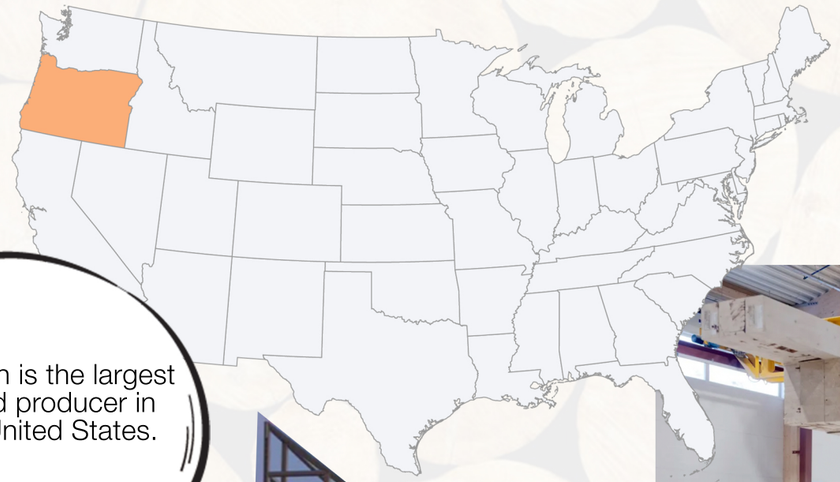
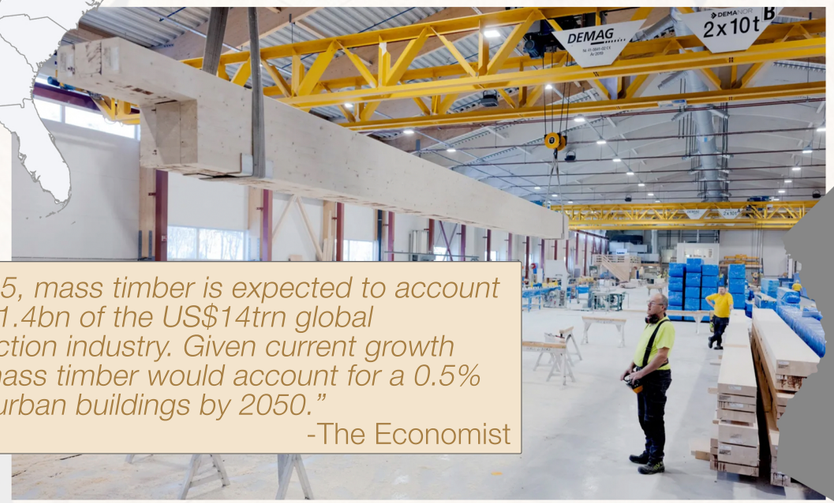
Hudson River's Floating Sawmill



Oregon is the largest wood producer in the United States.

"The reason Oregon is able to lead the nation in the major forest product categories is because we have abundant forests with primarily softwood trees, such as Douglas-fir and ponderosa pine. These are the tree species that are used primarily for housing and building construction."

-oregonforests.org



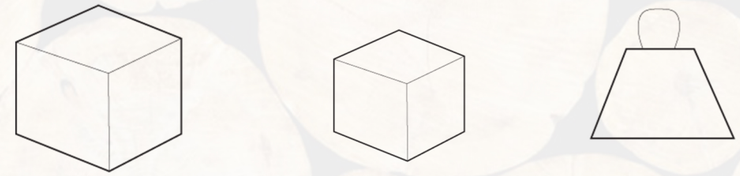
"By 2025, mass timber is expected to account for US$1.4bn of the US$14trn global construction industry. Given current growth rates, mass timber would account for a 0.5% of new urban buildings by 2050."

-The Economist

IKEA – largest wood consumer in the world. It uses 1% of the world wood production.

Mjøstårnet – largest mass timber building in the world. It is 18 stories tall and is located in Norway.

