

Agroforestry Case Studies:

Putting Trees to Work in the Mid-Atlantic



Chesapeake Bay Agroforestry Team Meeting
Colleen Rossier
May 2014










Outline


- First Adopters of Agroforestry Production Systems
 - Virginia: 2 farms
 - Pennsylvania: 3 farms
 - Others with potential?
 - New York, Maryland, Delaware, West Virginia
- Themes
- Your thoughts? Feel free to chime in!

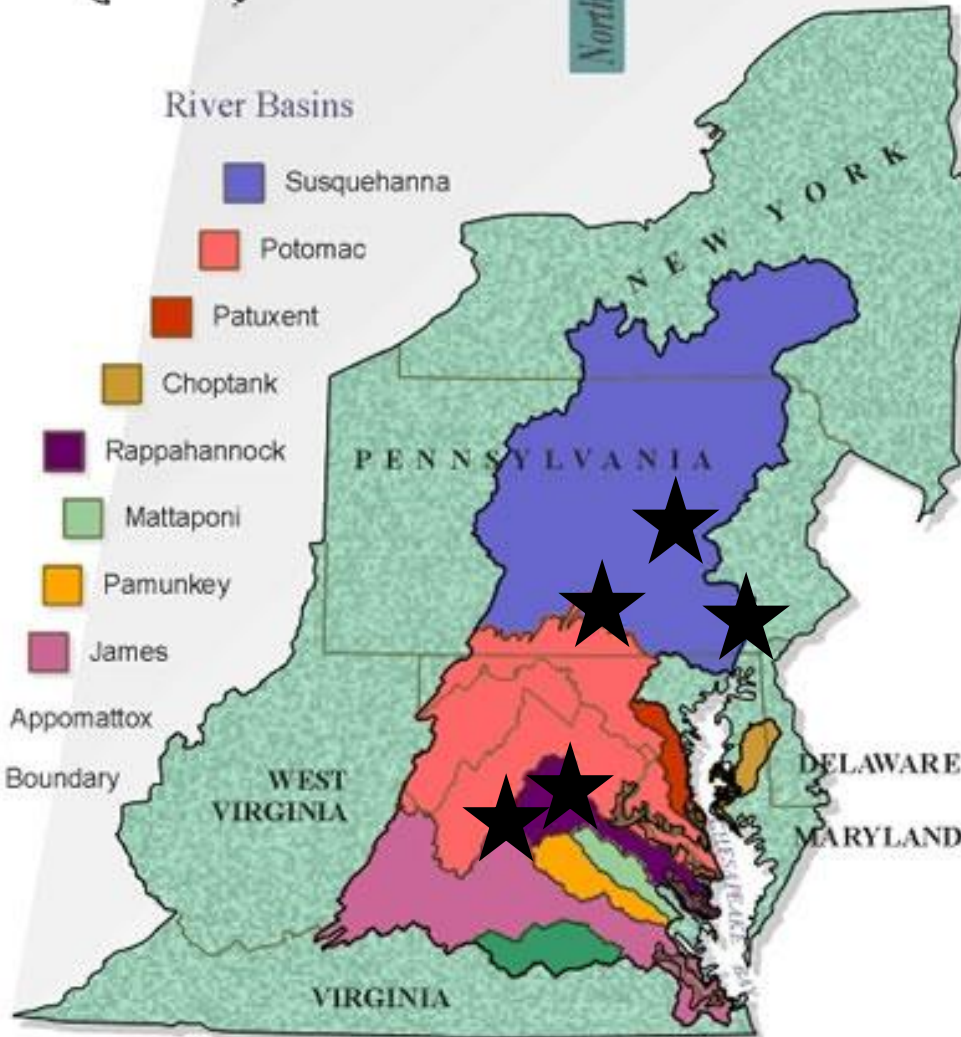
Location in the United States



River Basins

-  Susquehanna
-  Potomac
-  Patuxent
-  Choptank
-  Rappahannock
-  Mattaponi
-  Pamunkey
-  James
-  Appomattox

