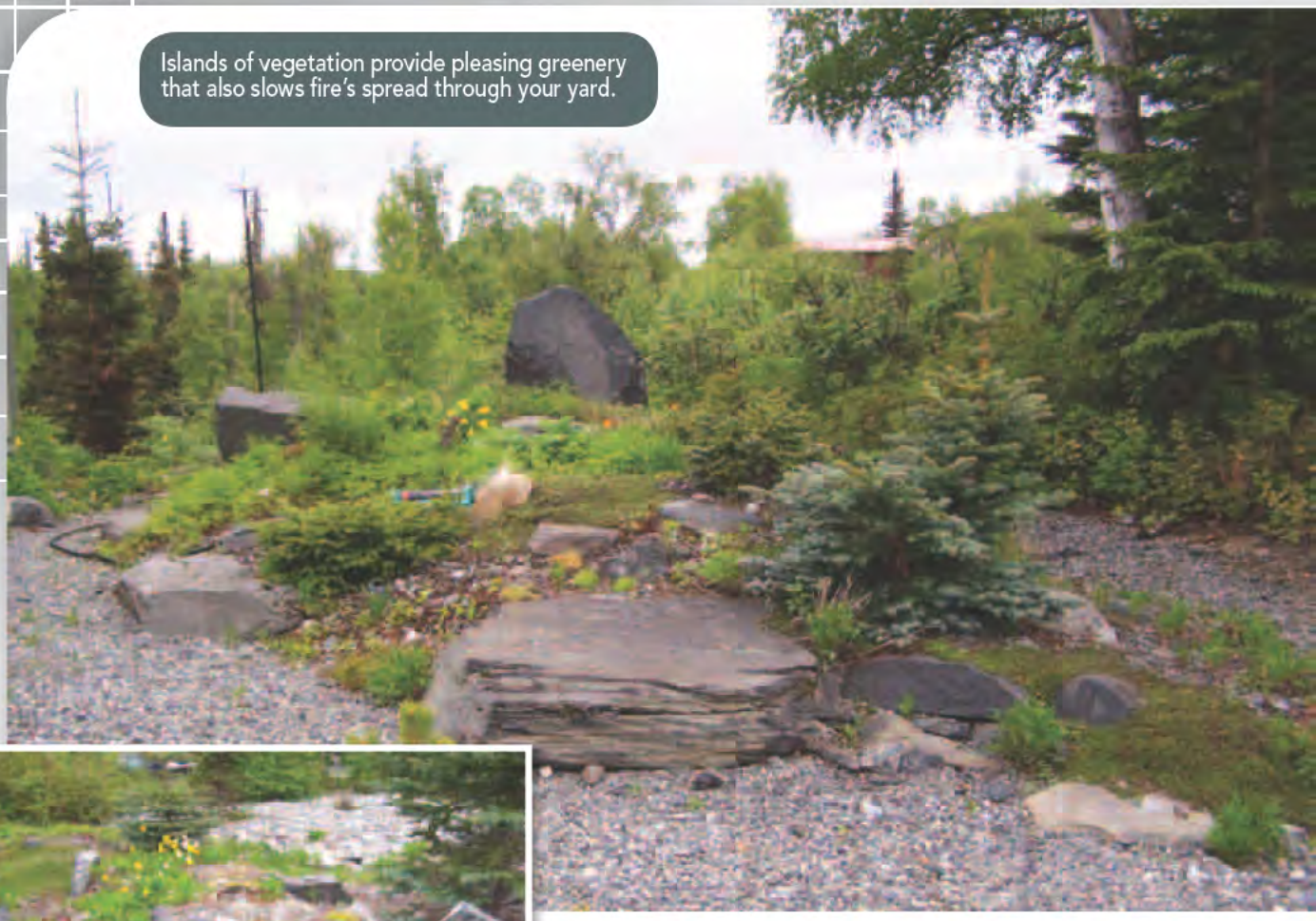
In one hour:
Rake around the wood pile
Rake under trees
Rake under the deck and exterior stairs

Weekend project:
Pile tree limbs and brush >30 feet from the house for fall burning or composting.

Treat vegetation between 30 to 100 feet from your home (increase the distance if slope exceeds 30%).

- Thin needle-bearing trees to 15 feet between extending branches.
- Thin black spruce in clusters (<10 feet in diameter) with 15 feet between clusters.
- Prune tree branches up 6-8 feet from the ground.
- Remove shrubs and mow grass under trees.
- Remove dead vegetation.

Defensible space is an area that will help protect your home and provide a safety zone for those who are battling the flames.



Islands of vegetation provide pleasing greenery that also slows fire's spread through your yard.

WOOD STORAGE TIPS

Store wood piles at least 30 feet from any structure and clear 10 feet around pile.

Many homes have survived as a fire moved past, only to burn later from a woodpile that ignited after the firefighters moved on to protect other homes.

Do not stack firewood under trees or on downhill side of home.

General Landscaping

- In heavily wooded areas on your property, thin and prune trees to decrease the fire hazard and improve growing conditions. Remove dead, weak, or diseased trees, leaving a healthy mixture of older and younger trees.
- Reduce fire risk by emphasizing hardwood trees, either mixed with conifers or as pure stands near your home.
- Gravel or stone walkways serve as fire breaks around your home.
- Work together with your neighbors to treat common areas between houses: thin and prune trees, mow grass.
- Trim shrubs and mow grass in easements surrounding electrical power lines.
- Avoid planting trees near overhead power lines where they may grow into and contact the lines under windy conditions, causing a fire. Contact your local utility with questions.
- Consult a tree care professional with your questions. Visit http://www.forestry.alaska.gov/community/.

Ferns

Columbine

Bunchberry

Firewise plants are fire resistant, not fire proof.

- High water content and supple, moist leaves.
- Little or no accumulation of dead vegetation, either on the ground or on the plant.
- Sap that is water-like such as that found in birch trees.