2019 Global Wood Production



489 million m3 of sawnwood

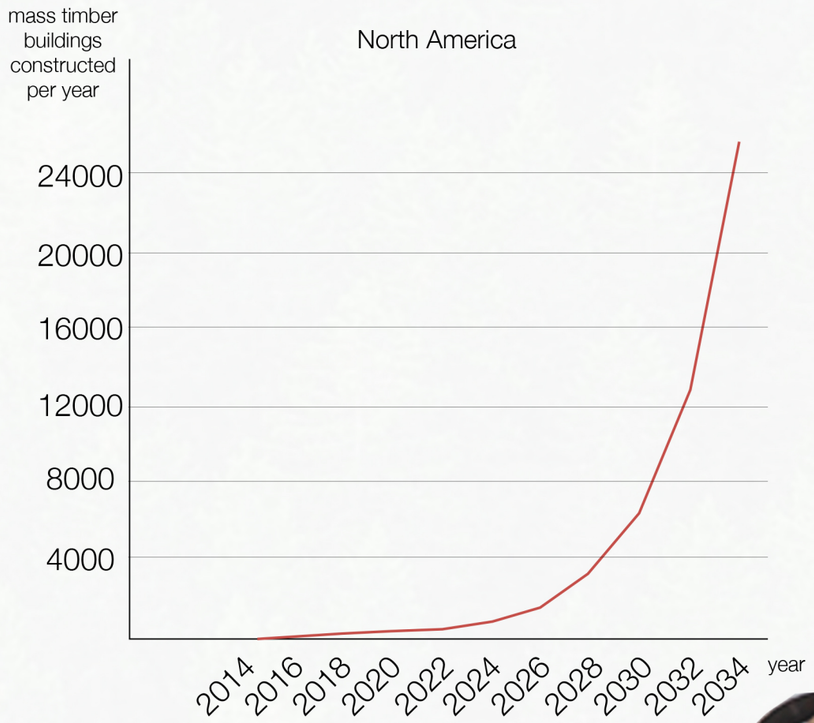
373 million m3 of wood-based panels

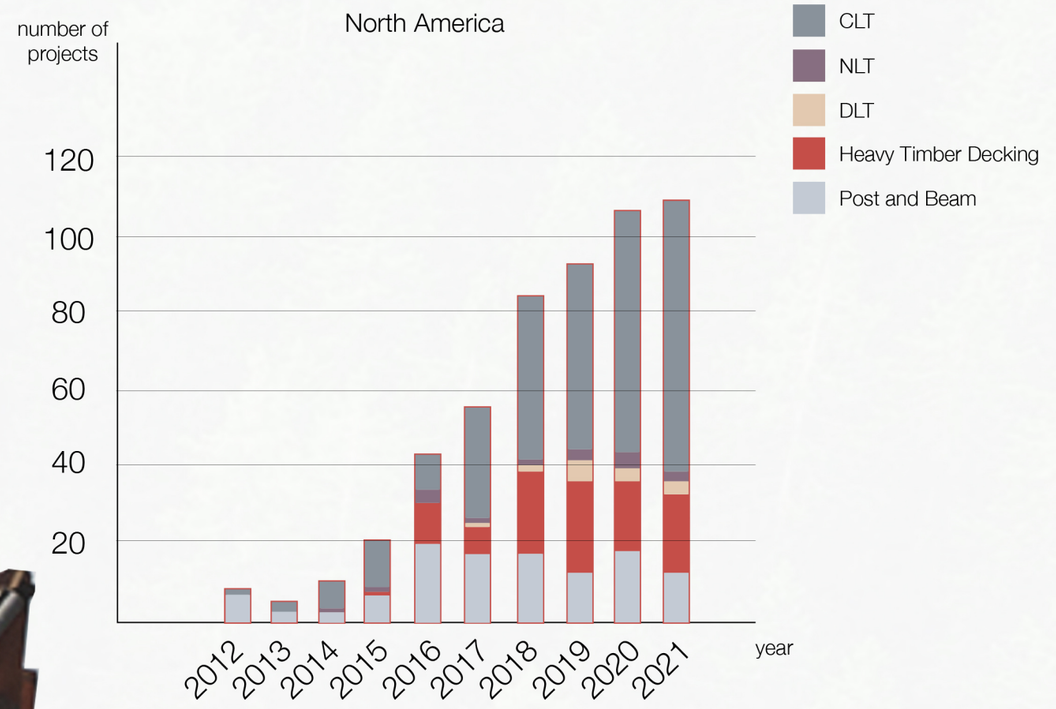
405 million tonnes of paper & paperboard

"The global forest area reduced by around 4.7 million hectares (0.1%) per year between 2010 and 2020."