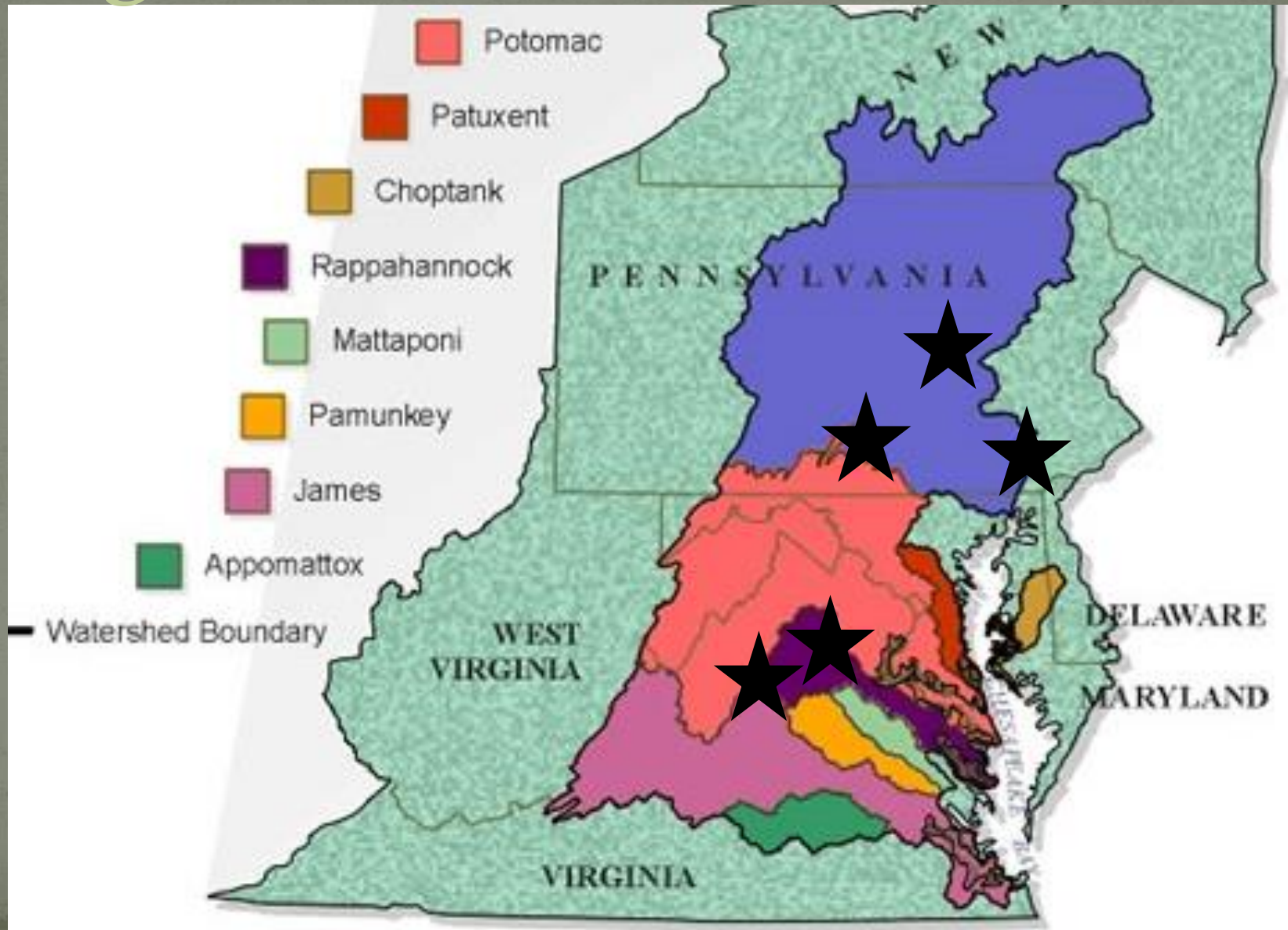
 Watershed Boundary



Outline

- For Each Farm:
 - Year started
 - Agroforestry system
 - Products
 - Size/Scale
 - Why agroforestry?
 - How is it possible?
 - Challenges & how we can help....

Virginia:



Silvopasture

Briery Creek Forest Farm

Chris & Lara Fields-Johnson

Scottsville, VA

Started in 2005 with 300 ac:

- loblolly pine plantation (majority)
- hardwoods

Leased land

Hand-thinned loblolly pines, prescribed burns, and seeded native grass.

