

Trail Rehabilitation with Grizzly Wood



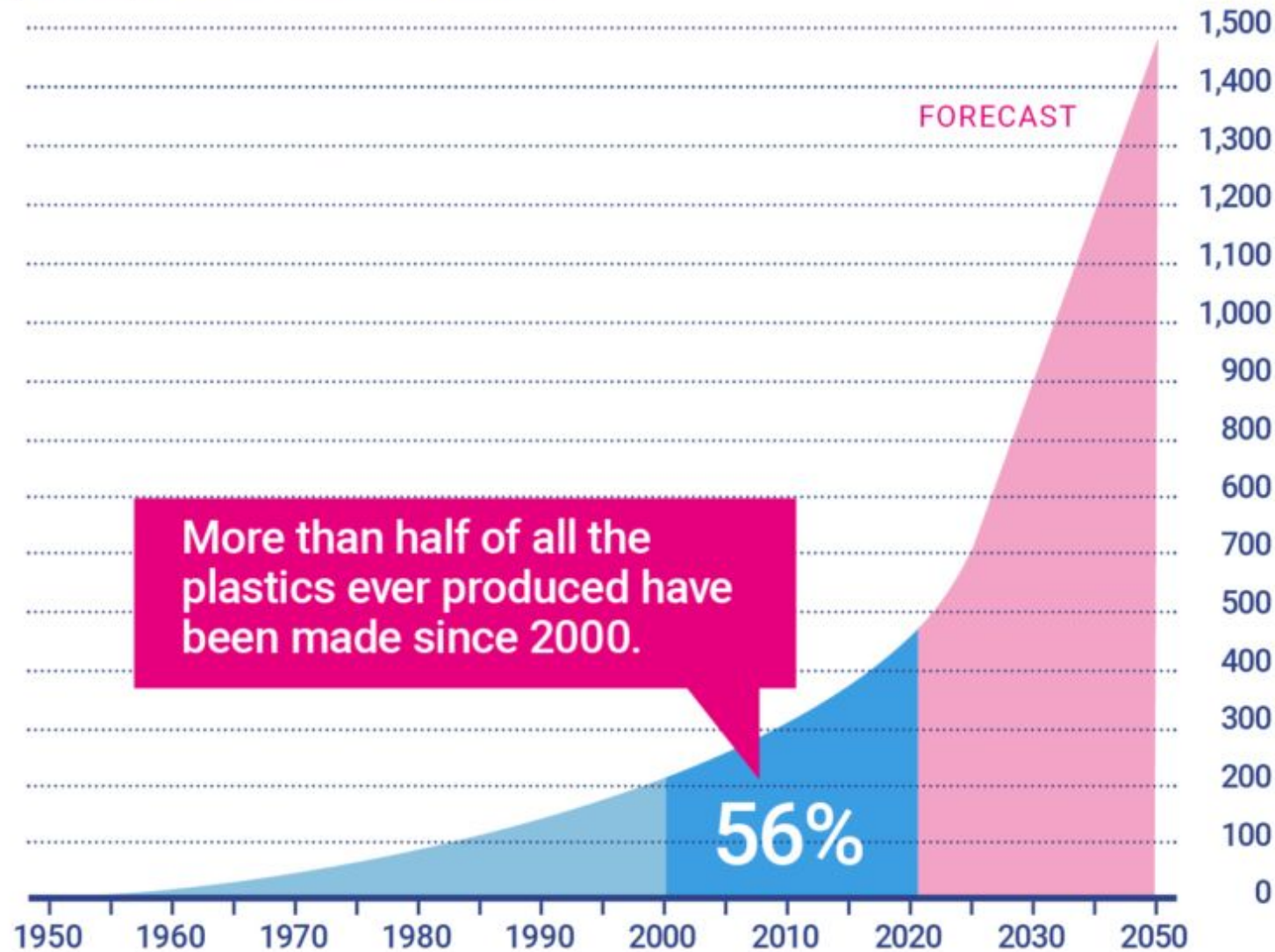
Alaska Plastic Recovery
PO Box 241367
Anchorage AK 99524