-forestresearch.gov.uk

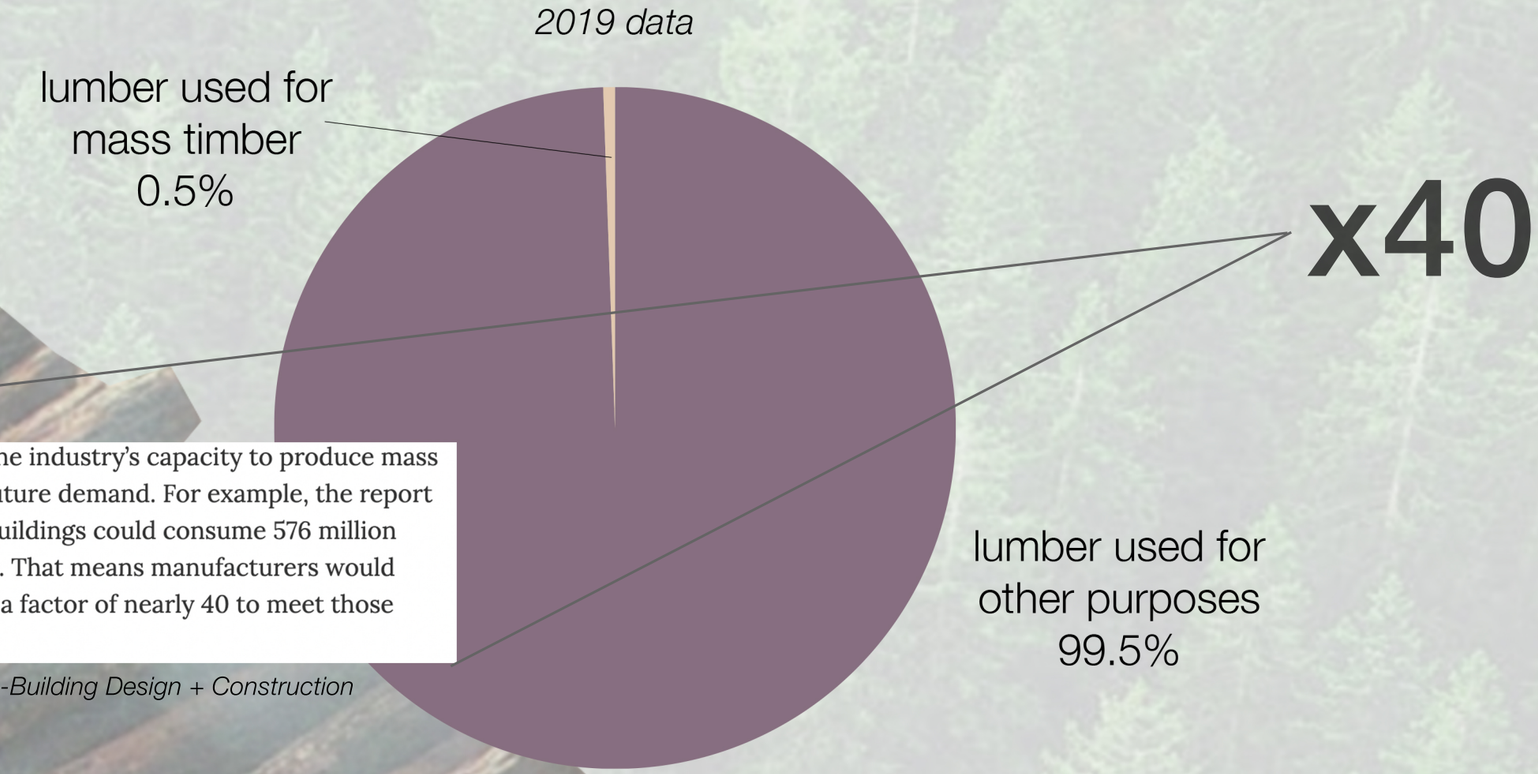
The world is losing forest area the size of Kenya or Uzbekistan every single year.