Now: sheep and goats in 50 ac rotational silvopasture

Continuing to convert additional land to silvopasture and forest farming.



Before thinning . . .



Prescribed burn



Goat & sheep silvopasture



Goat & sheep silvopasture rotations



Forest farming



Why agroforestry?

- Restore the land and teach others to do so as well.

Products: fleeces, Great Pyrenees pups, prescribed burning service, goat brush/invasives removal

Future plans: goat and sheep meat, perhaps dairy

Additional funds: Both have off-farm jobs (and Chris is finishing dissertation)

Challenges: Large start up costs/energy, little information on their system so trial and error, do not own land.

- USDA NRCS – lots of forms, unfamiliar for non-traditional farmers

Opportunities: Enjoy the challenge, the scenery, and the work.

- On-farm research = ideal

Silvopasture / Riparian Buffers/Alley Cropping Brightwood Farm and Vineyard

Susan and Dean Vidal

Brightwood, VA

Started in 2001 with:

1 acre pumpkin patch and grapes

100 acre farm (owners)

Rapidan-Upper Rappahannock watershed

Products: 20 CSA shares, microgreens to restaurants, goat kids, lambs, gooseberries, currants, raspberries, blackberries, jam, meat, eggs, certified organic vegetables, seeds

Silvopasture / Riparian Buffers/Alley Cropping Brightwood Farm and Vineyard

Silvopasture:

2011: planted black locust and oaks = fodder/shade for goats/sheep

Riparian Buffers:

NRCS: stream restoration, cattle fencing, vegetation planting, check dams, grass water ways

Alley Cropping:

Elderberries (wine, jam, syrup) and hay

Organization!



Shaded ducks



Cow and donkeys



Black locust – established without herbicide, but with hardware cloth



Tunis sheep (meat and wool) & Spanish goats (meat – conservation/heritage status) with tree plantings (300)



Silvopasture tree plantings



Tunis sheep (meat & wool) & Spanish goats (meat – conservation/heritage status) with tree plantings



NRCS:

- fenced animals out of stream,
- dug wells,
- restored the streambank, and
- planted trees along it to prevent erosion.

FSA CRP: 3 acres in riparian zone.



Robinson River → Rapidan → Rappahannock → Chesapeake Bay





Grapes on contour



Elderberry on contour intercropped with hay /sheep & chicken grazing area.



Elderberry on contour intercropped with hay /sheep & chicken grazing area.



Microgreens for local restaurants



Why agroforestry?

- Interested in non-chemical agriculture, and teaching others to do so as well – especially interested in American wine and conservation.