More Tips

- Properly dispose of all cut vegetation by an approved method. Open burning may require a permit. Contact your nearest fire agency or village public safety officer for local requirements.
- Locate a brush pile at least 30 feet from the house for fall burning.
- Care for piles of wood chips by turning regularly to avoid combustion.
- Locate burn barrels and open fires at least 30 feet from any structure and clear the ground around the site for a minimum of 10 feet. A burn barrel must be in good condition and should be covered with a woven metal screen. Always stay with your fire!
- Keep garden hoses and fire tools readily available: axe, shovel, rake or Pulaski.
- Keep storage areas clean. Discard oily rags and newspapers. Sheds, car ports and under decks are vulnerable storage areas that often serve as fire starters or fuel.
- Check spark arresters on all motorized equipment (any vehicle or machinery with a gas engine). Store 30 feet away from structures or put inside garage.
- Locate and label liquefied petroleum gas (LPG), propane tanks and any fuel storage containers at least 30 feet from a structure and clear 10 feet around tank. Use stone or iron instead of wood for cribs under tanks. If you store gasoline, label it.
- Junk piles are fire hazards. Move discarded items outside of the home's 30 foot perimeter.

Yard debris disposal options

- Chip branches, use as mulch around trees outside of the home's 30 foot perimeter.
- Compost grass and fine woody debris (visit the online publications database at UAF Cooperative Extension Service http://www.uaf.edu/ces/.
- Haul to landfill.

You must have a gasoline-powered pump to transfer water from an alternative source.

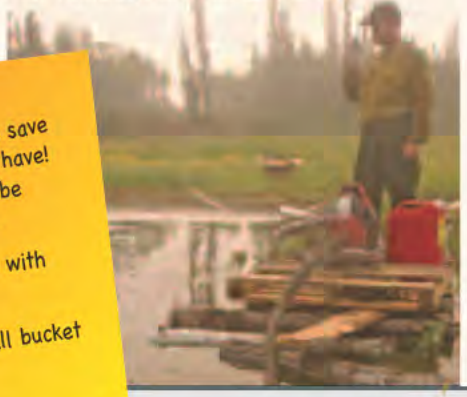
Objective:

Maintain an alternative water supply at your home.

An on-site water source gives firefighters and homeowners a much better chance of protecting a threatened house or extinguishing one that is burning. In the event of a wildland fire, power will likely be disconnected and refilling fire engines takes precious time. Storing water with a pump and hose can be the key to saving your home.

Create an alternative water supply with a pump

1. Designate a water storage container. The bigger, the better!
2. Use a strainer end in the water container that connects to a gas powered pump via durable hose.
3. Connect the pump to a hose.
4. Protect your water supply. Clear vegetation around the site, maintain easy access for vehicles, and refill as needed.



A small water reserve can save your home. Use what you have! Any large containers can be made into water storage.

- A 55-gallon barrel filled with water
- Store a shovel and small bucket nearby

Important considerations

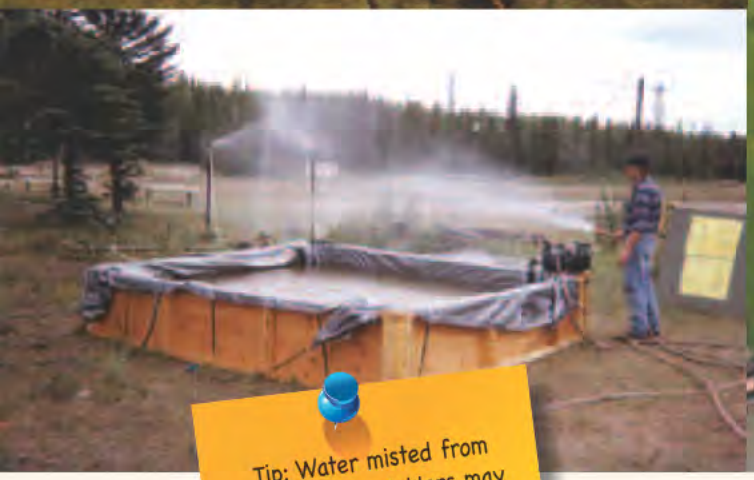
- A gravity-fed water supply is an inexpensive option.
- Pumps: at least 5 HP, portable, easy to start, self-priming, housed in their own shelter, fitted with a screen on the suction, have at least two hours of fuel.
- Raised tank stands must be protected from fire and radiant heat and should be metal.
- Use brass nozzles to withstand fire's heat.

Water supply tips

- Check your system to make sure it works.
- Use a rain-water catchment basin, outdoor pond, stream, hot tub or even a canoe for an emergency water storage container.
- Keep enough hose at your water source to reach around your home.
- Expand your range using a 2-way hose connector.
- Smaller hose is easier to handle than larger diameter hose.

Make your water supply accessible

- If your water comes from a well, you should have a gasoline-powered generator to operate your well pump during a power failure. The generator MUST be installed with a safety transfer switch to prevent feedback into power lines!
- If you don't have a well with a submersible pump, you should have a gasoline-powered, portable pump to transfer water from your alternative water source.
- Clearly mark your water supply for firefighters to use if you are not present.



Tip: Water misted from roof-ridge sprinklers may be whipped away from the roof by the fire's wind; water must be projected down and run over roof and wall surfaces like a waterfall.

Helpful hint: Think before you turn on the sprinkler system or your pump. If your water resource is limited, the water you use before the fire arrives will not be available as the fire comes closer.

Use a soaker hose to protect roofing and decks

- In spring, install a perforated hose (soaker hose) on your roof and decks to use when fire approaches.
- When you learn of an approaching fire, use your regular hose system to wet down the roof and decks
- Turn on the soaker hose to maintain water flow on exposed surfaces.
- Before freeze up, disassemble all flexible hose systems.

