Summary of Timber Harvest Task Force Recommendations for improving the modeling of forest harvesting

October WTWG meeting

Katie Brownson, USFS

Timber Harvest Task Force background

- Convened in early 2023 at the request of the Forestry Workgroup and the Land Use Workgroup to help improve the mapping and modeling of forest harvest activities in the watershed
- Includes representatives from all watershed states
- Improved reporting of forest harvesting activities to improve mapping in 2024 ed of the LULC data
- Identified multiple opportunities to improve modeling of forest harvest for Phase 7
- Recommendations approved by FWG at Sept meeting

THTF Recommendations

Harvested forest land use duration

- Loading rates for harvested forest land use were estimated based on an average over the three-year period following harvest
- After a harvest, land should continue to load as harvested forest for 3 years prior to reverting back to true forest (it currently only stays in harvest for 1 year).
  - CAST harvested forest land use= land that has been harvested in the last 3 years

Harvested forest default rate

- For states that don't report their harvested forest acres as part of their annual Progress reporting, the default rate for harvested forest should be changed from 1.5% of true forest to 1.1% of true forest.
- 1.1% was derived using FIA data to estimate the % of true forest that is harvested annually watershed-wide

FIA Timber Harvest data

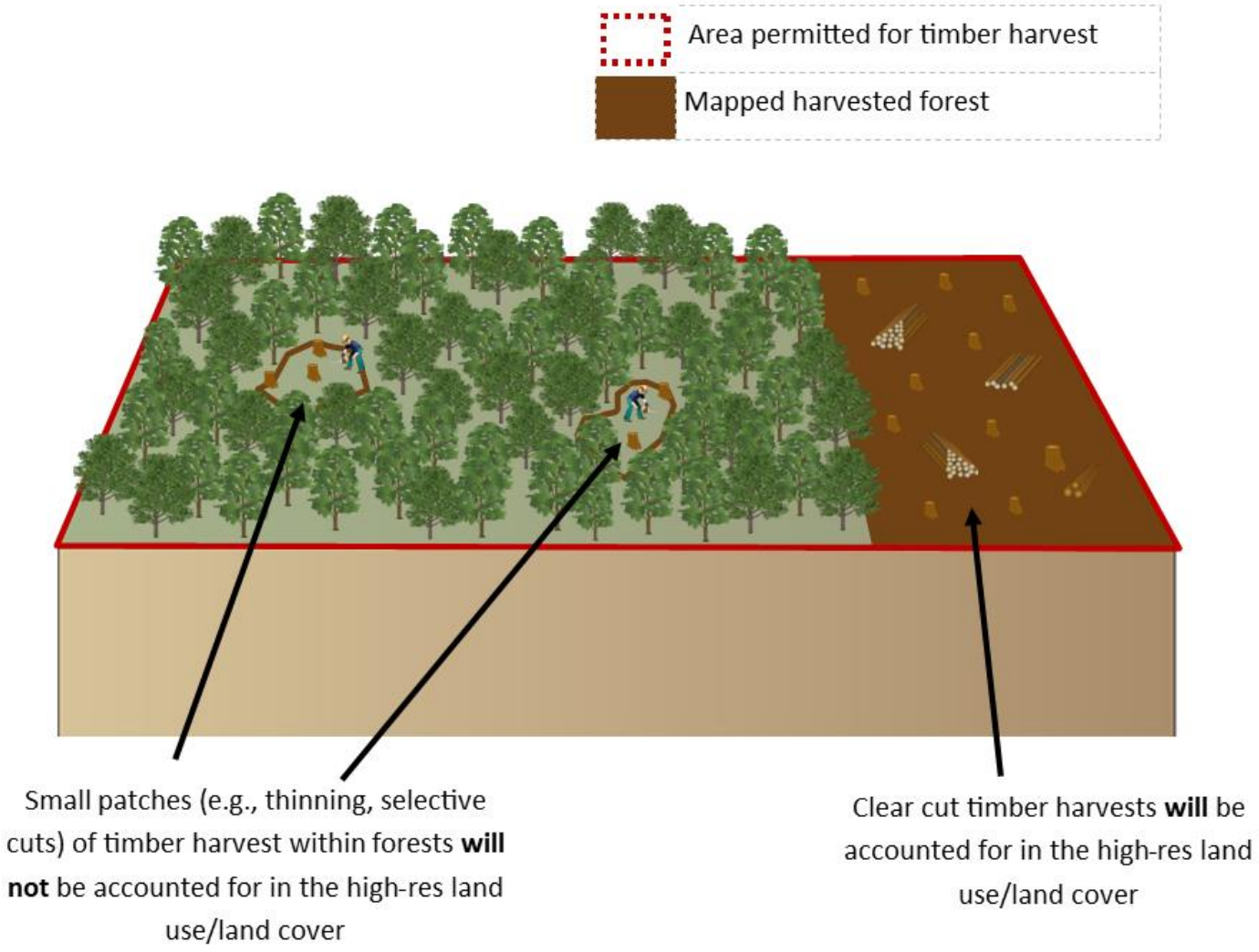
- Data provided is clipped to watershed boundary
- Inventory identifies plots with “cutting” treatments
  - “Cutting” is the removal of one or more trees from a stand
    - “Treatments” should affect at least 1 acre
    - Doesn’t distinguish between clear cuts and selective harvest
- FIA samples a subset of plots annually
  - Most states in CBW are on a 7-year cycle
  - VA is on a 5-year cycle