www.AlaskaPlasticRecovery.com

PKS
Consulting

PRODUCTION OF PLASTIC

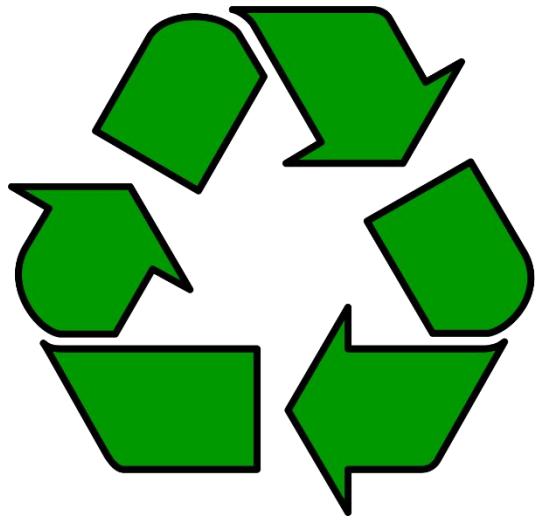
Global annual plastic production in million tonnes.



A large pile of plastic waste, including clear plastic containers, bottle caps in various colors (blue, green, yellow), a white plastic tray, and crumpled plastic bags. A bag of 'Lach Gummy' candy is visible on the left. The background is a dense collection of similar plastic debris.