A SUSTAINABLE PROCESS ?

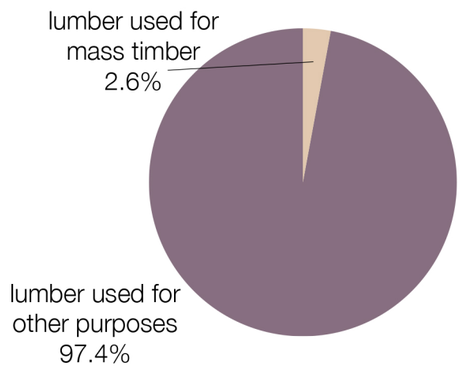
2019 data



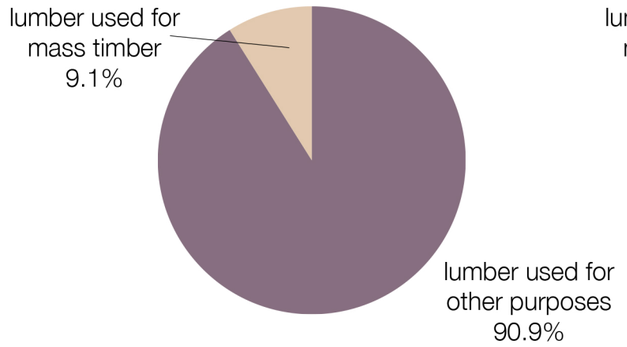
However, the report acknowledges that the industry's capacity to produce mass timber is nowhere close yet to meeting future demand. For example, the report estimates that by 2034 North American buildings could consume 576 million cubic feet of mass timber panels annually. That means manufacturers would need to boost their current capacities by a factor of nearly 40 to meet those demand projections.

-Building Design + Construction

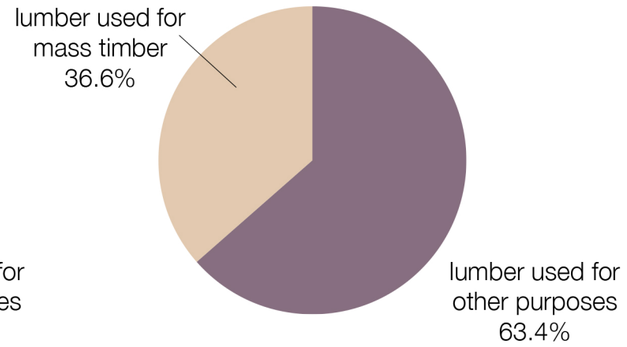
if lumber production stays at the 2019 level...



2026 projection



2030 projection



2034 projection

projections are calculated based on the mass timber construction stats of T3 and Carbon12 buildings and North American Mass Timber report

MASS TIMBER MANUFACTURERS
near NYC

Structure Fusion in Quebec City
(Glulam, Hybrid Timber, Fabrication)

Lignaterra Maine in Millinocket
(CLT Panels, Glulam Beams)

Nordic Structures in Montreal
(I-Joists, CLT, Glulam)

Element5 in Toronto
(CLT, NLT, LVL, Glulam)

Bensonwood in Walpole, NH
(CLT, NLT, Glulam, Fabrication)

523 miles

370 miles

512 miles

222 miles

506 miles

NYC

ATLANTIC
OCEAN

Most notable on the sustainability front is that NYC will now allow use of Cross Laminated Timber (CLT). This newer addition to the roster of mass timber engineered products (in conjunction with Glulam (GLT) columns and beams) allows for tall buildings made primarily from engineered wood.

