

Mulch *vs.* Crew

The landowner's guide to forestry mulching, wildfire fuel reduction, and clearing brush the right way.



BEFORE YOU HIRE ANYONE

Why this guide exists

If you're responsible for a large piece of land in British Columbia, you've probably already decided that the brush has to go. The harder question is *how*. Get that decision wrong and you can pay twice: once for the work, and again for everything the work leaves behind.

This guide compares the two common ways of clearing brush and small trees: a **hand crew with chainsaws and a chipper truck**, and **forestry mulching** with heavy equipment. It's written for local government staff, ranch owners and rural landowners who want to understand the trade-offs before requesting quotes.

We run forestry mulching equipment, so we have a point of view. We've tried to keep this honest anyway, and that includes a section on when mulching is *not* the right tool.

Inside

- What forestry mulching is, and what the machines can and can't do
- The two workflows, step by step
- The full cost of a hand crew, with a worksheet for comparing quotes
- What published research says about cost and production
- When mulching wins, and when it doesn't
- Planning defensible space and fire breaks with FireSmart BC zones
- Questions to ask any contractor before signing

THE MACHINE

What is forestry mulching?

Forestry mulching (also called *mastication*) uses a heavy rotating cutting head, typically a drum lined with hardened carbide teeth, mounted on a carrier machine. As the head spins against standing brush and small trees, it cuts, shreds and grinds the material into bark mulch and wood chips. The mulch is left where it fell.

In other words, the cutting, chipping and spreading happen in a single pass. Nothing has to be piled, loaded or hauled away.

The two carriers we use

Carrier	How it works	Best suited to
Excavator + mulching head	The head is mounted on the end of the boom. The machine stays put while the boom reaches out to the work.	Steep slopes, ditches, creek edges, and selective work in close around trees or structures you want to keep.
Tracked skid steer + mulcher	A drum mulcher mounted on the front of a tracked loader that drives into the vegetation.	Open and rolling ground, long fire breaks, and high production on large acreage.

What it handles well, and its limits

- **Brush, shrubs, saplings and small-diameter trees** (generally up to about 6 inches across) are its sweet spot.
- **Larger trees** are slower and costlier to mulch. They're usually assessed separately, and some are better felled or kept.
- **Production** depends on slope, vegetation density, stem size and access. Our machines typically clear 1–2 acres per day.
- **The mulch layer** protects the soil surface, holds moisture and slows regrowth, but it doesn't stop regrowth forever. Plan for periodic re-treatment.

SIDE BY SIDE

The two workflows

The fastest way to understand the cost difference is to follow a single branch through each process.

Step	Hand crew + chipper truck	Forestry mulching
Cut	Workers fell and cut brush and small trees with chainsaws and brush cutters.	The mulching head cuts on contact.
Handle	Every piece is limbed, dragged and stacked by hand.	None. The material is never handled.
Process	Material is fed into a chipper by hand, or piled for burning.	Ground to mulch in the same pass.
Remove	Chips and debris are loaded and hauled off site.	Nothing leaves the property.
Dispose	Tipping fees are paid per load, or piles wait for a legal burn window.	No disposal, no burn piles, no permits to wait on.
Visits	Large sites often need several entries: slash, then pile, then chip, haul or burn.	Usually one entry per area.

The key point: a hand crew's bill isn't just the cutting. It's every step after the cut — handling, chipping, hauling and disposal — multiplied by the number of people and trips involved.

COMPARING QUOTES

The full cost of a hand crew

Quotes are often hard to compare because they don't include the same things. Use this worksheet to line them up. Ask each contractor to price every line, or to confirm it's not needed.

Cost line	Hand crew + chipper	Forestry mulching
Labour (people × hours × days)	\$	\$
Chipper / truck / equipment	\$	\$
Hauling (number of loads × rate)	\$	Not required
Disposal / tipping fees	\$	Not required
Burn permits & pile burning	\$	Not required
Additional site visits / entries	\$	\$
Mobilization (moving equipment to site)	\$	\$
Clean-up & finishing	\$	\$
Total	\$	\$

Costs that don't show up on a quote

- **Time.** Every extra week on site is another week the fuel load is still standing during fire season.
- **Burn bans.** If the plan relies on burning piles, a seasonal ban can leave dry slash on the ground for months.
- **Your own hours.** Managing a crew and repeated visits, and checking the work, all takes time.
- **Leftover fine fuel.** Cut-and-leave slash can stay on the ground for years. That can raise short-term fire hazard until it's chipped or burned.

THE EVIDENCE

What the research says

The most useful summary we've found is a 2018 U.S. Forest Service report, *To Masticate or Not* (RMRS-GTR-381). It reviews published studies on mastication (forestry mulching) across forest, woodland and shrubland. The figures are from U.S. projects, so treat the dollar values as directional rather than local. The conclusions are what matter:

- **Mulching accomplishes the work in one entry.** Other treatments can need several: slashing, then piling, then burning.
- **It treats many stems with considerably lower labour** than hand slashing, piling and burning.
- **It avoids removal costs**, because material isn't taken off site.
- **Prescribed fire and pile burning depend on a suitable burn window**, which may not come when you need it.