Typical Family Uses 220 to 660 lbs. of plastic per year

Only 8% is Recycled



17M lbs





10 to 20 tons per big box store per year

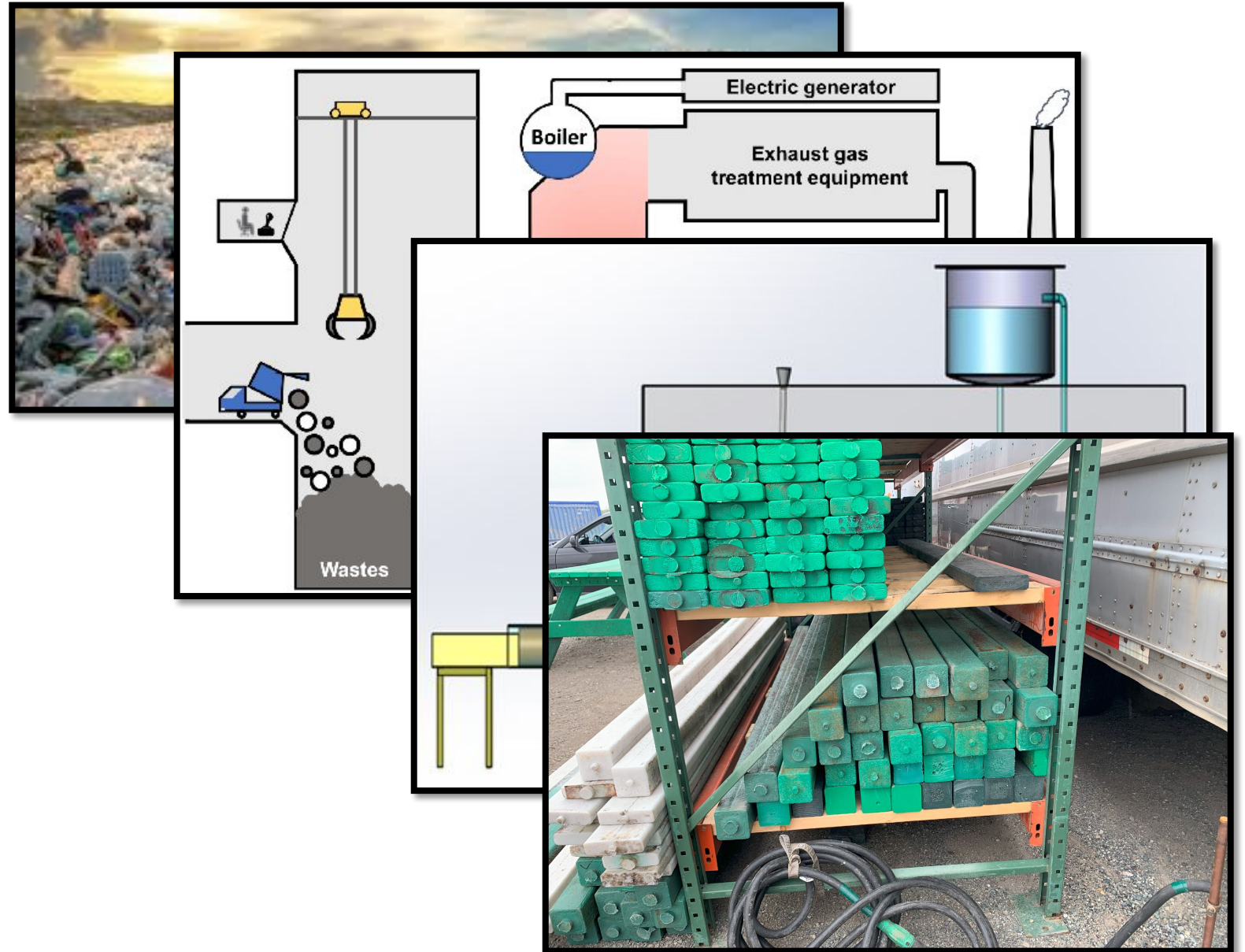


75 to 125 Million lbs.