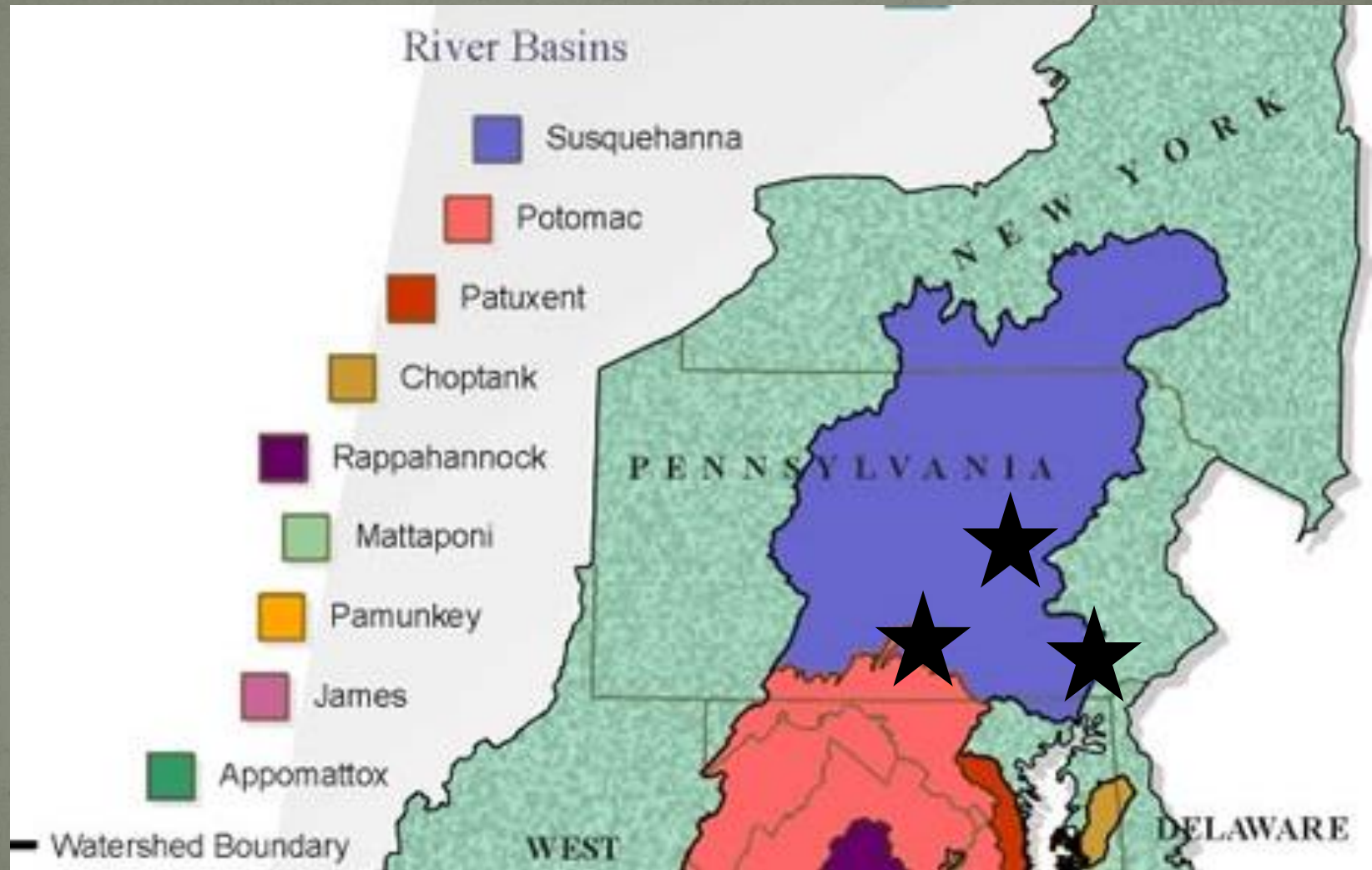
Future plans: forest farming with currants, shiitake logs, elderberries, organic American wine grapes,

Additional funds: run Bed & Breakfast on-farm; Husband has off-farm job

Challenges: Non-chemical farming; Goats give birth in fall better than spring (less parasites); oddball among neighbors. Take it one step at a time.

Opportunities: Enjoy being outside, doing something she is passionate about. Lots to learn. 3 apprentices/growing season. Educational mentor & NRCS demonstration farm.

Pennsylvania:



Silvopasture / Riparian Buffers

Wyebrook Farm

Dean Carlson

Honeybrook, PA

Started in 2010

Brandywine-Christina watershed (not CB?)

360 acres owned + 100 leased

Products: chicken, beef, pork + host chef dinners, music festivals, and other events

18th Century barn with:

- Butcher
- Café
- Farm store (with other local farm's products)

Dean with pig/hardwoods - part of a SARE research/demonstration project





Hogs



Red angus and devon cattle in honeylocust silvopasture.



Red angus and devon cattle in honeylocust silvopasture.



Solar-paneled barn!



18th Century Barn → now farm store



Inside the farm store = butcher





Farm store selling other local farmers' and artisans' products







Butternut
Squash
1.65/lb.

Laura's
Biscotti
\$7.50
*Featured on tonight's
menu!*

Jonagold
Apples
\$1.59/lb

Sweet Potatoes
Medium 75¢/lb.
Baby \$1.99/lb

Why agroforestry?

- Alternative to modern farming system.
- Growing own food.
- Shade/fodder for animals in future climate conditions

Future plans: shift to grass-finished beef; more fencing, water management, trees.

Challenges: Cash flow initially; fencing uneven terrain; thinning small trees; water.

Opportunities: Jobs, Educating people about where food comes from and alternatives to our food system

Forest Farming Springhaven Nursery

Dave and Dianne Cornman

Newberg, PA

Bought the farm in the 1970s.
Started the nursery in 1995

Lower Susquehanna-Swatara watershed

Own 30 acres

Native woodland plants – sells at farmers markets and plant shows...

trilliums, barberry, hellebores, hepatica, turnleaf,
black cohosh , lady slippers, geranium, goldenseal, bloodroot,

...