Home firefighting tips

- A small accidental ignition can be quickly controlled by the homeowner with adequate water and tools.
- Call 911 for large and fast moving fires.
- Keep a garden hose near or attached to outdoor faucets.
- Keep a shovel and a grubbing tool outside.
- Always have water available during any backyard burning, in any weather.

Fixed exterior sprinkler systems

- Fixed exterior water pipes must be non-corrosive metal and drained in fall.
- Exterior sprinkler systems can be helpful if you are alone or need to leave the area.

Firefighting gels and foams

- A foam additive increases water penetration into wood structures and slows down the evaporation rate.
- Gels hold water in suspension to insulate the exposed surfaces from fire's heat.
- Residential use of foams and gels is applicable through garden hose eductor kits, usually available from the manufacturer.
- Apply foam and gel directly on the home and adjacent vegetation. Gels stick well to vertical surfaces.
- A variety of manufacturers supply these materials. Research your options for the best suitability to your home and water source.
- There are limitations and dangers associated with the use of foams and gels.

Remember that gels and foam are a last minute treatment. Preparations for the fire need to happen long before the fire reaches your area.

Objective:

Post your address and provide clear road access to your home for emergency response personnel.

Proper address signs, clear driveways and adequate roads will increase resident and firefighter safety in addition to facilitating a quick response by firefighters.

Clearly Identify Your Home

- Post your address number on your home.
- Post your address at the entrance of your driveway. Use fire-resistant and reflective numbers, at least four inches tall.
- If more than one home is accessed from a single driveway, post all addresses at the street and at each intersection along the driveway.
- In rural areas know, your legal description and latitude and longitude.

Provide Fast Access to Your Home

- Maintain a 12-foot wide driveway with a turnaround.
- Clear vegetation back away from driveway edges.
- Maintain a 14 foot vertical clearance for the length of your driveway.
- Keep a gentle slope. Limit grade to less than 12%.

Community road signs should be maintained to support emergency response.

- Post street and road names in your area.
- Clearly post road signs. Your street name should be printed in letters and numbers that are at least four inches tall, on a contrasting color background. They should be visible from all directions of travel for at least 150 feet. The sign should be made of fire-resistant and reflective materials.
- If missing, request road signs from your borough or village.

Community access routes should facilitate fast emergency response.

Even if your street and house are clearly identified, precious time will be lost if firefighters cannot get to your house. Narrow roads, dead-end streets, steep driveways and weak bridges will prevent firefighting equipment from reaching your home. Remember, the equipment is much larger and heavier than your family car or truck.

- Roads must be able to accommodate busy traffic. Emergency equipment must be able to drive into your area while you and your family escape.
- At least two primary access roads need to be designed into every subdivision and development.
- All private and public streets should provide two nine-foot wide traffic lanes, which is just enough space for a fire engine and car to pass each other. Curves and intersections should be wide enough to allow large fire equipment to pass and turn.
- Build roads, driveways, and bridges to carry at least 40,000 pounds, the average weight of a fire engine. (By comparison, the average family minivan weighs about 4,000 pounds)
- Every dead-end street or long driveway should have a turnaround area designed as either a "T" or a circle large enough to allow fire equipment to turn around (minimum 33 feet inside radius and 48 feet outside radius).
- Construct single-lane roads with turnouts.
- Cut back vegetation at least 10 feet from all roads. Trim overhanging tree branches.

All improvements to community and private access roads will give firefighters a better chance of finding and protecting your home. Improvements will also give you a better chance of evacuating safely, if that becomes necessary.

Beyond firefighting, medical emergencies also require adequate access to your home. A delay of only a few minutes can mean the difference between saving or losing a life.

The smoke alarm should not be located near heating and cooling ducts or other openings that may interfere with its operation.

Helpful hint:
Most SMOKE ALARMS need to be replaced 10 years from Date of Manufacture because the detector loses sensitivity. If no date of manufacture is available, REPLACE IMMEDIATELY!

Helpful hint:
Most CARBON MONOXIDE detectors need to be replaced before 5 years from date of manufacture because the detector loses sensitivity; if no Date of Manufacture, REPLACE IMMEDIATELY!

Objective:

Home fire safety and an escape plan will help ensure your family's safe exit in the event of a house fire.

Use Smoke Alarms Properly

- Place smoke alarms in all bedrooms and sleeping areas, immediately outside the sleeping rooms, and on each level.
- Mount smoke alarm either on the ceiling 3 feet inside the door or on the wall between 4 and 12 inches from the ceiling.
- Buy UL listed smoke alarms. Read all instructions before installing your smoke alarm.
- Test your smoke alarms monthly and change the batteries twice a year (in the spring and fall when you change your clocks).
- Record the recommended replacement date (unless stated otherwise).

Install a Carbon Monoxide (CO) Alarm

- Place a CO alarm on each level of the house if you have an attached garage or fuel fired appliances (gas, wood or other solid fuels).
- Read the manufacturer's instructions carefully before installing a CO detector.
- Record the recommended replacement date (unless stated otherwise).

Learn How to Use Your Portable Fire Extinguisher

Fire extinguishers can save lives and property by helping to extinguish small fires until the fire department arrives. Be sure the fire extinguisher is listed and approved by an independent testing laboratory. The minimum size is a 1-A10-BC but consider a 2-A10-BC. Read the instructions that come with the fire extinguisher and become familiar with its parts and operation before a fire breaks out.

- Install fire extinguishers close to an exit and keep your back to a clear exit when you use the device so you can make an easy escape if the fire cannot be controlled.
- Mount your fire extinguisher no higher than 5 feet above the floor. If you place it in a cabinet, then post a fire extinguisher sign on the cabinet. Do not obstruct the fire extinguisher with furnishings nor use it as a coat rack.
- Make sure that each member of your family knows where the fire extinguisher is located.
- Remember that fire extinguishers need annual maintenance and must be recharged or replaced after use.

Check your bedroom emergency escape and rescue window

Make sure that each bedroom has a window with a net clear opening width of at least 20 inches, a net clear opening height of at least 24 inches and a minimum area of 820.7 square inches. Does the window hardware restrict the opening? If so, change it.