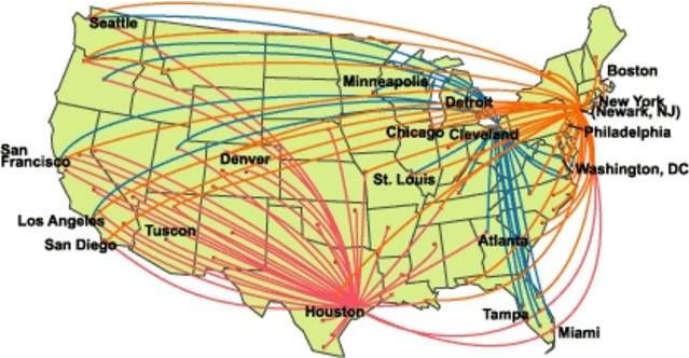


What Do We Do With All This Plastic?

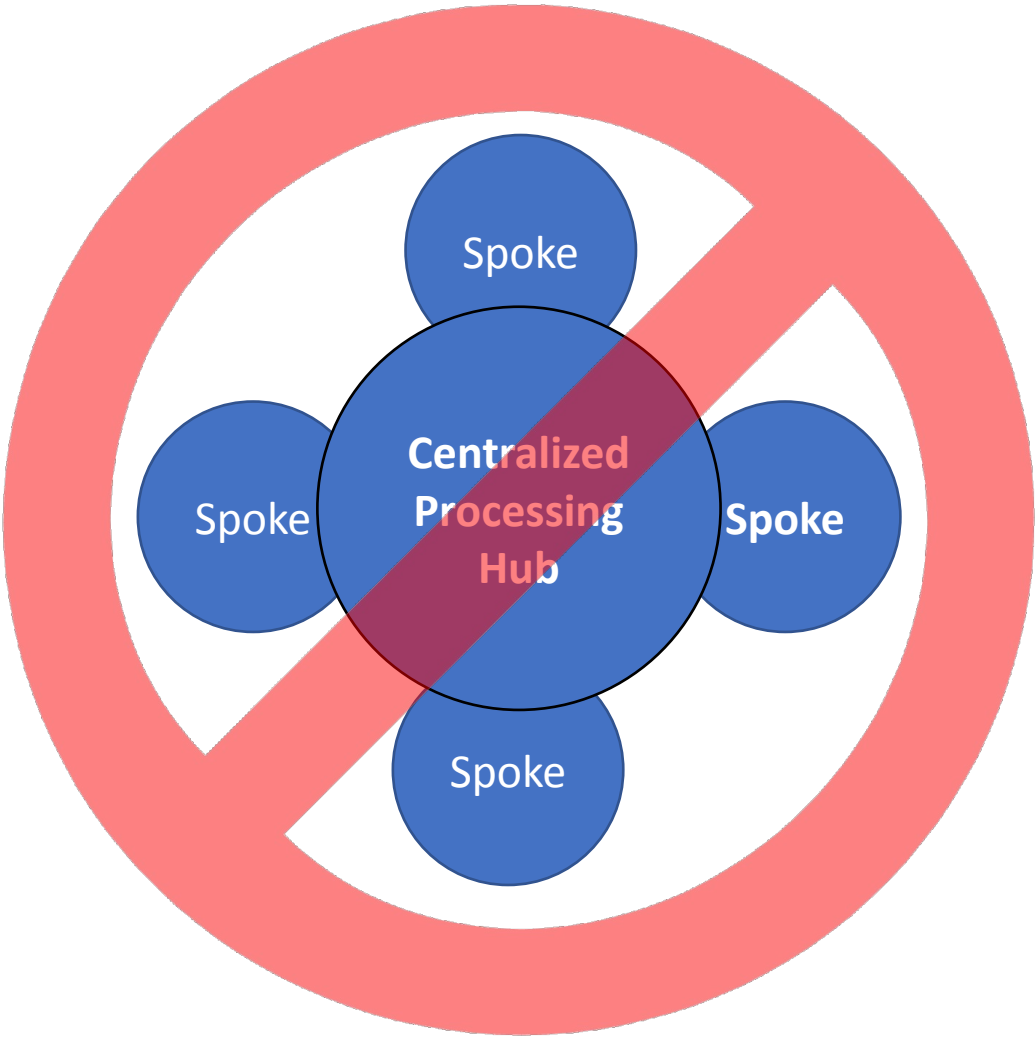
- Landfill
- Waste to Energy
- Pyrolysis
- Recycle Plastic Lumber