Central Park

475 West
18th St

320 & 360
Wythe

283 Greene Ave

670 Union St

EWR -
Newark Liberty
International
Airport

Upper New
York Bay

TIMBER HOUSE

Staten Island

mass timber strategies: floating sawmill

creating chain of sawmills

unifying mass timber plant

Hudson River passive transportation (barge + tide 3 mph)

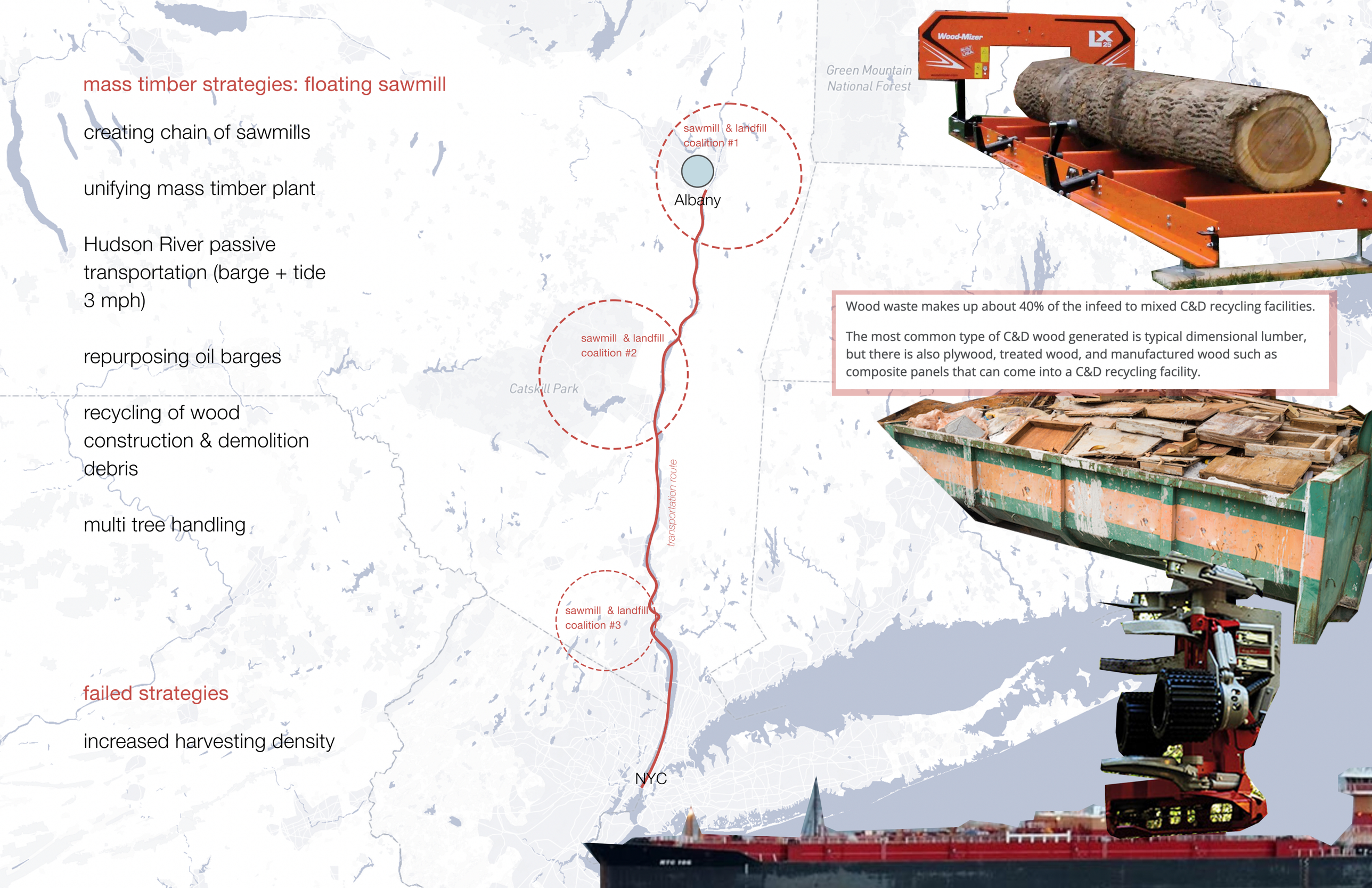
repurposing oil barges

recycling of wood construction & demolition debris

multi tree handling

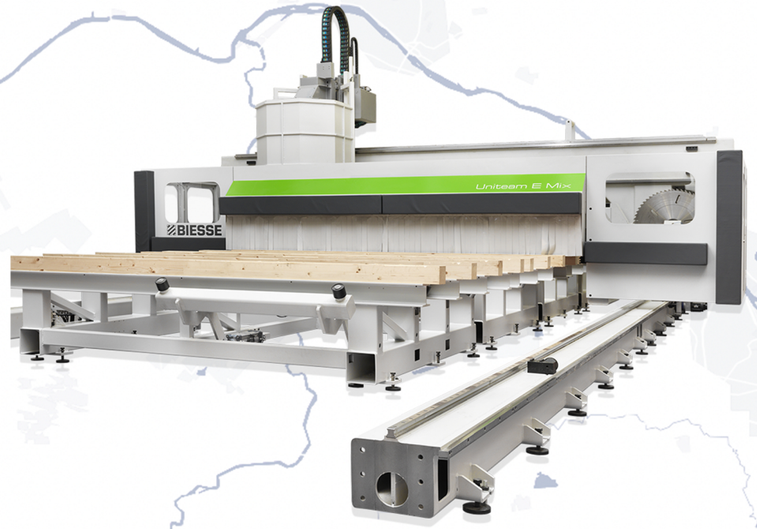
failed strategies

increased harvesting density



Wood waste makes up about 40% of the infeed to mixed C&D recycling facilities.

The most common type of C&D wood generated is typical dimensional lumber, but there is also plywood, treated wood, and manufactured wood such as composite panels that can come into a C&D recycling facility.