- Verify that your sill height is not higher than 44 inches. If it is, add a step or lower the window.
- Make sure to check that egress windows will open, particularly during the winter months (and that the occupant of the bedroom can actually open the window).

Plan Your Escape!

Having an escape plan can save your life. Even with an early warning from a smoke alarm, escaping a fire can be difficult or impossible. Fire can spread very rapidly, blocking exits and creating poisonous, blinding smoke. Even a few breaths of smoke and toxic gases can choke and kill you.

- Prepare a list of valuables to take with you in an emergency. Store these valuables together to save time.
- If you become trapped in smoke, crawl on the floor along your escape route and keep your head down. Smoke and heat rise, so cleaner air is near the floor.

Take these steps to plan your escape:

- Mark all possible escape routes on a floor plan of your home and discuss it with everyone in your household.
- Know two safe ways out of every room.
- Make sure all doors and windows leading outside are easy to open.
- Teach your children how to escape – not to hide under a bed or in a closet.
- Remember that young, elderly, and disabled persons may need assistance. Locate their rooms as close to an exit as possible. Train the rest of your family to help them get out in an emergency.
- Designate a family meeting place outside.

If a fire happens, Call 911!

- Shout FIRE! FIRE! FIRE! Make sure to alert all occupants.
- Feel the door before you exit the room. If it is hot, don't open it. Use your second way out.
- If smoke, heat, or flame block both of your escape routes, stay in the room with the door closed.
- Stuff sheets, blankets, or towels in the cracks around the door and around the heating and air conditioning vents to help keep out smoke and fumes.
- Close doors behind you to slow the spread of fire, smoke, and heat.
- Hang a bright sheet or cloth out the window to signal for help if you can't get out.

STOP, DROP, AND ROLL if your clothes catch fire!

Install a home fire-proof safe for storing important documents.

Create a community alert system.

Contact your neighbors and local authorities to plan community emergency procedures such as standard escape routes and common meeting places. Also, it is helpful to develop a community alert system that can be used during a fire or other emergency. With an alert system, anyone who spots an emergency will know how to react so that everyone in your neighborhood will be notified in time to respond.

Objective:
Before a wildland fire threatens your home, make an emergency plan to provide for your family's safety.

Before a wildfire threatens

If you have followed the advance preparation steps outlined in this booklet, you have created a Firewise home that has a better chance of surviving a wildland fire without firefighter assistance. However, you still need to prepare your personal response to a fire before it approaches your home. Make your plan and decide your response before fire season even begins. You can leave the area long before fire threatens your neighborhood, or stay and defend your home while a wildland fire burns past it.

Plan Ahead for Emergencies

- Create and maintain defensible space around your home.
- Learn the evacuation plan for your children's school or daycare facilities. Also, know the plan for family members in assisted living facilities.
- Designate a relative or friend as an out-of-area contact through whom family members can relay information.
- Identify and learn alternate ways out of your neighborhood in case the usual route becomes blocked.
- Place important documents in a fireproof box and keep in an accessible location.
- Prepare an Emergency Kit for each household member.
- Keep your vehicle's fuel tank at least half full during wildland fire season.
- Plan how you will transport your pets. Do not leave them behind.
- Make arrangements in advance for people and/or pets that will be home when you are not.

Prepare to Evacuate

Stay informed about wildland fires in your area. Authorities may not have time for a formal evacuation notification if conditions change quickly.

- Park your car heading out (so you don't have to back out), with the windows closed and the keys in the ignition.
- Close the garage door but leave it unlocked; disconnect the automatic garage door opener in case of power failure.
- Park your ATV, heading out, with the key in the ignition.
- Place emergency kit valuable documents, family mementos inside the car in the garage for quick departure, if necessary.
- Keep a flashlight, portable radio, and fresh batteries with you at all times.
- Use your preplanned route, away from the approaching fire front.
- If you are trapped by a fire while in your car, park in an area clear of vegetation, close all vehicle windows and vents, cover yourself with a blanket or jacket, and lie on the floor.
- If you are trapped by fire while on foot, select an area clear of vegetation along a road, or lie in the road ditch. Do not lie in the middle of the road! Cover any exposed skin with a jacket or blanket. Avoid canyons that can concentrate and channel fire.
- Put on protective clothing: long pants, long-sleeved shirt, boots, hat and leather gloves. Eye protection is essential!
- Keep pets leashed and in or near the house.
- Prepare large animals for transport.

Leave Early Checklist

- People: all family members accounted for
- Pets: animals, crates, food, water
- Pills: prescriptions and medications
- Photos: family mementos, home inventory
- Papers: deed for home, vehicle titles, birth certificates

Emergency Supply Kit for each person!

- Four (4) quarts of drinking water
- First aid kit (include eye drops)
- Battery operated radio
- Safety goggles and hat
- Smoke filtering mask or a handkerchief
- Thick canvas or leather gloves
- Long pants and long sleeved shirt, heavy denim or wool
- Wool blanket, large enough to cover a person completely when lying down