Dave in the winter garden. Raised beds.







Pitcher plants in a cold frame to keep warm.



Pitcher plants



Why agroforestry?

- Love working outside with plants in a forest setting

Future plans: increase ginseng and goldenseal, emphasize water plants by creeks and bogs, pitcher plants, selective cuts in the hardwoods to open up the canopy, perhaps more food plants

Challenges: Says it is not a big moneymaker, but love the work; voles, squirrels, tree competition = challenges overcome

Opportunities: Working outside in a job he loves

Silvopasture / Riparian Buffers

Forks Farm

John and Todd Hopkins

Orangeville, PA

Bought farm in 1986; agroforestry in 1992

Upper Susquehanna-Lackawanna watershed

Own 135 acres + 15 rented. Farm visit on 85.

Produce grassfed beef, woodlot pork, pastured chicken and turkey, eggs + partner with other farmers nearby (lamb).

Farm store + buying clubs

Rehabilitated land with thinning and animals.

Now intensive rotations + rest

John and Todd by their Forks Farm delivery van



Solar pumped well – NRCS + fencing and winter water for cattle



Mixture of Northern hardwoods and oak/hickory forest types = diverse food/shade



Pastured egg layers



Cattle in hardwood silvopasture.



Back-scratching tree



Multiflora rose (invasive)



Pigs help to tame the multiflora rose. Intensive rotational management is key.



“Winter barn”



Why agroforestry?

- Rehabilitate leached soil and overgrown Virginia pine thicket
- Used animals to create flash disturbances, fertilizer, rooting
- Read Stockman Grass Farmer, Joel Salatin, Wendell Barry, Bill Murphy, and others

Future plans: More trees in buffer strips (natural recruitment); perhaps forest farming (currants, berries, ramps, ginseng?); Retirement in the not-too-distant future so recruiting next generation

Additional funds: John is a consulting forester; Todd is a physical therapist

Helpful: NRCS; Penn State Extension; Cornell Extension; CBF; PASA

Challenges: Keeping up with the demand! Need more local slaughterhouses; removing invasive plants; foresters who say no cows in the forest

Opportunities: Working outside; building community of neighbors and partners; education (apprentices and entrepreneurs); healthy food; entrepreneurs to start slaughter/butcher businesses

Themes

Period of transition = difficult

Non-traditional + new farmers are unfamiliar with USDA programs

Wyebrook

Briary Creek

Springhaven

vs.

Forks

Brightwood

Off-farm jobs often necessary

Collaborations such as on-farm research (both biophysical and social), demonstrations, field days, and watershed-scale efforts= ideal.