landfill
existing sawmill
floating sawmill

Albany

The Cobble

Albany to NYC:
153 miles

Hudson River's Floating Sawmill

Grade I – Pine

Grade I – Spruce

Grade II – Pine

Grade II – Spruce

Grade III – Pine

Grade III – Spruce

repurposing & regrading used timber

repurposed on the barge instead

58%

of demolished timber ends up in a landfill

source: scalerule.org

autonomous electric vehicles

logs from sawmills

recycled lumber

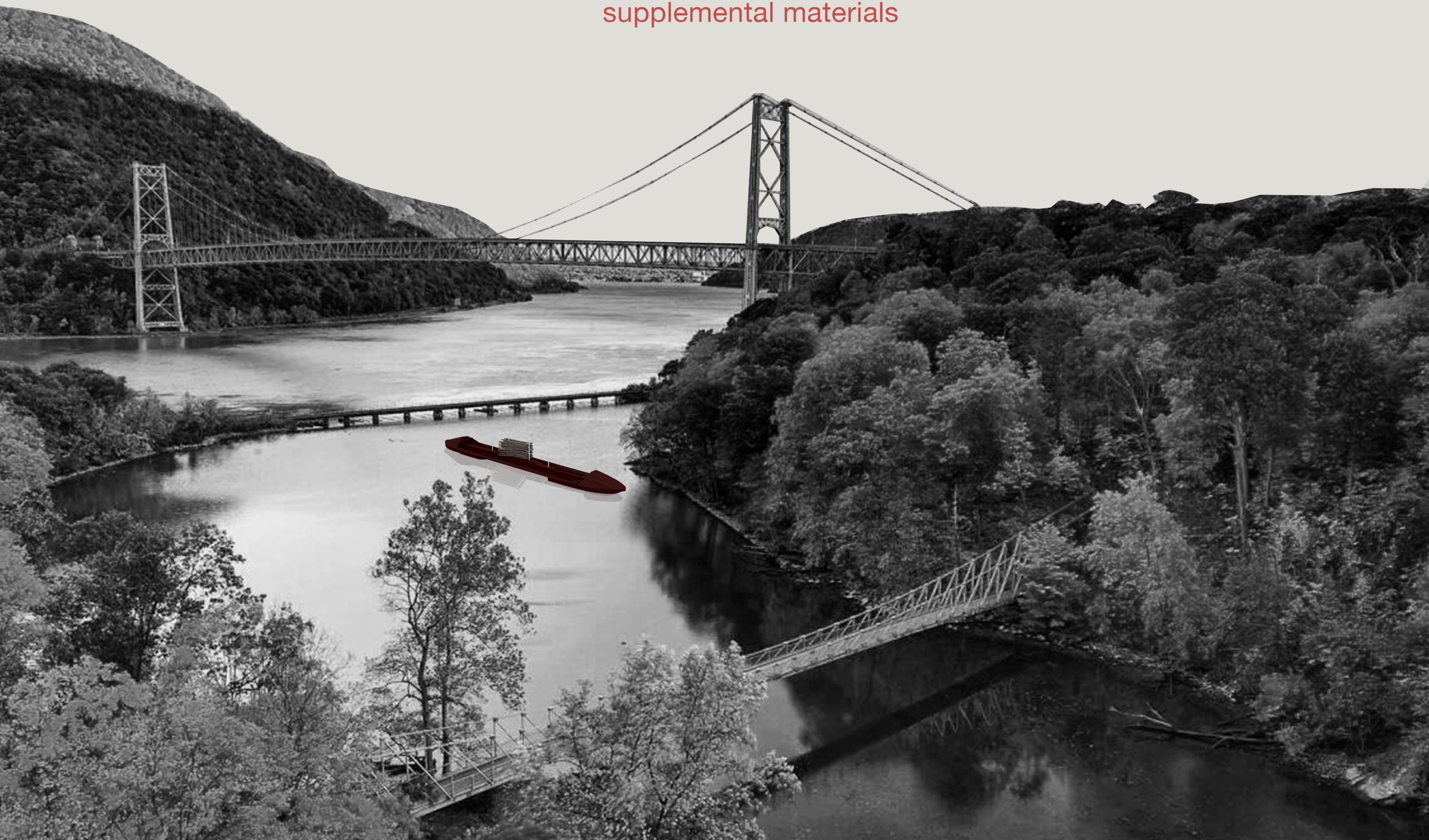
storage facility

barge parking +
macninery station

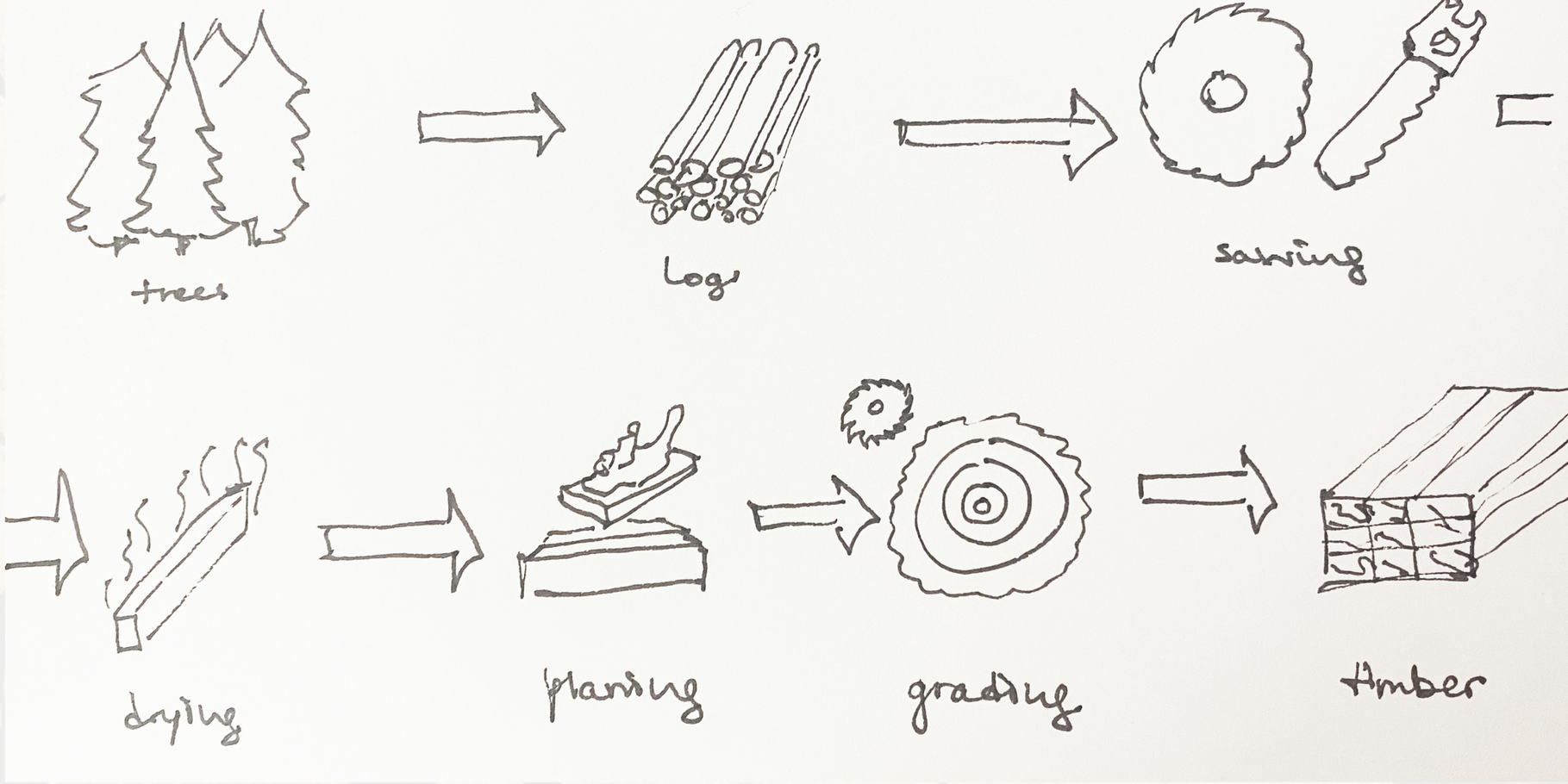
(located on a previously developed site)