Where we'll be straight with you: the same report notes that a hand crew that simply cuts and leaves debris on the ground ("lop and scatter") can cost less per acre than mulching. Once chipping, hand piling and burning are added to deal with that debris, the costs become comparable. Mulching also converts ladder fuels to surface mulch in the same pass.

A 2006 study at Priest River Experimental Forest in Idaho (Halbrook et al.) also used a masticator to build fuel breaks with a centre fire line through harvest slash. It noted that mulched sites needed no follow-up burning, and that the work could proceed largely regardless of weather.

Sources: Jain, T.; Sikkink, P.; Keefe, R.; Byrne, J. 2018. *To masticate or not: Useful tips for treating forest, woodland, and shrubland vegetation*. Gen. Tech. Rep. RMRS-GTR-381. USDA Forest Service, Rocky Mountain Research Station.
Halbrook, J.; Han, H.-S.; Graham, R.T.; Jain, T.B.; Denner, R. 2006. *Mastication: A fuel reduction and site preparation alternative*.

CHOOSING THE RIGHT TOOL

When mulching wins, and when it doesn't

Forestry mulching is usually the better choice when:

- ✓ You're clearing **large areas** of brush, saplings and small trees.
- ✓ You want **nothing hauled or burned**, or a burn ban is likely to stall the project.
- ✓ You need a **fire break or defensible space** built quickly, ahead of fire season.
- ✓ You want to **reclaim pasture, sightlines or building sites** that have grown in.
- ✓ The site has **slopes or ditches** that an excavator-mounted head can reach.

Another approach may be better when:

- The work is **right against a building**. The 0–1.5 m zone around a home calls for non-combustible surfaces and hand work, not heavy equipment.
- The trees are **mostly large-diameter timber**. Felling, and possibly selling the logs, may make more sense.
- The area is **very small or inaccessible** to machines.
- The site is **near a watercourse or another sensitive area** where permits or special methods are required.

Many of the best projects combine both approaches: hand work close to structures, and mulching across the wider property where fuel loads are greatest.

PLANNING

Defensible space & fire breaks

FireSmart BC divides the area around a home into three zones. Planning by zone helps you decide what work is needed, where, and with which tool.

Zone	Distance	Goal	Typical treatment
Immediate	0–1.5 m	Stop embers from igniting the home	Non-combustible surfaces such as gravel or stone. Hand work only.
Intermediate	1.5–10 m	Slow fire and keep it from reaching the home	Remove ladder fuels, space and prune trees, relocate fuels such as wood piles and propane tanks.
Extended	10–30 m	Reduce fire intensity across the property	Thin small trees and shrubs to break up continuous fuel. A strong fit for mulching.

Beyond 30 metres: fire breaks

On larger properties, ranches and municipal interface lands, wide fire breaks interrupt the continuous fuel bed. They slow a fire's advance and give suppression crews somewhere to work from. Common locations include property perimeters, access roads, fence lines and the edge between forest and developed land.

- Keep access and egress routes clear for fire trucks and evacuation.
- Protect barns, hay storage, fuel tanks and equipment yards, not just the house.
- Schedule re-treatment. Regrowth returns, and a break only works if it's maintained.

Zone distances are from FireSmart BC's Home Ignition Zone guidance. Many BC communities offer FireSmart home assessments through local programs; check with your local government. This guide is not a substitute for an on-site assessment.

DUE DILIGENCE

Questions to ask any contractor

Whoever you hire, these questions will tell you a lot in a short conversation.

Insurance	Can you provide proof of liability insurance and WorkSafeBC coverage?
Equipment	Do you own and operate the equipment, or is the work subcontracted?
Capability	What stem diameter can your machines handle, and how will larger trees be dealt with?
Production	How many acres per day do you expect on <i>my</i> site, and why?
Material	What happens to the cut material? Will anything be hauled, burned or left in piles?
Retention	How will you protect the trees, fences, and buildings we're keeping?
Scope	Will I get a written scope with the area, objective and price before work starts?
Upkeep	How often should this be re-treated, and do you offer follow-up visits?

NEXT STEP

Working with ClearLand

ClearLand runs excavators and tracked skid steers fitted with forestry mulching heads, along with specialized support equipment. We build defensible space and fire breaks, and clear overgrown land, for local governments, ranches and rural landowners across British Columbia.

- ✓ Brush and small trees ground to mulch on site, in one pass
- ✓ Typically 1–2 acres per day, depending on terrain
- ✓ Nothing hauled away, and nothing burned
- ✓ A written scope and price before work begins

Request a proposal: email info@clearland.ca with your property location, approximate acreage and your main goal (defensible space, fire break, or land clearing). We'll arrange a site walk and send a written proposal.

This guide is general information. It is not engineering, legal or insurance advice, and it doesn't replace an on-site assessment. Cost observations come from the published U.S. research cited and will vary by site and region.