Forests and climate change

- There are many ways forests can help fight climate change: (forest C infographic just graphic version with numbers, then add text for all parts.
- The only way a forest can do any of these things, let alone continue to provide us with clean, filtered drinking water or improve our mental and physical well-being, is if it is still standing. The single most important action you can take as a landowner is to keep your forest as forest. If you are open to considering ways to protect your land and keep it as forest permanently, please do so. (Reference UMass/UVermont forest carbon document for more details)
- From a carbon standpoint, when a forest is converted to another land use a portion of the carbon stored in its trees is immediately lost as trees are cut, roots decay, and wood that isn't valuable enough to sell is often piled on site or used as mulch and other short-lived products.
- Every year after that, we lose carbon sequestration. Often called "foregone sequestration", this refers to the carbon that the forest used to pull from the atmosphere each year and turn into wood, roots, and soil.
- For this reason, "avoiding forest loss" is always listed first on the Family Forest Carbon Program list of practices. The differences between the remaining practices are relatively small, but choosing to convert your forest to development has a big negative impact on the short and long-term carbon balance.

What is the Family Forest Carbon Program?

- Response to the early- and mid-stage carbon markets, which generally did not work for family forest land owners in New England due to small parcel size.
- Copy content from C. Apps: different, practice-based approach (averages across parcels, not exact carbon benefits on yours). 10-20 year contract. Payments spread out. Part of most practices is developing a long-term forest management plan, if you don't have one already. Role of foresters and harvesters in the program. How verification works across all enrolled parcels. How payment works and timeline (varies by practice).
- This program focuses on carbon, and specifically on aboveground carbon stock, or carbon that is stored in trees. <u>But you should not.</u> As you think about the management of your forest and the future of your forest, don't lose sight of the reasons you own and enjoy your woods: a place to get out and enjoy nature, a home for particular wildlife species you are interested in, as part of your family legacy perhaps passed down from your parents or on to your children, a financial investment, a source of heat or maple syrup or furniture or lumber from the wood you harvest. Your management decisions should reflect all of your values – managing just for a short-term increase in carbon stock or in rate of growth makes as little sense as managing just for a short-term economic gain.
- All of the practices on this list have carbon benefits. We have not tried to rank practices and don't consider it valid to think about which one practice is the "right" one for you, and certainly not which is the "right" one for your neighbor! That's a decision for you to make with your forester, thinking about all the values of your forest and what will leave you feeling good about the decision and the impact you have made. In an ideal world, we'd like to see different landowners choose different practices.

- Landscape context needs to go somewhere, with the bell curve showing desired future condition (see what VT's numbers are for this – know DCRs and DFWs for MA).

Prominent sidebar in first section: Wood is carbon

- Pay particular attention to what wood products you may be generating that can be used to store carbon in the long-term. None of these practices allow high-grading ("take the best and leave the rest"), large-scale clearcutting, or short-term decisions that reduce the ability of the forest to provide wood and other services in the future. So if you are choosing from our list of carbon-beneficial practices, the wood that comes out of those harvests is sustainable. Wood that is used to substitute for more carbon-intensive materials, like concrete, steel, heating oil, or irresponsibly harvested wood from tropical forests or from forests on the other side of the globe has a huge carbon benefit. In this program specifically, we are not paying landowners for that carbon value, but that does not mean that it should be ignored as you think about how to manage your land.
- Once dried, wood is about 50% carbon. In a way, we've always cared about and measured carbon in the forest, we just used to call it something different. In Massachusetts, the oldest timber frame (? Check with Jessica's article?) in the US is still standing, holding significant amounts of carbon from trees harvested in the 1600s. As states and countries and the world think about forests and climate change, they are trying to make sure that the wood we use is sustainably harvested (which yours will be), and that we don't take actions in places that have climate change policies in place (like New England) that reduce wood production here to the point that people start using less sustainable products that take more carbon to produce and ship.
- So why not pay for this carbon? The Family Forest Carbon Program model is based on the idea that many carbon-beneficial practices cost landowners money, at least in the near term. The FFCP is paying for a change in behavior from the "common practice" or "business as usual" harvest to one that might leave more standing dead trees on site, or harvest less intensively, or pay to remove invasive plants or fence out deer. All of those things cost the landowner money. For many of you, part of the money from a harvest will come from the FFCP, and then additional income will come from selling wood. Since wood is a form of forest carbon that has a value in the marketplace already, we don't include payments for it in the FFCP.

The Family Forest Carbon Practices

- How we chose these practices. Starting in 2019, a team from The Nature Conservancy, American Forest Foundation, the US Forest Service, looked through existing lists of forestry practices that were considered "good for the climate". With help from a group of about 20 stakeholders, including County and Service foresters, private consulting foresters, loggers, forestry professors, land trusts, and others, we narrowed these existing resources down to 10 practices that have benefits to carbon stock on the land to which they are applied, within 20 years (the timeframe of the Family Forest Carbon Program contracts). Most of these practices show carbon benefits immediately. A few, such as reforestation, take several years to begin showing carbon benefits.

All should produce carbon benefits every year after 20 years, too, barring things like insect outbreaks, natural disasters, or, most importantly, conversion of the land to development.

- As we wrote the list of practices, we realized that some of these practices don't fit the FFCP model of payments over several years in a 20-year contract. Others lend themselves to the way FFCP measures and pays for carbon. As a landowner, you should feel good about any practice on this list (we certainly do!).

Carbon practices: (Along side, for first 4, show: these practices are not eligible for FFCP payments, and along last 6, these practices are eligible for FFCP payments)

1. Avoiding forest loss
2. Avoiding pre-salvage logging
3. Extending cutting cycles
4. Planting trees along streets and in yards

5. Reforestation
6. Creating regeneration with complexity
7. Retaining more carbon in thinnings
8. Establishing reserves
9. Protecting regeneration from deer and moose
10. Removing competing vegetation