Validation of the CCM measures and reporting of monitoring results (D.1.2)

LIFE OrgBalt: "Demonstration of climate change mitigation potential of nutrients rich organic soils in Baltic States and Finland" LIFE18 CCM/LV/001158
KICK – OFF MEETING

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Lazdiņš Andis, Ieva Līcīte, Ainārs Lupiķis, Aldis Butlers
Latvia State Forest Research Institute "Silava"
Riga street 111, Salaspils LV-2169
Phone: +37 126 595 586, E-mail: andis.lazdins@silava.lv

Scope and involved partners

- Task D.1.2 is aimed on **elaboration of GHG emission reduction estimates in the demo sites**, monitoring of project implementation and elaboration of reporting documentation.
- Short-term effect of the applied measures will be evaluated using results of Task D.1.1 *(monitoring results during project implementation)*; long-term effect will be estimated using results of Action C1 and C2 implemented in the scenario analysis model, which will be elaborated within the scope of Action C5.
- The main outputs – **initial monitoring report including monitoring guidelines, midterm monitoring report and final monitoring report**.
- Experiences gained and methodologies elaborated within the scope of LIFE REstore and other projects will be used in project monitoring guidelines.
- Responsible person at LSFRI Silava *(temporarily)*: Andis Lazdiņš (andis.lazdins@silava.lv; +37 126 595 586); main contribution by LLU, UT, Luke, LRCAF.

Basic principles of estimation of the CCM effect

Initial status:

1) water regime *(groundwater level and periodic changes)*;
2) climate conditions *(air temperature, precipitation)*;
3) nutritional regime *(N content, C:N ratio, N input)*;
4) C input into soil *(plant residues, organic fertilizers)*;
5) C stock changes *(living biomass, HWP, dead wood)*.

Management measures:

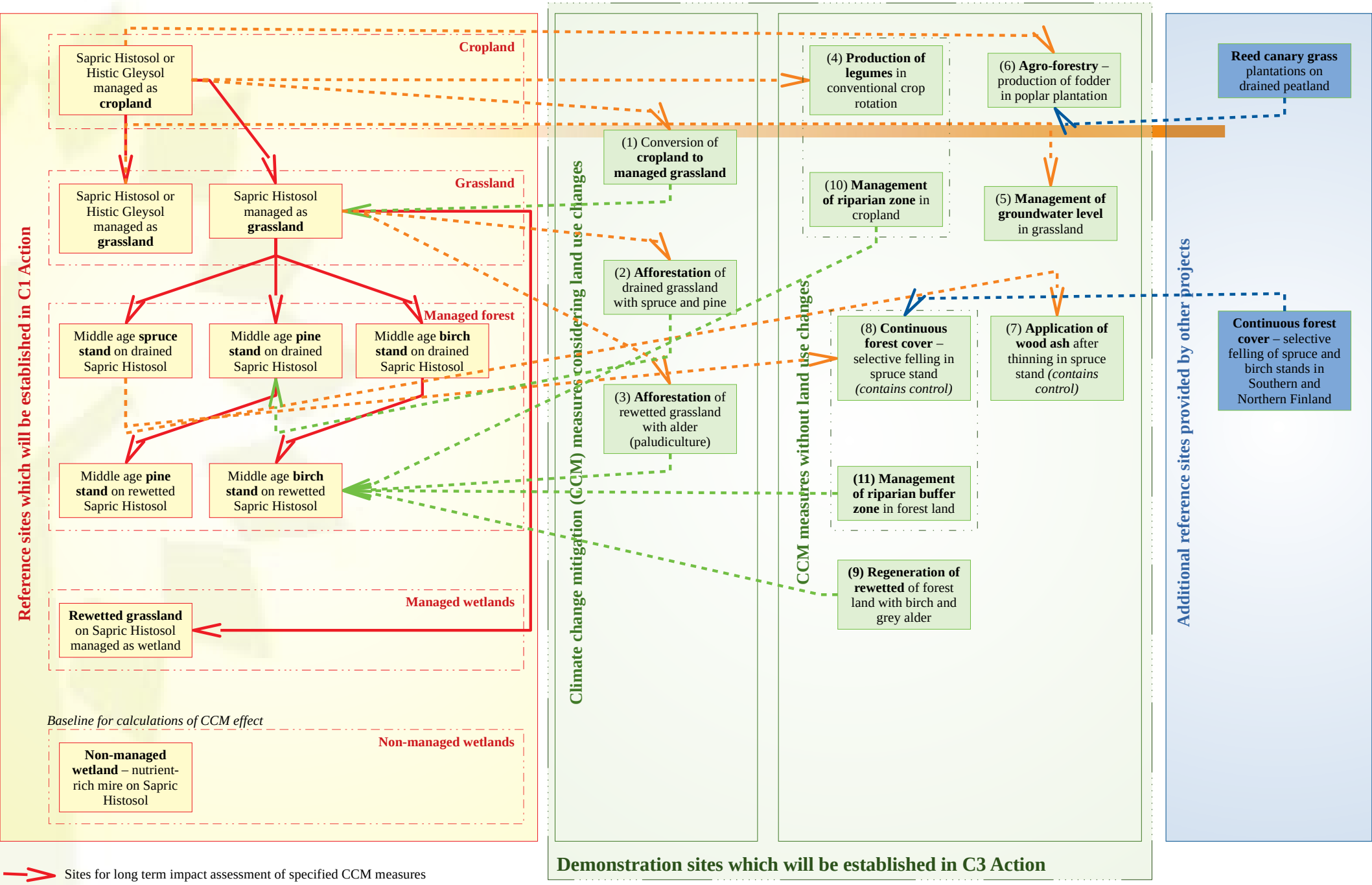
1) changes in water regime;
2) reduction or increase of N or other nutrient input;
3) changes of vegetation type *(afforestation, conversion to grassland)*.