Revisiting the default harvest rate (FIA)

	total % cut/cycle length	annual % cut estimates (using remeasured plots)
CBW	1.06%	1.11%
DE	0.76%	0.89%
MD	0.30%	0.38%
NY	1.41%	1.90%
PA	1.00%	1.20%
VA	0.89%	1.09%
WV	0.55%	0.65%

Current process for modeling timber harvest acreages

- Some states reports harvested forest acreage to CBP at county scale
  - Reported harvested forest acres are proportionately allocated to sub-county modeling units (land-river segments, LR Segs) by the CBP based on the relative amount of “true forest” within each unit
- States that don’t report harvested forest acreage have the default rate (currently 1.5%) applied proportionately based on the distribution of true forest across LR Segs
- USGS maps clearcuts every 4-5 years (and interpolates for intervening years)
- Both mapped and reported/default acres are subtracted from “true forest”
  - Clearcuts are getting double-counted! This is a particular issue for states with significant amounts of clearcuts



FIA-derived estimates of more intensive harvests (2018)

	% of harvests in "clearcut"
CBW	20.92%
DE	32.86%
MD	21.44%
NY	0.00%
PA	8.72%
VA	47.31%
WV	0.51%

Graphic credit: Jackie Pickford, USGS

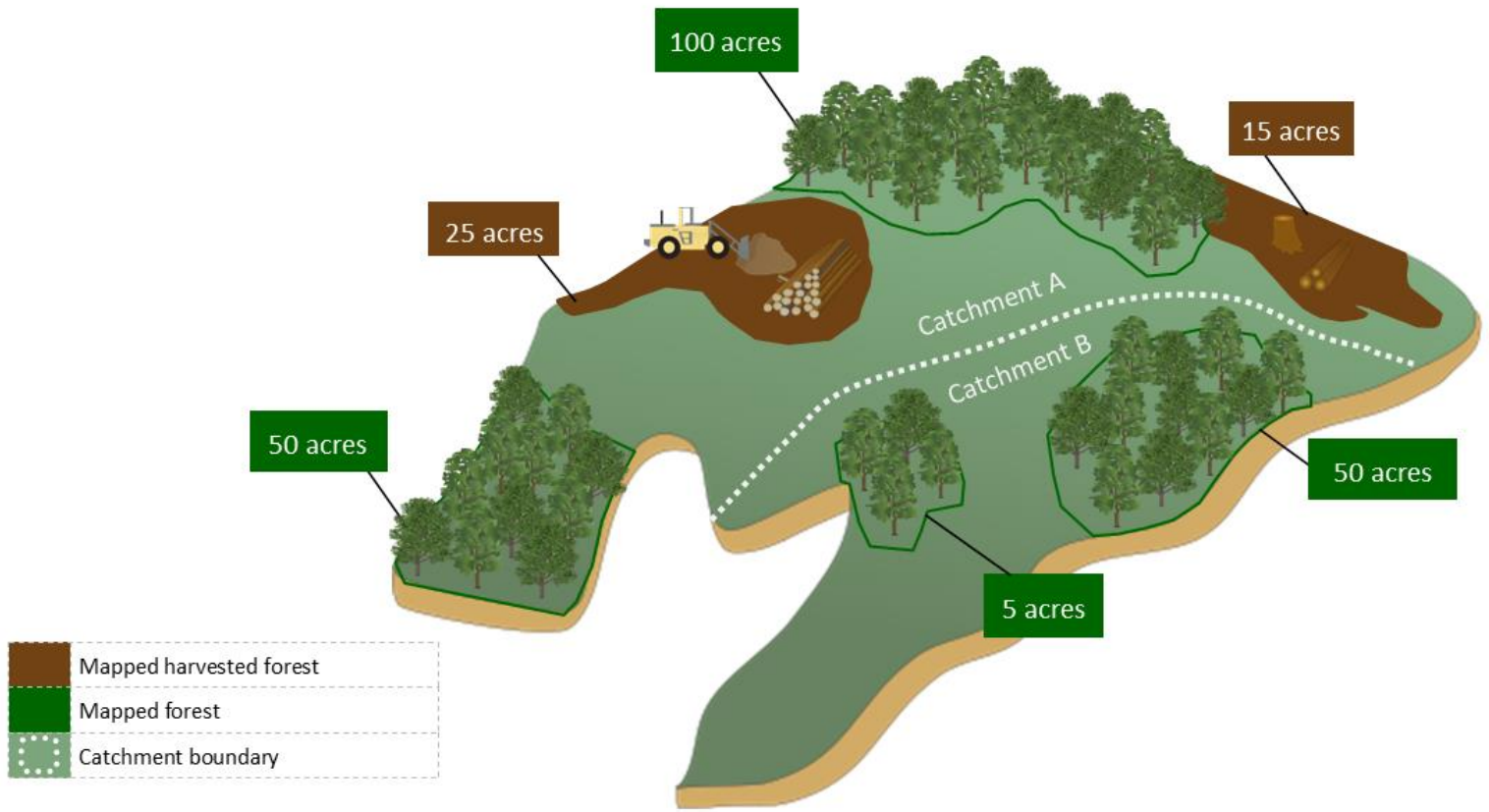
THTF Recommendations

Reconciling reported and mapped harvest data to avoid double-counting of clearcuts and improving spatial allocation of harvest

- States continue to report harvest data at the county scale
- Reported data are spatially allocated to the harvested forest footprint up to the amount reported
- Any additional reported acres (above mapped acres) are distributed across NHD catchments within each county based on relative amount of “harvestable” forest in each catchment
  - “Harvestable” forest would be defined as forest patches >10 acres
  - “Harvestable” forest footprint would be updated with the LULC data (every 4-5 years)

County X reported 100 acres of harvested forest. The land use/land cover mapped 40 acres of harvested forest.

How do we reconcile the remaining **60 acres** of harvested forest?



Proposed Phase 7 Approach:

Identify large patches of harvestable forest (>10 acres) in which remaining acres of reported harvest data can be allocated.