People driven by social/ecological ethic, enjoy the work

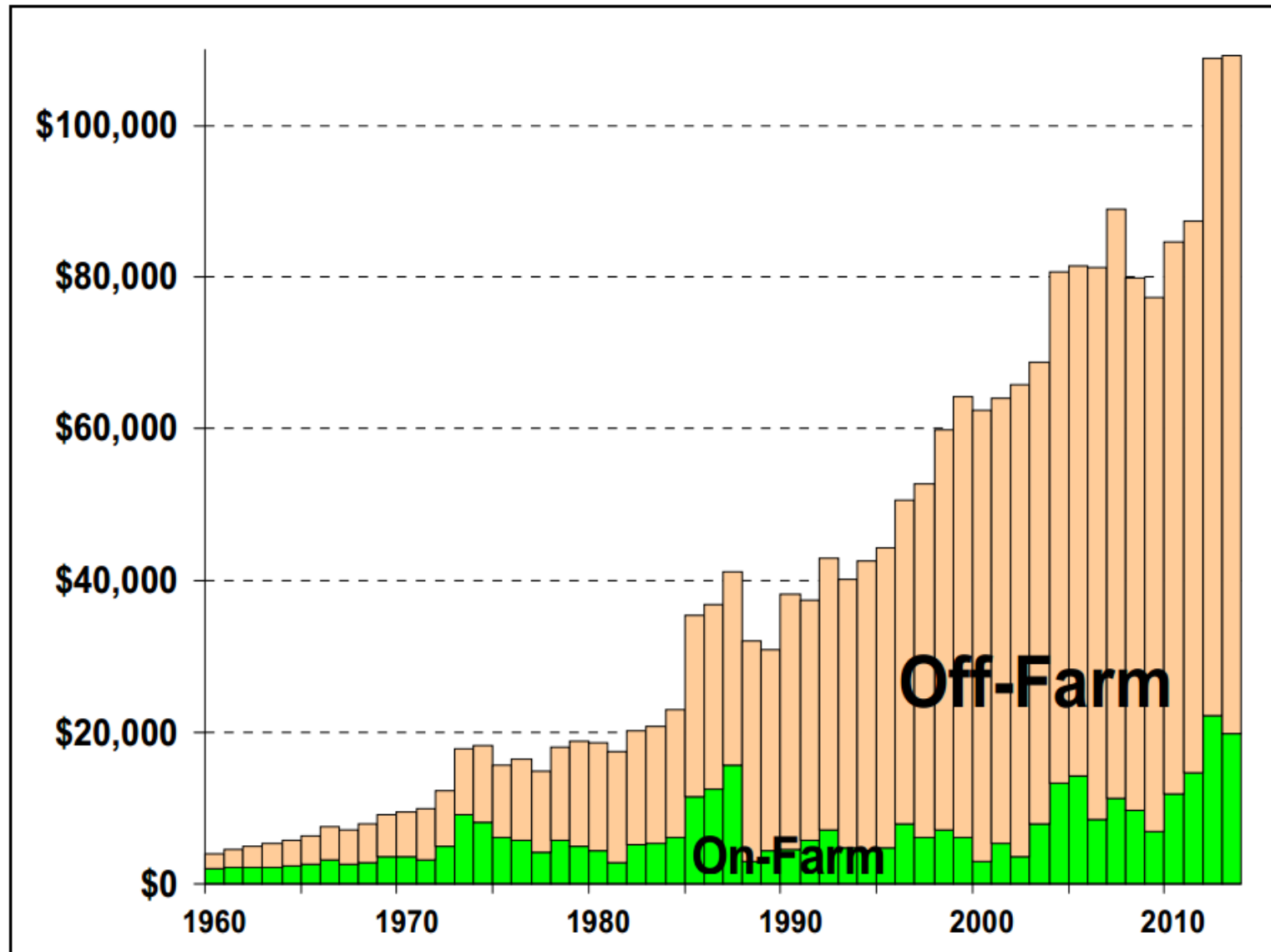
Putting it in context: off-farm income

Not unusual for farm businesses (especially small/beginning)