Traditional Solution



Rail & Road



Barge & Air

An Alaskan Solution



Store



Process



Grizzly Wood















Collect



Grizzly Wood

Recycled Plastic Lumber, Made in Alaska from Alaska's Plastic Waste

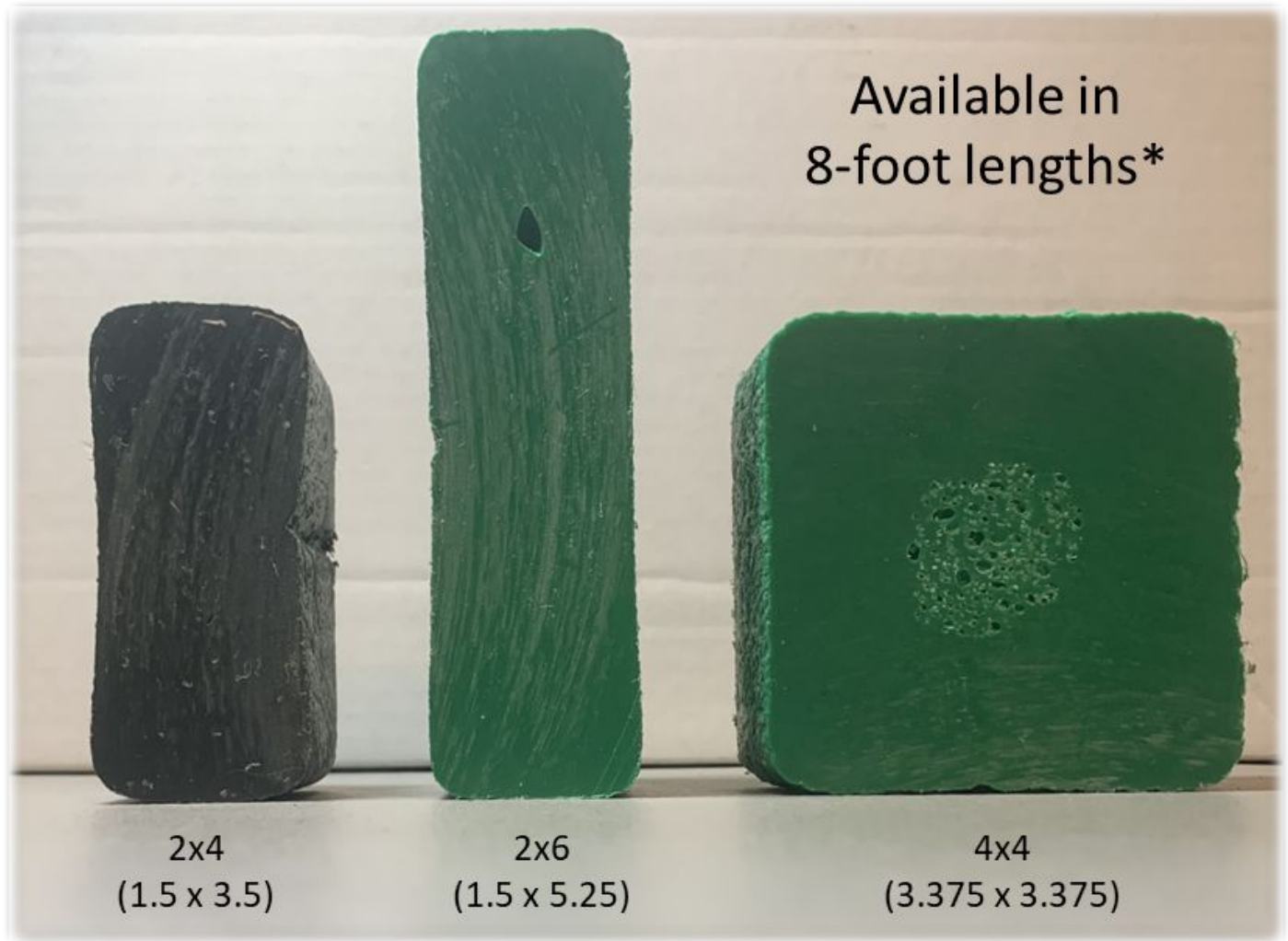


 PETE	 HDPE	 PVC	 LDPE	 PP	 PS	 OTHER
polyethylene terephthalate	high-density polyethylene	polyvinyl chloride	low-density polyethylene	polypropylene	polystyrene	other plastics, including acrylic, polycarbonate, polyactic fibers, nylon, fiberglass
soft drink bottles, mineral water, fruit juice containers and cooking oil	milk jugs, cleaning agents, laundry detergents, bleaching agents, shampoo bottles, washing and shower soaps	trays for sweets, fruit, plastic packing (bubble foil) and food foils to wrap the foodstuff	crushed bottles, shopping bags, highly-resistant sacks and most of the wrappings	furniture, consumers, luggage, toys as well as bumpers, lining and external borders of the cars	toys, hard packing, refrigerator trays, cosmetic bags, costume jewellery, audio cassettes, CD cases, vending cups	an example of one type is a polycarbonate used for CD production and baby feeding bottles
						



What is Grizzly Wood?

Grizzly Wood is recycled plastic lumber made from 100% recycled plastic sourced in Alaska



*Color varies depending on material source

*Other dimensions available upon request

Making Grizzly Wood



Plastic Ocean Waste



Post Industrial Resin



Post Consumer Resin



Sort, Shred, Extrude



Recycled Plastic Lumber

ASTM Standards



Properties	Units	ASTM	Nominal Values
Density	g/cc	D1505	0.955
Tensile Strength @ Yield	psi	D638	>4,100
Tensile Modulus	psi	D638	255,000
Elongation @ Break	%	D638	>600
Elongation @ Yield	%	D638	9.8
Flexural Modulus	psi	D790	185,000
Flexural Stress @ 5% Strain	psi	D790	3,810
Vicat Softening Temp.	°C (°F)	D1525	123°C (253°F)
Heat Deflection Temp. 66 psi	°C (°F)	D648	75°C (167°F)
Compressive Properties 10% Strain	psi	D695	4,950
Brittleness Temp.	°C (°F)	D746	< -76°C (< -105°F)
Izod Impact Resistance	ft.lbs./in.2	D256	1.1
Screw and Nail Withdrawal	lbs	D1761	657 & 63
Tensile Impact	ft.lbs./in.2	D1822	115
Durometer	Shore D	D2240	68
Flammability	Rating	UL94	HB

Grizzly Wood™ Benefits



100% Recycled Material



Landfill Waste Reduction



Long-lasting Durability



Low Maintenance



Rot Resistance



Insect Proof



Weather Resilient



Chemical Free

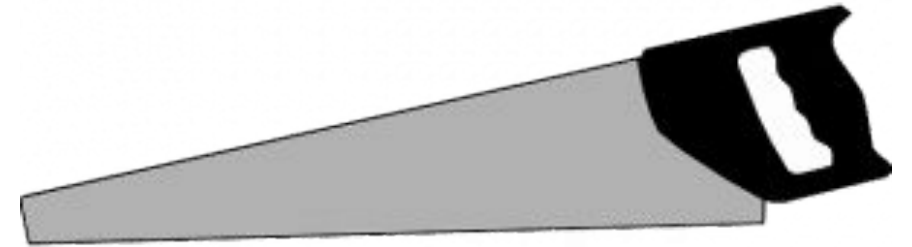
Why Thread Protectors?