Graphic credit: Jackie Pickford, USGS

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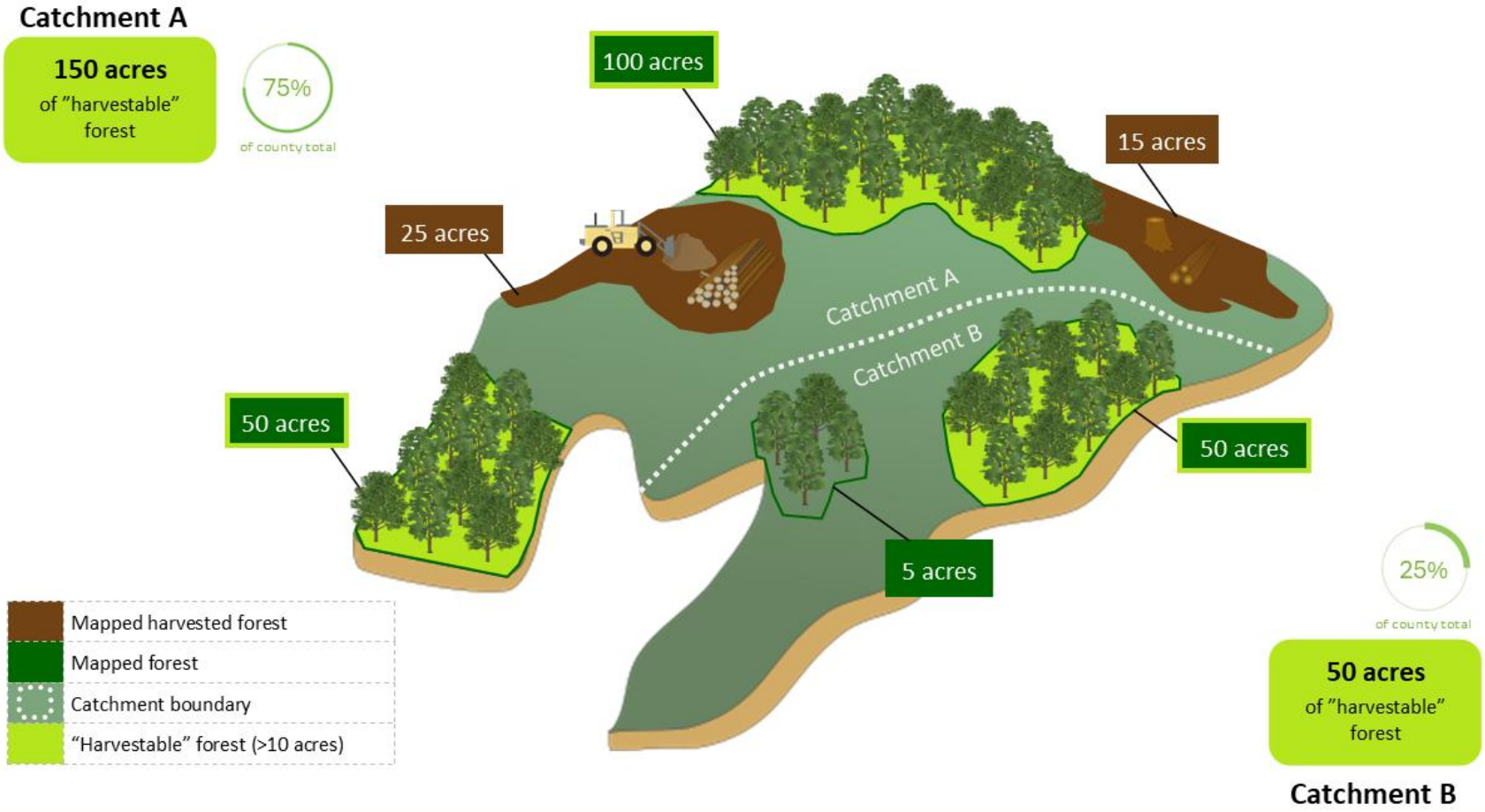