2013 USDA-ERS Reports:

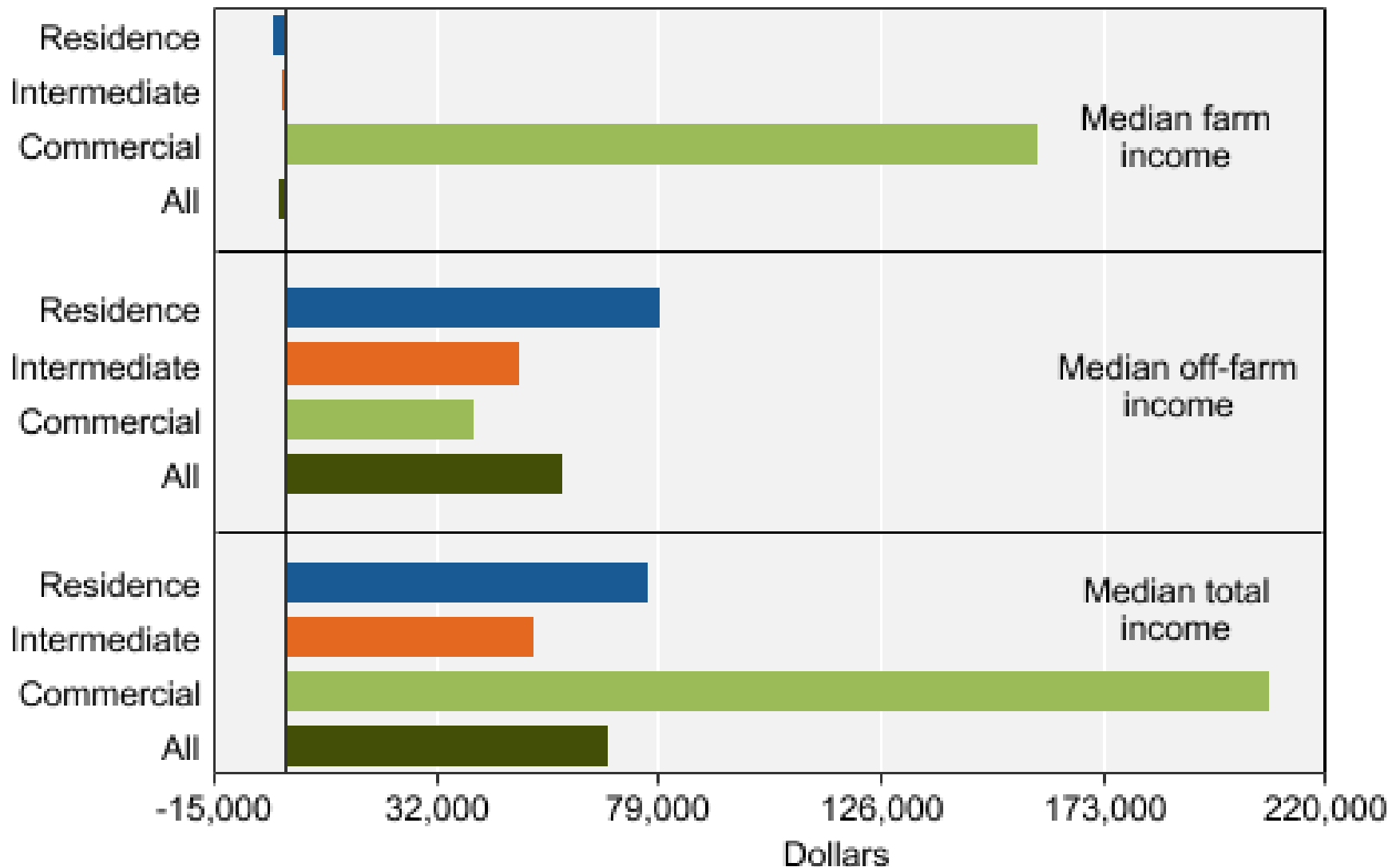
- 91% farm households have at least 1 family member working off-farm
- In 2013, 82% of farm income came from non-farm sources

Figure 23. U.S. Average Farm Household Income, On- and Off-Farm Sources, Since 1960



Source: USDA, ERS, "Farm Household Economics and Well-Being: Historic Data On Farm Operator Household Income," November 26, 2013.