- Material Composition: 100% recycled HDPE with PROCADD™ additive
- Impact Strength: Enhanced by up to 50% compared to standard recycled HDPE
- Thermal Stability: -50°C (-58°F) to +80°C (176°F) operational temperature range
- Environmental Resistance: Fully water-resistant, UV-stabilized for outdoor use
- Certifications: Meets relevant environmental and safety standards for recycled materials



Processing Grizzly Wood™

- Traditional Wood Tools Used such as saws and drills are used
- Drilling, Screwing, and Bolting for fastening; Nailing is difficult
- Operate saws and drills a little slower when possible, Grizzly Wood is dense



Preventing Plastic Leakage

- Pre-Cut
- Collection Tarps/Tent
- Vacuum Equipped Cutting Tools



Some Trail Rehabilitation Applications

Boardwalks



Docks



Bridges



Puncheons



Edging



Retaining Walls



Signage



Fencing/Railing



Outdoor Furniture



Cribbing/Dunnage



Grizzly Wood ROI

16x16 Deck

No Maintenance Costs

Materials	Life Span	Maintenance Breakdown			\$/Yr	Total Cost
		Treatment	\$/Treatment	Frequency		
Grizzly Wood ^{1,2}	40-50+ years	Paint/Stain	---	---	---	---
		Repairs	---	---		
Wood ¹⁻⁴	20-25 Years	Paint/Stain	\$450-\$1000	2-3 yrs	\$855.44	\$21,386.10
		Repairs	\$500-\$2500	As needed		

Wood Structures cost \$3.34 per sq ft per year, Grizzly Wood costs zero.

SOURCES

1 <https://www.fs.usda.gov/t-d/pubs/pdf/11231804.pdf>

2 <https://archive.epa.gov/wastes/conserve/tools/greenscapes/web/pdf/lumber.pdf>

3 <https://homeguide.com/costs/cost-to-stain-a-deck#:~:text=The%20cost%20to%20clean%20and,the%20flats%20need%20new%20stain>

