TURLOCK GROUNDWATER

East Turlock Subbasin GSA

IMPLEMENTATION STANDARDS AND MANAGEMENT PRACTICES
FOR VEGETATED COVER

Overview

Description

Vegetated Cover is the use of vegetation to protect land from potential adverse impacts related to planned fallowing or ground disturbance during agricultural land repurposing, or to produce various benefits in association with land repurposing. Vegetation may include resident or "volunteer" vegetation, cover crop mixes, forage or pasture, or dryland cropping. The use of Vegetated Cover decreases the development of nuisance conditions and adverse impacts from Fallowing, and can provide hydrologic, soil health, and habitat benefits. Vegetated cover may be established on Fallowed Fields (as defined by ETSGSA *Rules and Regulations*) or between plantings, in areas that are repurposed from Irrigated Fields to hydrologic features such as swales or floodplains, or in areas between trees or vines in Irrigated Fields.

These *Implementation Standards and Management Practices for Vegetated Cover* (*Implementation Standards*) cover: Benefits and Objectives, Applicable Land Repurposing Practices, Requirements, Best Practices and Guidelines, and References.

ETSGSA reserves the right to update these *Implementation Standards*.

Benefits and Objectives

The benefits of establishing and maintaining vegetated land cover on Fallowed Fields (and in irrigated fields between plantings or within active orchards and vineyards) vary depending on their application objective(s). Benefits may include, but are not necessarily limited to, the following:

- Reduced groundwater demand through cessation of irrigation with groundwater;
- Improving soil moisture retention and infiltration capacity;
- Decreased erosion;
- Decreased runoff and improved flood discharge attenuation;
- Decreased particulate and other air emissions;
- Improvement of soil health including microbiome, organic carbon content, soil structure, and fertility;
- Providing habitat for pollinators, other beneficial insects and birds; and
- If used, the reintroduction and propagation of native plant species.

Applicable Land Repurposing Strategies

These *Implementation Standards* apply to the following land repurposing strategies that are promoted as part of ETSGSA's groundwater management framework:

- Self-Directed Fallowing;
- Fallowing under ETSGSA's Incentivized Fallowing Program (IFP); and

- Fallowing as part of ETSGSA's Multibenefit Land Repurposing Program (MLRP Fallowing).

These *Implementation Standards* also apply to Cover Cropping within Irrigated Fields as defined in the ETSGSA *Rules and Regulations*.

Requirements

General

If an Owner or Operator of a Groundwater Accounting Platform Water Account, as defined in ETSGSA's *Rules and Regulations*, elects to use Fallowing, other repurposing strategies that require vegetative cover, or cover cropping in active fields, the Owner or Operator shall be solely responsible for their management decisions and activities, and shall maintain the land in a condition that does not create a nuisance condition which may include, but is not limited to: fire danger, dust emissions, erosion, spread of noxious weeds or invasive plants, spread of plant or vector-borne diseases, and pests. Except as specified herein, the selection of a vegetation type for cover, the decision whether to mow or terminate the cover, and other related management decisions are at the discretion of the individual Owner or Operator.

Site Review, Environmental Compliance, and Permitting

Implementation of vegetated cover on Fallowed Fields or as part of a land repurposing strategy is an agricultural practice intended to protect soil health and the environment, and can provide other benefits. This practice is an agricultural activity, or otherwise covered under the existing Consolidated Final Turlock Subbasin Groundwater Sustainability Plan Program Environmental Impact Report (GSP PEIR) (WTSGSA and ETSGSA, 2023), and does not trigger additional review under the California Environmental Quality Act (CEQA) or require environmental permitting.

Notwithstanding the above, it is the sole responsibility of the Owner or Operator implementing a land repurposing project to comply with all federal, state, and local requirements related to permitting for any project with which the vegetated cover is associated, and to comply with all monitoring and mitigation measures specified in any CEQA documentation for the project, and any other applicable requirements under federal, state, and local laws.

Projects may include multiple land repurposing practices (i.e., other than Vegetative Cover for Fallowed Lands). Potential permitting and site review requirements for other activities that may be part of a given project are discussed in the *Implementation Standards and Management Practices* applicable to those activities.