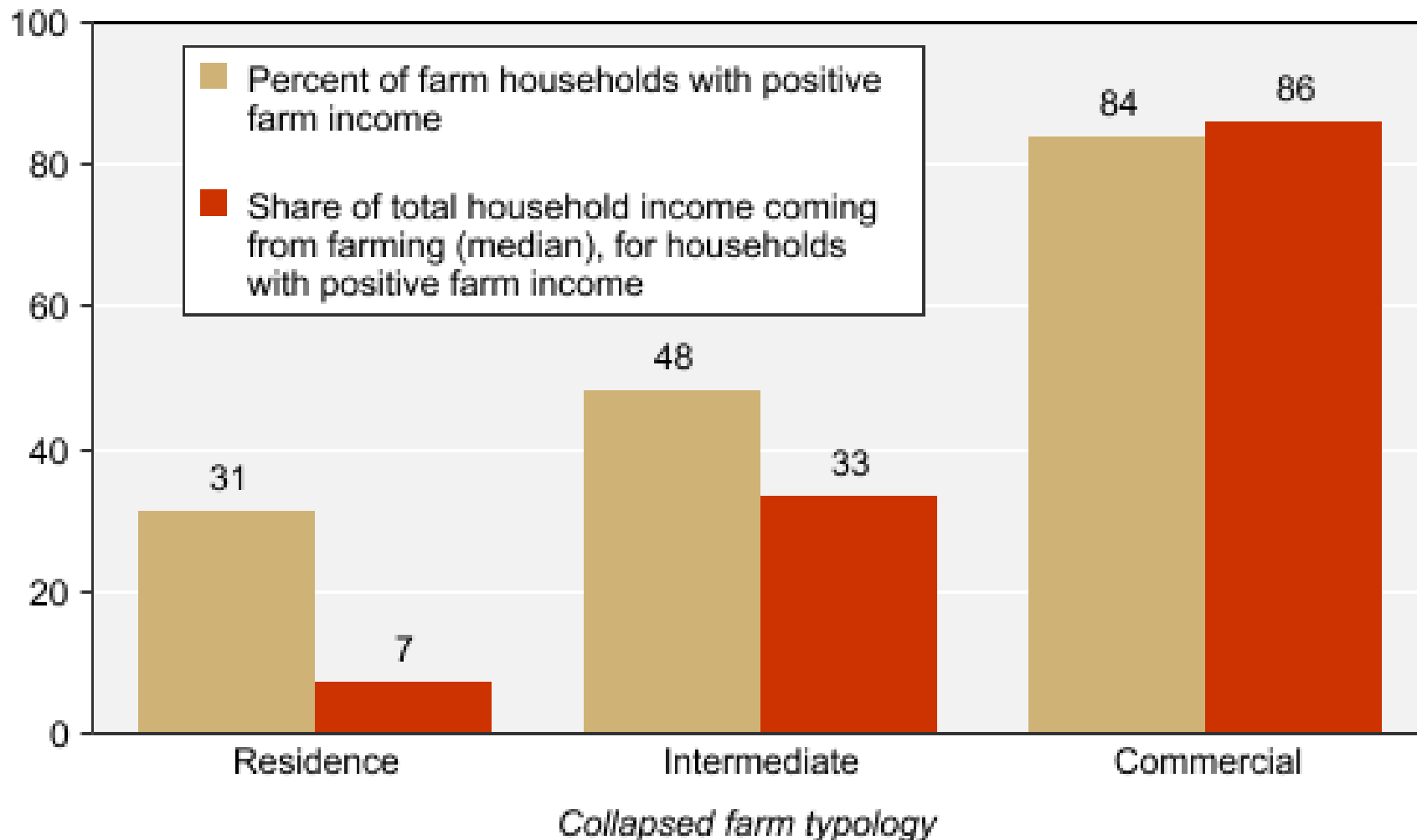
Median farm income, median off-farm income, and median total income of farm operator households, by farm typology, 2012



Source: USDA, Economic Research Service and National Agricultural Statistics Service, Agricultural Resource Management Survey. Data as of November 26, 2013.

Percent of farms with positive farm income, and their median share of total household income coming from farming, 2012

Percent



Source: USDA, Economic Research Service and National Agricultural Statistics Service, Agricultural Resource Management Survey. Data as of November 26, 2013.

USDA Support (for farmers)

- Cooperative Extension
- FSA:
 - Farm Loans
 - Conservation Reserve Program (CRP & CREP)
- NIFA:
 - SBIR for processing equipment
 - SARE Farmer/Rancher
- Rural Development:
 - Value-added Producer Grant (VAPG): Business plan & develop new market opportunities
 - Rural energy grant to install wind turbine

USDA Support (for farmers)

NRCS:

- Conservation Planning/technical assistance
- Agricultural Water Enhancement Program (AWEP)
- Wildlife Habitat Incentive Program (WHIP)
- Environmental Quality Incentives Program (EQIP)
- Conservation Stewardship Program (CSP)
- Conservation Innovation Grant (CIG)

USDA organic certification for wild crops (through local certifying agent)

State Departments of Forestry:

- Forest Stewardship Planning/technical assistance

USDA Support (for scientists/educators)

NIFA:

- SARE Researcher/Education/Professional Development grants
- AFRI grants

NRCS:

- Conservation Innovation Grant (CIG)

AMS – through State Dept of Ag:

- Specialty Crop Block Grant (SCBG)
- Federal State Market Improvement Program (FSMIP)

Thanks to the interviewees for their time and USDA-NAC for funding the visits, and others for their suggestions!

- John and Todd Hopkins
- Chris and Lara Fields Johnson
- Dean Carlson
- Dave Cornman
- Susan Vidal
- Tracey Coulter, Julie Mawhorter, Sally Claggett, & others for suggestions
- J.B. Daniels for organizing VA silvopasture tour

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Thank you!

Additional case studies?

Let USDA know!

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Ecology/Agroforestry/Farming