

Model programs for making payments for land-based carbon sequestration and storage Maine

Table 1. Three types of landowner model programs for making payments for land-based carbon sequestration and storage Maine.

Name	Description	Related examples	Path forward	Relative size of payments to landowners	Ease of implementation
Land cover-based payments	Landowners receive payments for carbon sequestration and storage based on the type of land cover they maintain on their land (e.g., forest land, farmland, or unmanaged). Payments would be conservative (risk under paying landowners) and be based on regional estimates and likely highest impact. For example, a forest landowners would receive payments based a regional average for carbon sequestration and storage, taking into account regional rates of conversion. Hence, lands owners in southern Maine would receive a higher payment than land owners in northern Maine where land use conversion rates are lower.	<ul style="list-style-type: none"> • Maine Tree growth Tax law. • Open Space Taxation could be modified to increase tax reductions based on this approach. • NRCS CRP • NRCS Healthy Forests 	Modifications to ME Open Space Tax law (but, is there additionality?)	Small	High <ul style="list-style-type: none"> • relatively cheap • few documentation requirements • commitment duration = 3-10 yrs • size min = 10 acres
Practice-based payments	Landowners receive payments for carbon sequestration and storage based on specific new practices that they apply. Payments would be based on conservative estimates of carbon benefits from regional research.	<ul style="list-style-type: none"> • NRCS EQIP • NRCS CSP 	New program with DACF or with USDA NRCS	Moderate	Medium <ul style="list-style-type: none"> • medium cost • moderate documentation/verification requirements • commitment duration = 3-10 yrs • size min = 10 acres?
Verifiable credits-based payments	Landowners receive payments for carbon sequestration and storage based on verified carbon modeling and monitoring. Payments would be based on estimate carbon sequestration and storage using landowner data and models with periodic monitoring.	<ul style="list-style-type: none"> • CARB 	RGGI	High	Low <ul style="list-style-type: none"> • Costly • many documentation/verification requirements • commitment duration = 10-100 yrs • Size min = 5000 acres

Verification could potential be managed using LIDAR plus other satellite imagery to assess: (1) land use change, (2) some changes in practices (e.g., timber harvest intensity varying from plan, cover cropping, no-till, vegetated buffers), and (3) above ground carbon in forest cover types. Here is considerable research on using hand held sensors, drones, and satellite imagery to remotely asses soil carbon. It may be possible but require complex models to make estimates.