Self-Directed Fallowing

Consistent with ETSGSA's *Rules and Regulations*, when used as part of a strategy to manage fees or credits in a Water Account, vegetated cover must meet the following minimum

requirements in order for the Fallow Fields to be excluded from groundwater accounting under the ETSGSA Rules and Regulations:

- The Owner or Operator shall be responsible to avoid nuisance conditions including, but not limited to, dust, fire hazard, pests, and noxious weeds.
- Maintenance of vegetative cover is encouraged, but not required.
- Vegetated cover and can consist of planted seed mixes, resident vegetation, pasture, or non-irrigated (dryland) crops.

Incentivized Fallowing Program (IFP)

To receive incentive payments for Fallowed Field(s) enrolled under ETSGSA's Incentivized Fallowing Program (IFP), consistent with ETSGSA's *Rules and Regulations*, an Owner or Operator shall comply with the following requirements for vegetated cover:

- The Owner or Operator shall be responsible for preventing nuisance conditions including, but not limited to, dust, fire hazard, pests, and noxious weeds.
- Maintenance of vegetative cover is required by allowing resident vegetation to grow, planting a Cover Crop, planting forage, planting other dryland crops that may be harvested, or providing other cover that protects the land surface from wind or water erosion.
- Cover Crops must be either self-propagating or re-seeded as needed to maintain the vegetative cover over the term of the IFP Agreement.

MLRP Program

To receive incentive payments for MLRP land repurposing strategies that require the establishment of vegetated cover, an Owner or Operator shall comply with the following requirements:

- The vegetated cover type selected shall provide benefits including, but not necessarily limited to, pollinator habitat, habitat for other beneficial insects, bird or other habitat, or native vegetation.
- For fields fallowed under the MLRP program, hedge rows shall be established around the perimeter of the field(s) and may receive incidental irrigation to promote establishment.
- Vegetated cover shall be developed using commercially available seed or seed mixes, and shall be self-propagating or replanted as needed to maintain the target benefit.
- Planting of native or other beneficial shrubs or hedgerows in rewilded and floodplain areas is encouraged, but not required. Shrubs or hedgerows may receive incidental irrigation to promote establishment.

Cover Cropping

Consistent with ETSGSA's *Rules and Regulations*, to qualify for an increase in the Effective Precipitation on an Irrigated Field within a Water Account in the Groundwater Accounting Platform, cover cropping within Irrigated Fields must meet the following conditions:

- Cover Crops shall be maintained on the Irrigated Field for at least five months between November 1 and April 30.

- Cover crops can consist of planted seed mixes, resident vegetation, pasture, or non-irrigated (dryland) crops.
- When cover cropping is used in Irrigated Fields occupied by orchards or vineyards, cover crops shall be maintained on at least 70% of the orchard floor or 60% of the vineyard floor, as specified in the California Department of Food and Agriculture (CDFA) Healthy Soils Program (CDFA, 2023).

Best Practices and Guidelines

General

The following additional Best Practices and Guidelines are recommended:

- Discing for weed control could make the land surface more vulnerable to wind and water erosion and could decrease the development of long-term soil health benefits. Therefore, discing should be minimized or avoided.
- Vegetation mats or residue left on the soil surface as mulch reduces evaporation, soil erosion, and preserves soil moisture. Therefore, tilling should be avoided to allow the cover vegetation to develop soil health benefits such as microbiome health, increased soil organic carbon, and soil structure improvement.
- A hedge row of drought resistant, perennial shrubs and bushes established around the field perimeter of a Fallowed Field or within rewilded areas may be used to provide additional habitat benefits and as a buffer for wind transport onto adjoining properties. (Hedge rows are required as part of MLRP Fallowing projects.)
- Vegetative cover selection for MLRP should consider diversity in vegetation types (grass mixes, legumes, herbaceous cover, shrubs; perennials and annuals; color; blooming period).
- Owl boxes and raptor stands may be placed to provide additional rodent control.
- After implementation of WOR methods, it may be necessary for nitrogen to be added to the soil to promote growth of a cover crop or dryland crop, as wood chips tend to temporarily decrease plant available N from the system. Monitoring of nutrient balances and soil testing may be used to optimize agronomic requirements and benefits.

References

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