Chesapeake Forest Restoration strategy update

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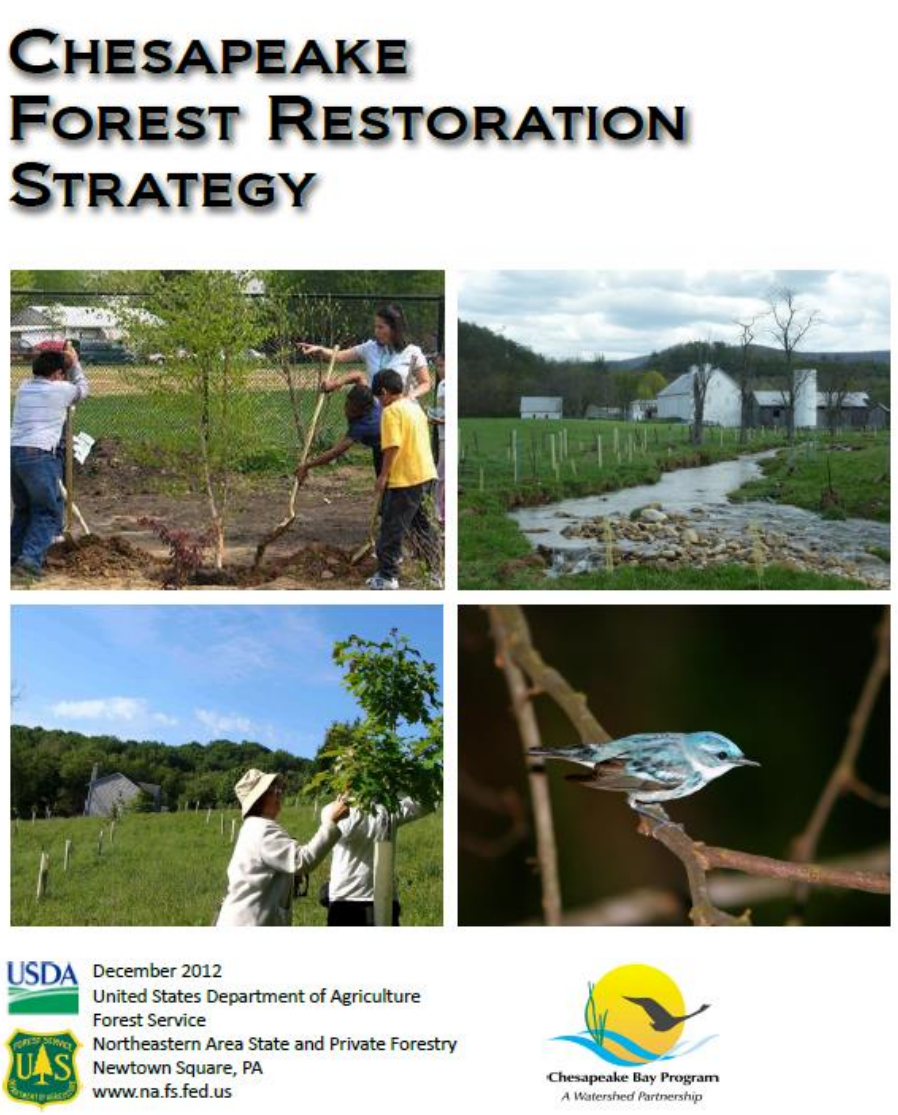
Climate Resiliency Workgroup meeting

Original strategy

- Completed in 2012
- Included five focus areas: Wildlife Habitat, Mine Lands, Agroforestry, Urban and Community, and Contaminated Lands
- >60 people involved
- Signed by USFS chief and all Chesapeake state foresters



Proposed updates to the FRS

- Reframing to reflect new CB agreement and USFS priorities
- Updated data and figures
- Feature new forest restoration projects
- Financial and technical assistance information
- Tools and science for prioritizing restoration projects
- Reorganizing and adding new sections
    - Climate Change!

Climate change and forest restoration

Climate projections

Forests and climate change mitigation

Forests and climate change adaptation

Planning resilient forest restoration projects (“climate-smart forest restoration”)

Benefits of forest restoration for adapting to projected increases in rainfall

- Flood mitigation
  - Forests have higher rates of infiltration and evapotranspiration
  - Woody debris can locally reduce stream velocity
  - Riparian restoration in middle/ upper sub-basins can help desynchronize flood peaks
- Soil erosion control
  - Reduces stream sedimentation (habitat and water quality benefits)

Source: CBS

Benefits of forest restoration for adapting to projected increases in temperature

- Stream cooling
  - Important for brook trout habitat
- Urban environment cooling
  - Mitigating urban heat island effect
- Soil moisture retention

Source: CBP

“Climate-smart” forest restoration

- Tree species selection
  - USFS Tree Atlas projections of tree species response to climate change
  - Potential for assisted migration
- Genetics
  - Selecting for resilience to projected changes in climate
  - Selecting for resilience to other environmental shifts (invasive species, pests, disease, etc.)

471	Eastern redbud	Large increase	Large increase
129	Eastern white pine	Small decrease	Large decrease
491	Flowering dogwood	Small increase	Large increase
379	Gray birch	Small decrease	Small decrease
544	Green ash	No Change	Large increase
462	Hackberry	Small increase	Large increase
552	Honeylocust	No Change	Large increase
105	Jack pine	Large decrease	Large decrease
820	Laurel oak**	New habitat	New habitat

Source: CBP

“Climate-smart” forest restoration

- Site selection and BMP design
  - Changes in rainfall intensity, duration and volume
- Timing of plantings
  - Seasonal shifts
- Maintenance
  - Increased invasive species growth
- Environmental justice considerations

Discussion

- Other ways in which forest restoration can contribute to climate adaptation and resiliency in the Chesapeake?
- Any ideas for case studies?
  - Examples of forest restoration for climate adaptation/resiliency
  - Using novel sources of financing
  - Engaging new partners
  - Designing climate-smart forest restoration projects
- Any other feedback on proposed plans?