Inside Your Home

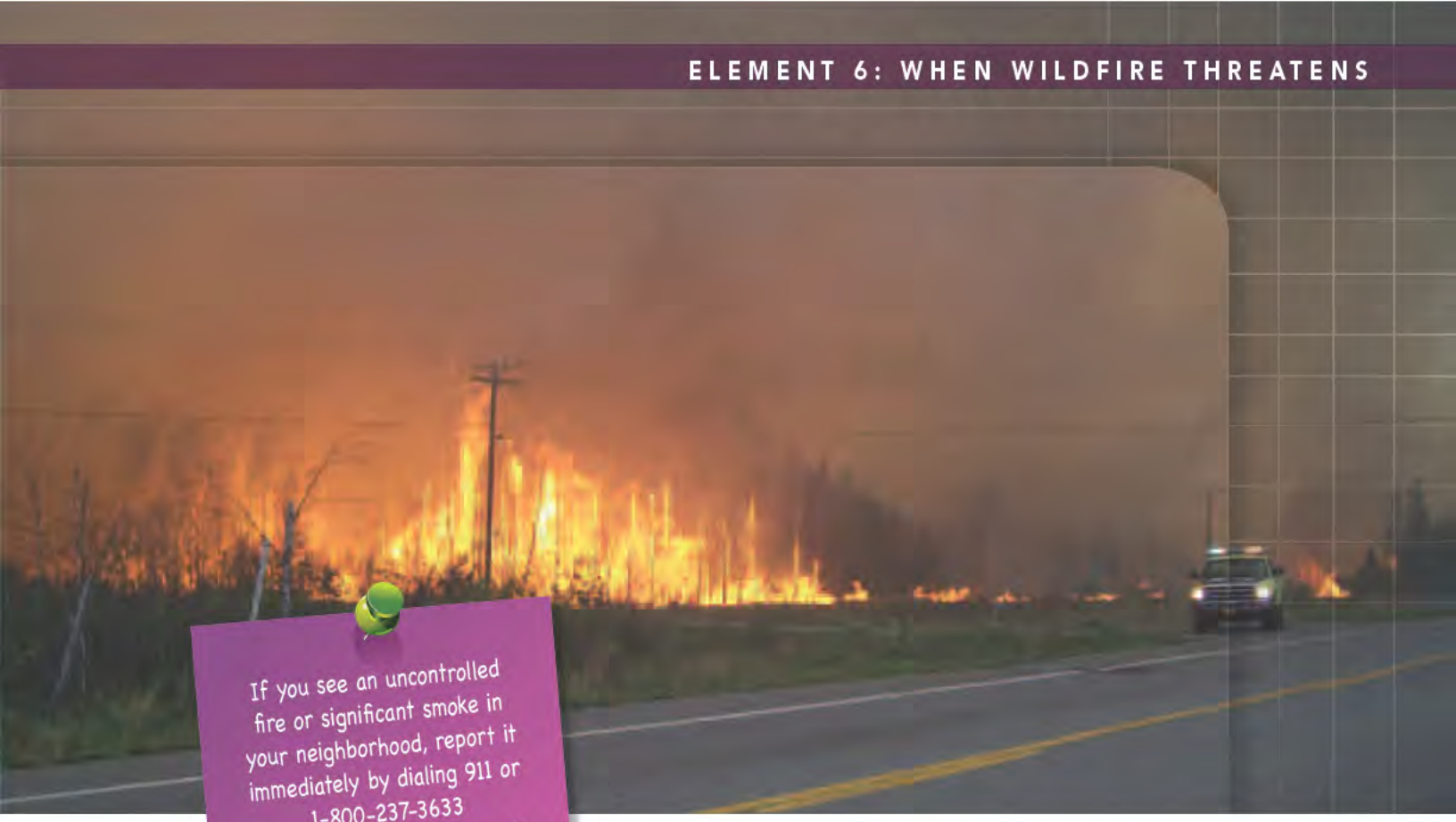
- Close all exterior windows and doors to prevent sparks from blowing inside.
- Close all doors inside the house to slow the spread of fire from room to room.
- Turn on a light in each room of your house and outside. This will make the house more visible in heavy smoke.
- Fill sinks, bathtubs, and buckets with water.
- Move furniture away from windows and glass doors to prevent ignition from heat radiating through glass.
- Remove curtains and drapes. If you have metal blinds or special fire-resistant window coverings, close them to block radiant heat.

Outside Your Home

- Move combustible yard furniture away from the house or store it in the garage.
- Cover windows, attic openings, eaves, vents, and subfloor vents with 1/2-inch or thicker plywood.
- Close window shutters.
- Attach garden hoses to spigots and place them so they can reach every part of your house.
- Fill trash cans and buckets with water and place them around the exterior of the house.
- Shut off liquefied petroleum gas (LPG), propane, or natural gas valves.
- If you have an emergency generator or a portable gasoline-powered pump that will supply water from a hot tub, pond, well, tank, or river, clearly mark its location and make sure it is ready to operate.
- Place a ladder against the house to help access your roof.
- Place a lawn sprinkler on flammable roofs, but don't turn it on unless the fire is an immediate threat. You do not want to reduce the supply of water.
- If you choose to evacuate using your private aircraft, do so before the fire's arrival. Check for any Temporary Flight Restrictions. The airspace surrounding the fire will be filled with suppression aircraft and a collision could occur. Once you are evacuated, do not re-enter the airspace until all flight restrictions are lifted.

Returning Home

- Stay informed and listen to fire officials. They will determine when it is safe for you to return to your home.
- When you do return home, be alert for downed power lines and other hazards.
- Check propane tanks, regulators, and lines before turning gas on. Only a qualified technician can turn on your natural gas.
- Check your residence carefully for hidden embers or smoldering fires.



If you see an uncontrolled fire or significant smoke in your neighborhood, report it immediately by dialing 911 or 1-800-237-3633
Remain calm on the phone to help the emergency dispatcher confirm the location.

If you do not evacuate

- Every member of your family must have an Emergency Supply Kit with a wool blanket.
- Follow the Pattern of Protection:
  - o Outside – defending from falling embers before the front arrives.
  - o Inside – sheltering during an intense fire-front arrival.
  - o Outside – dousing ignitions and mopping up.
- Connect all hoses to outdoor faucets. Attach pumps to reserve water.
- Assemble shovels and rakes to put out spot fires in the yard.
- Place water-filled buckets outside with dippers, mops and wet canvas bags.
- Put a ladder beside the roof.
- Put a ladder inside to access the roof crawl space or attic.
- Close all doors, but leave them unlocked.
- Wear long sleeved shirts and pants made of wool or heavy cotton, gloves and shoes.
- When the fire approaches the house, stay inside, away from outside walls and cover yourself with a heavy wool blanket.
- Keep your entire family together and remain calm. Remember: If it gets hot in the house, it is many times hotter and more dangerous outside.