After transition period:

1) water regime *(groundwater level and periodic changes)*;
2) nutritional regime *(N content, C:N ratio, N input)*;
3) C input into soil *(plant residues, organic fertilizers)*;
4) C stock changes *(living biomass, HWP, dead wood)*.

GHG emissions at initial status (GHG_1) — **GHG emissions after transition period (GHG_2)** =

$$GHG_1 - GHG_2 = \Delta GHG$$


Reference sites which will be established in C1 Action
Cropland
Sapric Histosol or Histic Gleysol managed as cropland
Grassland
Sapric Histosol or Histic Gleysol managed as grassland
Sapric Histosol managed as grassland
Managed forest
Middle age spruce stand on drained Sapric Histosol
Middle age pine stand on drained Sapric Histosol
Middle age birch stand on drained Sapric Histosol
Middle age pine stand on rewetted Sapric Histosol
Middle age birch stand on rewetted Sapric Histosol
Managed wetlands
Rewetted grassland on Sapric Histosol managed as wetland
Baseline for calculations of CCM effect
Non-managed wetlands
Non-managed wetland – nutrient-rich mire on Sapric Histosol
Climate change mitigation (CCM) measures considering land use changes
(1) Conversion of cropland to managed grassland
(2) Afforestation of drained grassland with spruce and pine
(3) Afforestation of rewetted grassland with alder (paludiculture)
CCM measures without land use changes
(4) Production of legumes in conventional crop rotation
(6) Agro-forestry – production of fodder in poplar plantation
(10) Management of riparian zone in cropland
(5) Management of groundwater level in grassland
(8) Continuous forest cover – selective felling in spruce stand (contains control)
(7) Application of wood ash after thinning in spruce stand (contains control)
(11) Management of riparian buffer zone in forest land
(9) Regeneration of rewetted of forest land with birch and grey alder
Additional reference sites provided by other projects
Reed canary grass plantations on drained peatland
Continuous forest cover – selective felling of spruce and birch stands in Southern and Northern Finland
Demonstration sites which will be established in C3 Action
Sites for long term impact assessment of specified CCM measures
Contribution of additional reference sites (by other projects)
Reference site for “starting point” for implementation of CCM measures in demo sites
Reference site for “end point” (stable ecosystem) for implementation of CCM measures in demo sites
Measures are implemented in the same fields