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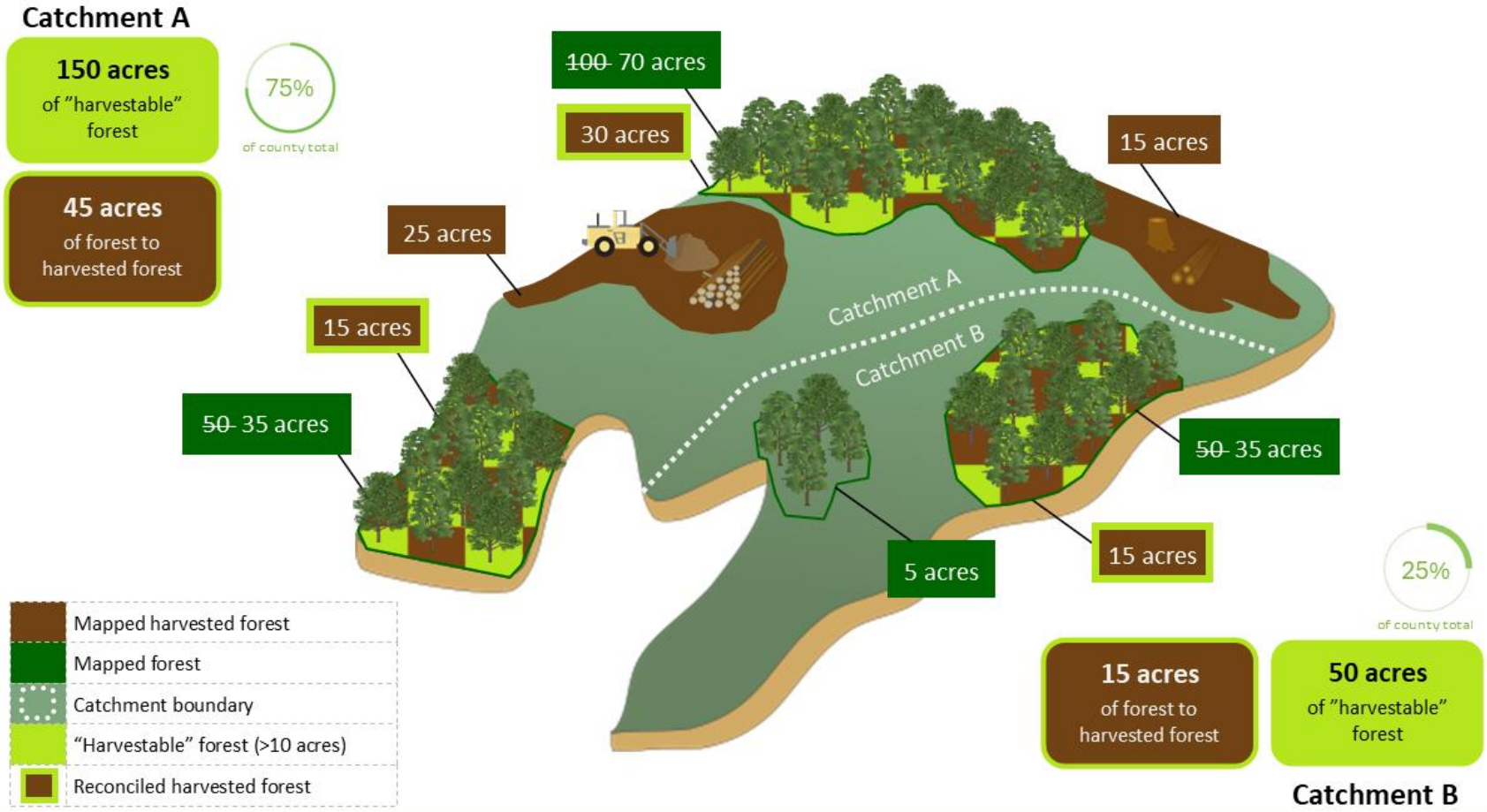

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Questions/Concerns?

Katherine.brownson@usda.gov