After the Fire Passes

While you may have made Firewise preparations, past fire case studies have shown that many home ignitions actually occur after the flaming front has passed and accumulations of burning embers ignite material on or near your home. This is the time to go outside with your shovel and water to put out these small spot fires.

- Check the roof and perimeter of the home immediately, extinguishing all sparks and embers. Use caution!
- Check inside the attic for hidden burning embers.
- Check your yard for burning woodpiles, trees, fence posts, or other materials.
- Keep doors and windows closed.
- Continue rechecking your home and yard for burning embers.

FIREWISE RESOURCES

Alaska Department of Enviromental Conservation	http://www.dec.state.ak.us/
Alaska Division of Forestry Fire Information	http://forestry.alaska.gov/
Alaska Interagency Coordination Center	http://fire.ak.blm.gov/
Bureau of Indian Affairs	http://www.doi.gov/bia/
Bureau of Land Management, Alaska Fire Service	http://fire.ak.blm.gov/afs/
Federal Emergency Management Agency	http://www.fema.gov/
Firewise	http://www.firewise.org/
Municipality of Anchorage Fire Department	http://www.muni.org/fire
Natural Resources Canada, Forest Fire	http://fire.cfs.nrcan.gc.ca/
National Association of State Foresters, Forestry Links	http://www.stateforesters.org/nasflinks.html
National Fire Protection Association	http://www.nfpa.org
National Interagency Fire Center	http://www.nifc.gov/
National Oceanic and Atmospheric Administration	http://www.noaa.gov/
National Park Service, Alaska	http://www.nps.gov/akso/Fire/firehome.htm
National Wildfire Coordinating Group	http://www.nwcg.gov/
University of Alaska Cooperative Extension Service	http://www.uaf.edu/ces/
U.S. Fish & Wildlife Service, Alaska	http://alaska.fws.gov/
U.S. Forest Service, Fire and Aviation Management	http://www.fs.fed.us/fire/

Alaska Division of Forestry Field Offices

Anchorage / Mat-Su	907-761-6300
Delta	907-895-4225
Fairbanks	907-451-2600
Valdez / Copper River	907-822-5534
Tok	907-883-5134
McGrath	907-524-3010
Kenai / Kodiak	907-260-4200
Haines	907-766-2120
Ketchikan	907-225-3070

Alaska Wildland Fire Coordinating Group

U.S. Department of the Interior

- Bureau of Indian Affairs
- Bureau of Land Management
- National Park Service
- US Fish and Wildlife Service

State of Alaska

- Department of Natural Resources Division of Forestry
- Department of Fish and Game
- Department of Environmental Conservation

U.S. Department of Agriculture

- US Forest Service

Native Organizations

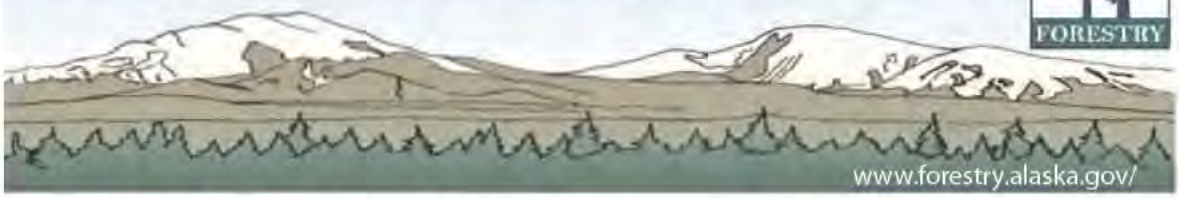
- Association of Village Council Presidents
- Chugachmiut
- Tanana Chiefs Conference

Structure Fire Departments

- Anchorage Fire Department

To Report a Fire dial 911 or 1-800-237-3633

FIREWISE PRUNING



Many Alaskans live or have cabins in areas where wildfire is a threat. Proper pruning can help you create and maintain a safe space around your home.

Pruning trees to remove dead branches and other ladder fuels is just one way to make your landscape Firewise. This fact sheet explains proper pruning techniques that will help keep your trees healthy, attractive, and safe from wildfire. For more help in making your home and landscape Firewise, see the Firewise Alaska booklet: www.forestry.alaska.gov/pdfs/06Firewise.pdf.

Proper pruning can improve the appearance and condition of a tree, however, keep in mind that every pruning cut is a wound and it can alter the growth of the tree. Trees do not heal as animals do; they grow over and compartmentalize wounds, which remain with the tree for the rest of its life. Making improper cuts can cause permanent damage.

Trees get their energy from food they make in their leaves through the process of photosynthesis. Every pruning cut that removes live foliage decreases the tree's ability to make food and energy to support itself and grow. It is important that no more than one quarter of the live foliage be removed in one growing season, so that the tree can produce enough energy to close pruning wounds, defend itself against insects and disease, and carry out life processes. If you have a smaller tree from which you want to remove lower branches to allow clearance or remove ladder fuels, it may take a few years and multiple prunings to achieve the desired final crown height.

The best time to prune trees is during the dormant season, or in the middle of summer. Avoid pruning during the spring when the trees are beginning to leaf out, and the fall when they are dropping leaves. Spruce beetle adults are searching for new trees to lay eggs in during mid May through mid August, so do not prune spruce during that time.

When removing long branches that are greater than two inches in diameter or those that you cannot easily support by hand it is best to remove the weight of the branch before making the final cut. This prevents the branch from splitting and the bark tearing causing injury to the branch collar and trunk.

