

5.5 Agriculture, Forests, and Prairies Sector

Strategy A1. Reduce emissions from agricultural practices.

Strategy A2. Support agricultural practices that sequester carbon.

Agriculture in Thurston County is remarkably diverse—it includes everything from large commercial dairy and egg operations to orchards to specialty vegetables grown on small urban lots. Our average farm size is small at 14 acres. Around 500 farms have livestock—mostly cattle and chickens—and a large portion of agricultural land is managed minimally for grazing and growing hay.¹¹ While farms can reduce their impact with better management of animal waste and fertilizer, they can also play a role in offsetting the community’s emissions as a whole. Land management practices like cover cropping, no-till and minimum tillage conservation practices, crop rotations, soil amendments, and changes in grazing management have been shown to increase the rate of carbon stored in plants and soil. In 2020, the Washington State Legislature established the Sustainable Farms and Fields grant program, which will aid farmers and ranchers in adopting practices that increase carbon storage.

ASSESSED ACTIONS		Impact GHG	Impact OTHER
A1.2	nutrient management. Provide education and incentives (e.g., grants, loans, technical assistance) to encourage practices that reduce emissions from manure and fertilizer.		
A2.1	regenerative agriculture. Expand regenerative agricultural practices among farmers that aim for a “whole farm” approach. Provide education on how to increase organic matter content and water retention in soils within urban and agricultural settings.		

Potential Impact:



Greenhouse Gas Reduction Potential



Ecosystem Health



Social Equity



Economic Benefit



Adaptation Value



Other Regional Goal



Youth Priority

¹¹ USDA 2017 Agricultural Census



Strategy A5/A6/A7. Preserve tree canopy and manage forests and prairies to sequester carbon.

Trees have been called the lungs of our planet, and they also can be very effective at removing carbon from the air and storing it in the soil. Historically, tall stands of Douglas fir, cedar and other tree species covered far more of Western Washington than they do today. Conserving existing tree canopy and forest areas and restoring areas that have been cleared can help to offset emissions from other activities, while providing a host of benefits for our local environment from storing and cleaning water to providing habitat for many sensitive species. Prairies can sequester large amounts of carbon in the roots of plants, and this sequestering is less vulnerable to fires than trees. Furthermore, working to preserve prairies will not only help several endangered species survive, it will reduce opportunities for urban sprawl. In enacting this strategy, it will be important to balance the carbon sequestering capacity of forests and prairies with the emission reducing potential of dense urban development and renewable energy infrastructure.

ASSESSED ACTIONS		Impact GHG	Impact OTHER
A5.1	reforestation & afforestation program. Develop a coordinated reforestation/afforestation program. Begin by identifying priority areas where reforestation and afforestation may have carbon reduction benefits.		
A6.5	municipal canopy. Maximize tree canopy on jurisdiction owned or managed land, where appropriate in balance with other jurisdictional goals.		
A6.9	tree canopy preservation. Develop a tree canopy ordinance that establishes a baseline for current urban canopy and sets goals for future canopy to increase resilience. Combine direct cooling value (urban heat island mitigation) with carbon sequestration value when evaluating urban tree management.		
A7.3	prairie preservation. Support aggressive implementation of habitat conservation plans that provide for preservation and restoration of prairie habitat for endangered and threatened prairie species. NOTE: the sequestration role of prairies was not assessed for the plan, and language and actions related to prairies were added after the multicriteria analysis for the plan was completed, at the direction of the Steering Committee.		

Potential Impact:



Greenhouse Gas Reduction Potential



Ecosystem Health



Social Equity



Economic Benefit



Adaptation Value



Other Regional Goal



Youth Priority

What We Heard...

"The number one priority needs to be preservation of wooded areas that contain our trees for carbon reduction."

Response to community questionnaire



Agriculture, Forests, and Prairies Sector: TARGETS AND INDICATORS

TARGETS

Baseline Year: 2015

- Reduce acres of conventionally fertilized land by 20 percent by 2030 and 50 percent by 2050.
- Manage 6,600 acres of agricultural land to store carbon through regenerative agriculture practices by 2050.
- Manage forestland and prairies sufficient to sequester 375,000 tons of CO₂ annually by 2050.

KEY PERFORMANCE INDICATORS

- Acres of fertilized farmland
- Tons of sequestered carbon

SUPPLEMENTAL PERFORMANCE INDICATORS

- Percent tree canopy cover
- Acres of land using regenerative agriculture practices
- Acres of trees planted
- Acres of tree canopy protected
- Acres of prairie protected

Agriculture and Forest Sector: CONSIDERATIONS FOR IMPLEMENTATION

Carbon sequestration was not included in the original suite of strategies proposed for climate mitigation but was added in response to community members who link the benefits of connecting land conservation and land management practices with climate mitigation goals. The wedge analysis shows carbon sequestration as a sizeable slice of our overall pathway to meet the 2050 emissions target. An important next step is to further analyze what actions will be required on the ground to meet our current carbon sequestration assumptions, and whether those assumptions are feasible. This may also include considering how preservation and restoration of other ecosystems, such as prairies and marine areas, may contribute to an overall carbon sequestration target.

Some stakeholders would prefer greater investment in reducing sources of emissions, before bringing sequestration into the mix of actions. If we are more effective at reducing the sources of emissions, we may need to rely less on sequestration to achieve our targets.

Another factor that will need to be addressed in implementation is how to balance preservation of trees and prairie habitat with other priorities, such as strategies that support increased urban density and development.

We will need to better define where and at what scale sequestration can be most effective, while considering other priorities.