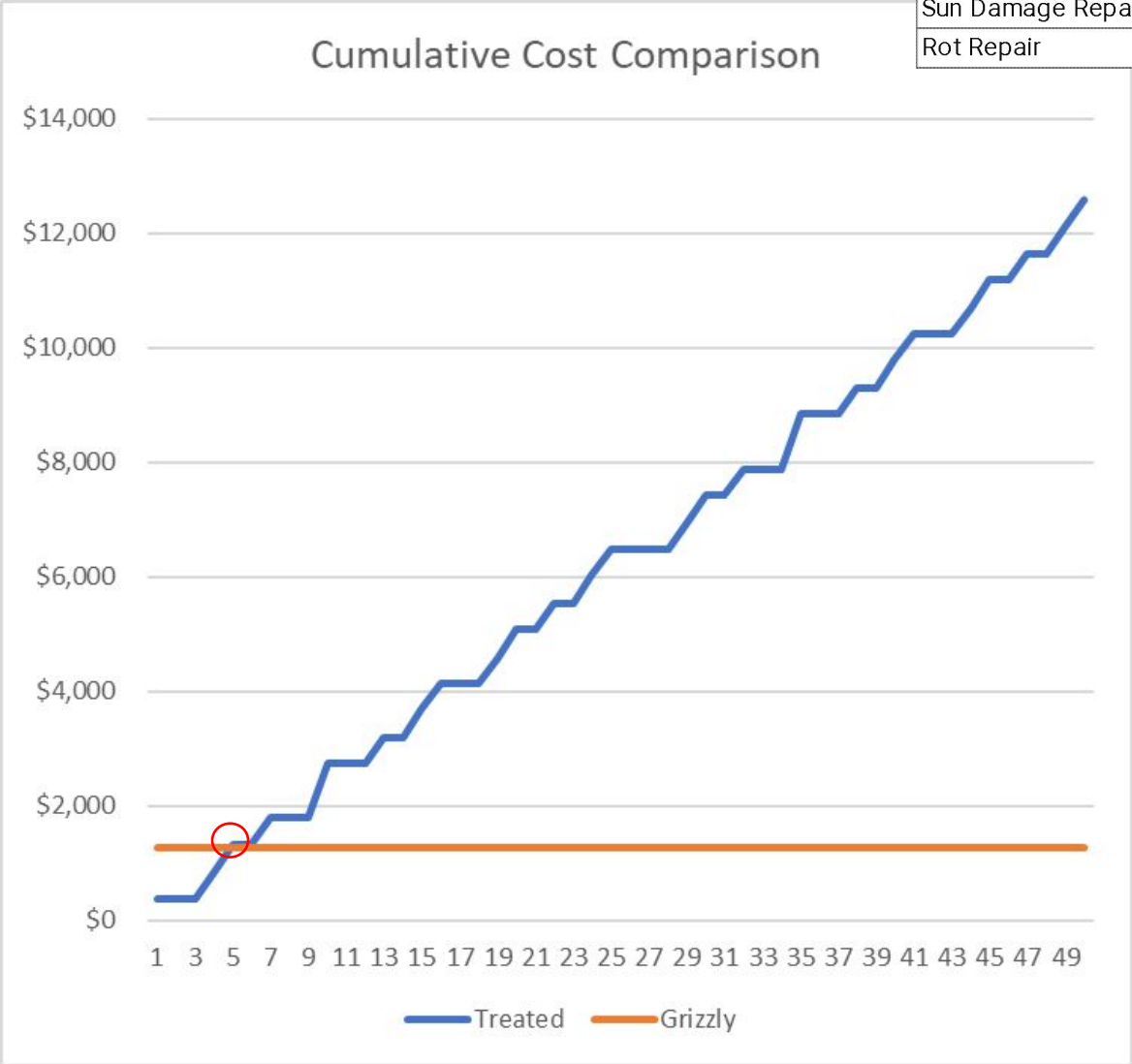
4 <https://homeguide.com/costs/deck-repair-cost>



Grizzly Wood ROI

16x16 Deck, 32 2x6's (2023 dollars)

Maintenance Item	Grizzly Wood	Treated Lumber
Painting or Staining	Not Required	Required every 2-3 years
Sealing	Not Required	Required every 1-2 years
Termite Treatment	Not Required	Required as needed
Water Damage Repair	Not Required	May be required annually in wet climates
Warping and Splintering Repair	Not Required	As needed, can be frequent in extreme weather
Mold and Mildew Treatment	Not Required	Required as needed, more in damp climates
Sun Damage Repair (Fading, UV Damage)	Not Required	Required as needed, depending on exposure
Rot Repair	Not Required	As needed, especially in wet or humid conditions



Grizzly Wood is 9 times less expensive over its life

Grizzly Wood is initially 2-3 times more expensive

2024 Pricing

All Grizzly Wood purchased in 2024 will be offered at the same cost as the pressure treated wood alternative. No volume discounts.

Description	Unit Price	2024
8-Foot Grizzly Wood 1x2	\$ 8.00	\$ 2.00
8-Foot Grizzly Wood 2x10	\$ 85.00	\$ 21.25
8-Foot Grizzly Wood 2x2	\$ 15.00	\$ 3.75
8-Foot Grizzly Wood 2x4	\$ 30.00	\$ 7.50
8-Foot Grizzly Wood 2x6	\$ 40.00	\$ 12.00
8-Foot Grizzly Wood 2x8	\$ 70.00	\$ 17.50
8-Foot Grizzly Wood 4x4	\$ 60.00	\$ 22.00
8-Foot Grizzly Wood 5/16x4	\$ 8.00	\$ 2.00
10-Foot Grizzly Wood 4x12	\$ 300.00	\$ 75.00
10-Foot Grizzly Wood 6x8	\$ 295.00	\$ 112.00
3 Foot Grizzly Wood Mini Picnic Table	\$ 300.00	
8 Foot Grizzly Wood Picnic Table	\$ 1,250.00	
8 Foot Grizzly Wood Park Bench	\$ 1,950.00	

Request a Quote

Alaska Plastic Recovery LLC

PO Box 241367

Anchorage AK 99524-1367

Ph: 907-444-5860

E: Patrick.K.Simpson@gmail.com

W: www.AlaskaPlasticRecovery.com



Why Is Grizzly Wood™ A Good Choice For Wetland Boardwalks?