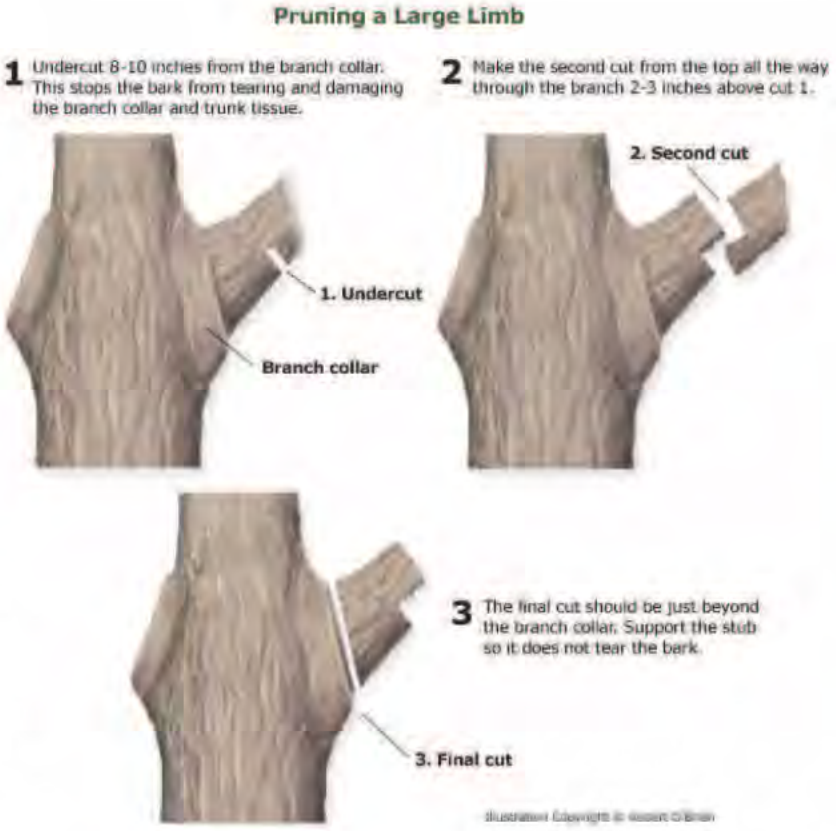
Make the first cut on the underside and a third of the way through the branch eight to ten inches out from where the branch attaches to the trunk or another branch. Make the second cut on the top of the branch, an inch or two further out from the first cut so that the branch snaps off leaving a stub. The third and final cut is made just outside the branch collar, the swelling at the base of a branch where it enters the trunk or a larger branch. The branch collar is the tree's defense zone against decay and should always be preserved in any pruning cut. When a proper cut is made, the collar will grow over the wound creating a circle of callous tissue and eventually seal the wound.

To reduce the length of a branch creating more space between trees and shrubs, shorten the limb back to another branch that is approximately the same size as the branch being removed. To make this cut properly you may need to remove the weight of the branch first. The final cut will be on an angle, almost parallel to the branch bark ridge (the ridge of bark in the crotch between the branch and stem). If it is necessary to remove more than half of the foliage on one branch, it is best to remove the entire branch.

Pruning can generate a lot of debris that should be disposed of properly so that it will not become fuel for a fire. It can be chipped and used for mulch or used as firewood and kindling. If you choose to pile and burn the material, consult your local fire department or Division of Forestry office for regulations, restrictions, and permits required before burning.

ZONES OF DEFENSE

Effective defensible space includes three zones of protection. For details about each zone, look to Firewise Alaska www.forestry.alaska.gov/pdfs/06Firewise.pdf and other publications on this topic. Below are important concepts for each zone.



ZONE 1: WITHIN 30 FEET OF STRUCTURE

Maintain deciduous trees and shrubs so that crowns are at least 10 feet apart to avoid the spread of fire from one to the other. Within this zone remove tree limbs within eight feet of the ground to prevent a ground fire from climbing into the canopy. Remove trees that are within 10 feet of your house and keep branches from at least 10 feet from the roof, chimney, or deck. All shrubs and groundcovers near buildings should be kept less than 18 inches tall. Remove all dead or broken branches and all dead or dying trees. Remove highly flammable plant material from this zone.

ZONE 2: 30~100 FEET FROM STRUCTURE

In Zone 2, maintain spacing of at least 10 feet between crowns. Limb trees up to 8 feet to help prevent a ground fire from tuning into a crown fire. Keep grasses short and space shrubs two to three times their mature height apart to break up the continuity of the fuels. They may cause a fire to burn at a lower intensity. Remove dead, dying, or unhealthy trees. Prune dead, rubbing, and broken branches from remaining trees. Limit the number of dead trees left as habitat snags in this area, as wildlife need only one or two per acre. Stack firewood away from trees and shrubs, and at least 30 feet from any structure.

ZONE 3: BEYOND 100 FEET FROM HOME

This is a transition zone between your defensible space and the surrounding area and extends to your property line. Pruning may not be necessary within this zone but you may wish to thin dense stands of trees, especially evergreens, and remove lower branches that are dead or could act as ladder fuels.

It is important that your access road and driveway be maintained to provide safe access for firefighters and their equipment. Clear vegetation from around street signs so that they are visible. Thin the number of trees along the driveway to maintain ten feet between crowns and remove dead or dying trees. Prune trees along the driveway and remove or shorten lower branches that could prevent fire fighting equipment from entering your property. Remember that they will need more room than the average sized vehicle.

FOR MORE INFORMATION

For more information about how to be Firewise visit the Division of Forestry's website at www.forestry.alaska.gov/ or http://www.firewise.org/ or call your local fire department.

For information about tree pruning and care visit the Alaska Community Forestry Program website at www.forestry.alaska.gov/community/ or see www.treesaregood.com/.