reused oil barge – floating sawmill + tidal transportation

supplemental materials



Timber Production



LUMBER:TYPES OF TREES

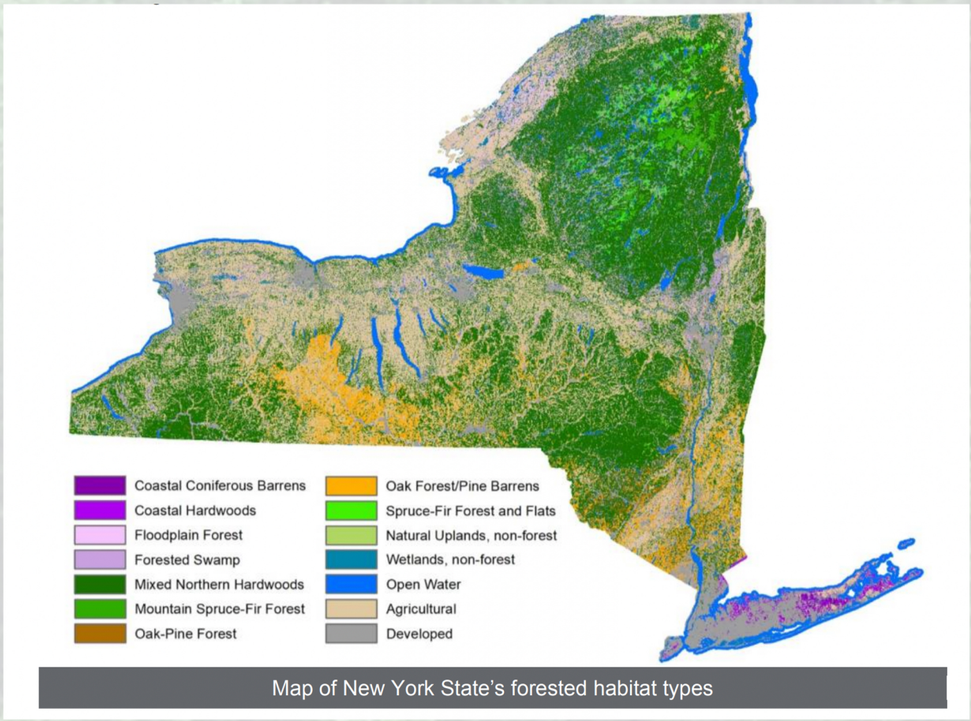
cedar

fir

hemlock

spruce

pine



Map of New York State's forested habitat types

THE FACT

IN NORTH AMERICA, WE GROW MANY MORE TREES THAN WE HARVEST