Grizzly Wood can last for decades. Ultimately, investing in Grizzly Wood provides great savings in time and money. The longevity of the boards also helps the wetland habitat as the lack of maintenance and replacements mean that the wetlands don't need to be disturbed by construction.

Grizzly Wood Can't Rot

Plastic is waterproof as Grizzly Wood is made from 100% recycled plastic. Even when placed directly in water, plastic won't break down. These boards also don't need to be treated with chemicals to prevent rotting, so the surrounding wetlands are safe from pollution.

Wildlife Doesn't Harm Grizzly Wood

Wood is naturally a source of food and bedding for many types of wildlife but the same can't be said for plastic. Boards won't be disturbed or weakened as a result.

Grizzly Wood Requires Little Maintenance

A simple cleaning is all that is needed to maintain Grizzly Wood.

Lumber Made From Plastic Is Easy To Work With

Lumber made from HDPE/PP can be drilled and cut like any other board. No special tools are required. It can easily be cut and modified in the field when adjustments need to be made.

Grizzly Wood vs Pressure Treated Lumber

Grizzly Wood

- 40-50 year lifespan
- No Maintenance Needed
 - Saves money, saves time
 - Does not rot, splinter, decay, no insect damage
 - Does not need to be painted, sealed, or have parts replaced
 - Will not shatter or split from the cold; good to temperatures as low as -60°F

Table 1. Table of materials and characteristics

Material Characteristics	Recycled Plastic	Composites	Composite/Fiberglass	PVC	Decay Resistant Woods	Tropical Hardwoods	Aluminum	Rubber
Maintenance	Little	Little	Little	Little	Periodic	Little to none	None	None
Appearance	Artificial	Artificial	Artificial	Artificial	Natural	Natural	Artificial	Artificial
Colors	Various	Various	Various	Various	Natural	Natural	Various	Various
Uses recycled material	Yes	Yes	Yes	Yes	N/A	N/A	No	Yes
Recyclable	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Rot/rust resistant	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Termite/mold/fungi resistant	Yes	Yes	Yes	Yes	Only heartwood resists decay, not sapwood	Yes	Yes	Yes
Moisture resistant	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Skid/slip resistant	Yes	Yes	Yes	Yes	No	Yes	Yes	If grooved
Splinter, scratch, crack, warp resistant	Yes	No	Yes	Yes	No	Yes	Yes	Yes
UV resistant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lifespan in years	40-50	40-50	40-50	50+	20-25	50+	20	20-30
Non-toxic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Structural applications	No	No	Yes	No	Yes	Yes	No	No
Environmentally friendly	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Flexible	Yes	Yes	No	Yes	Yes	No	No	Yes
FSC certified sustainably harvested	N/A	N/A	N/A	N/A	Yes	Yes	N/A	N/A
Toxin/preservative-free	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Class A fire rating	Yes	No	No	Yes	No	Yes	Yes	Yes
Weight	Heavy	Heavy	Heavy	Medium	Heavy	Heavy	Light	Heavy
Easy installation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Stain/mildew	Yes	Yes	No	Yes	Yes	Yes	No	No
Expansion/contraction	Yes			Yes	Yes	Yes		No
Heat retention	Moderate	Moderate	Moderate	Low	Low	Low	Moderate	Low

Pressure Treated Lumber

- 20-25 year lifespan with maintenance
- Maintenance needs done at least once every 2-3 years
 - Cleaning
 - Paint/Staining - \$450-\$1000
 - Repairs - \$500-\$2500
- Average maintenance cost per year* - \$855.44
- Maintenance cost per average lifetime* - \$21,386.10