December 2007

PLANTING AND MAINTAINING FIREWISE VEGETATION IS AN IMPORTA

GROUND COVERS AND SHRUBS

Alder

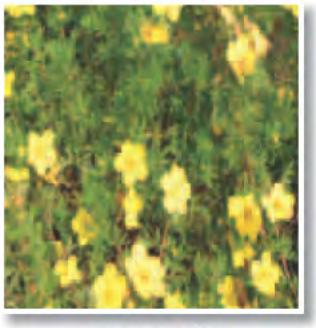
Blueberry

Columbine

Dogwood /

High Bush Cranberry

Lupine


Potentilla

TREES

Alaska Paper Birch

Black Cottonwood

Mountain Ash

Quaking Aspen

ANT STEP WHEN PROTECTING YOUR HOME FROM WILDLAND FIRES.

Bunchberry

Ferns

Fireweed

Forget-Me-Not

Prickly Rose

Red Currant

Red Raspberry

FIREWISE PLANTS

All plants will burn under hot, dry conditions. Some are more resistant to fire due to their moisture content, chemical composition and total volume. While using fire resistive plants instead of highly flammable plants is important, the spacing and arrangement of plants in your yard is even more critical. Islands of vegetation with 10 feet or more of separation provides for an attractive Firewise yard.

Fire resistant plants

As described in Element 2, good Firewise plant choices have supple, moist leaves. They tend to retain their branches and stay green throughout the summer season. There are many decorative flowers, herbs and shrubs that fit this description. Local greenhouses have a variety of native and ornamental plants to make your Firewise landscape beautiful this summer.

Take care in your plant choices

Examples of highly flammable plants include juniper, Mugo pine and ornamental spruce.

Move plants with the following characteristics outside of your home's 30 foot perimeter.

- Needles or leaves that have volatile waxes, terpenes or oils.
- Plants that accumulate fine, dry twigs, needles and leaves.
- Needles or leaves that emit a strong odor when crushed.
- Sap is gummy, resinous, and has a strong odor.
- Bark is loose or stringy.

Conifer trees

Coniferous trees, such as white spruce or hemlock, can contribute to a firewise landscape when properly maintained.

- Conifers should be more than 15 feet from structures.
- Remove lower limbs on mature trees 6-8 feet from the ground.
- Trees should be spaced 15 feet between branches.
- Trim grass around trees.

HOW TO BECOME AN ALASKAN FIREWISE COMMUNITY

The Firewise Alaska guide specifies how residents can improve their home's ability to withstand a wildland fire without the intervention of the fire service. Expanding the range of these practices increases the safety of the entire neighborhood.

The Firewise Communities/USA program enables Alaska residents to coordinate their efforts within the community. By connecting Firewise homes and partnering with adjacent land owners, the community strengthens its ability to withstand a wildland fire too. Firewise Communities/USA is sponsored by the National Wildfire Coordinating Group.

1. Determine if the community is at risk

Becoming recognized as a Firewise Community/USA begins with the community itself. A community representative can either complete an on-line form on the Firewise Communities/USA web site, http://www.firewise.org/usa or contact the Firewise Communities Liaison at the Alaska Division of Forestry http://forestry.alaska.gov/fire/firewise.htm

2. Organize a Firewise Board

If it is determined the community has homes in the wildland/urban interface that are considered at risk, community representatives will create a multi-discipline Firewise Board or Commission that should include homeowners, fire professionals and members of other interest groups such as planners, land managers, and foresters.

3. Develop a Community Wildfire Protection Plan

The community needs to enlist a wildland/urban interface (WUI) specialist to complete a community assessment and assist in creating a plan (Community Wildfire Protection Plan) that identifies agreed-upon achievable solutions to be implemented by the community. The visit is coordinated with local fire officials. You can contact you're nearest Alaska Division of Forestry office (http://forestry.alaska.gov/divdir.htm), borough or municipal fire service office to arrange for a specialist to conduct the assessment.

Many communities and boroughs throughout Alaska have already completed an area-wide community fire plan. Check the status of your area's plan at the Division of Forestry office. You may only need to develop a localized site assessment of wildfire hazards within the community to continue the process of becoming a Firewise Community.

Upon completion of the site assessment and evaluation of the community's readiness to withstand a WUI fire, the WUI specialist schedules a meeting with the local Firewise board. The assessment and evaluation are presented for review and acceptance. If the site assessment and evaluation are acceptable, the Firewise board will use them as a basis for developing a local wildfire plan. Depending on the scope of the community's needs, this may be the basis for the full Community Wildfire Protection Plan, or a subset of that plan for one neighborhood. In either case, it is important to designate specific solutions addressing wildfire issues. Board members should be informed that developing a Community Wildfire Protection Plan (CWPP) can be a six month process.

4. Sponsor an event

The Community Wildfire Protection Plan contains specific action items that can be implemented by homeowners with assistance from fire staff or other sources. When they are executed, they are called "Firewise Days." A Firewise Day must be held each year in order to maintain recognition status. Firewise Days can include chipping days, public awareness events, brush cleanup or other neighborhood events.

5. Invest a minimum of $2/capital

Firewise Communities show their commitment to preparedness by investing $2 per person in Firewise projects each year. This means that in a community of 200 residents, $400 will be invested in projects named in the plan prepared by the Firewise board. Volunteer hours, use of equipment, and time spent by agency fire staff can be included in this figure, as can state or federal grant dollars.

6. Certification as a Firewise Community / USA

Firewise Communities/USA recognition status is achieved when the community has completed and signed Community Wildfire Protection Plan and after the community has completed one Firewise project. At that time, a Board member can submit the Firewise Communities/USA application to the Alaska Firewise Communities Liaison. Upon certification by the Alaska State Forester, the Firewise Communities Liaison forwards the completed application to the national Firewise program office. A special ceremony will be held in the community after certification as a Firewise Community/ USA with all agencies and organizations involved in the process.

7. Continued Certification

A permanent Firewise board is created that will maintain the program into the future. A Firewise Day or mitigation project (reduction of risks to homes) must be completed during the year for recertification. Recognition renewal must be completed by December 31 each year. Recognized communities submit documentation indicating continued community participation to the Firewise Communities Liaison. Renewal forms can be downloaded from http://www.firewise.org/usa.

Alaska Wildland Fire Coordinating Group