

SALMON-SAFE INC.

SALMON-SAFE "OVERLAY" FOR OREGON TILTH ORGANIC GROWERS

OVERVIEW

Oregon Tilth and Salmon-Safe are partnering to offer Salmon-Safe certification to organic farmers that are working to protect biodiversity, water quality, and fish habitat. These "overlay" certification standards have been developed by Salmon-Safe and Tilth to include additional riparian area management, irrigation water use, and erosion control criteria that are either not covered, or covered only indirectly, under organic certification. Our goal is provide marketplace recognition for pioneering organic growers that help bring about watershed-level change in species and habitat protection in Pacific Coast salmon watersheds.

Salmon-Safe farm evaluation includes six farm management program elements:

- A. Riparian and Wetland Area Management
- B. Irrigation Water Use and Management
- C. Erosion and Sediment Control
- D. Fertility and Pest Management Systems to Reduce Impacts on Salmon Ecosystems
- E. Animal Management
- F. Biological Diversity

A. RIPARIAN AND WETLAND AREA MANAGEMENT

A.1. Establishment of buffers around stream courses and wetlands.

- a. Riparian zones or cultivation setbacks are an average of 50-100 feet, with a minimum width of 25 feet. As the slope of the adjoining field increases, the width of the riparian buffer zone must be increased to adequately protect area from erosion and run-off. On slopes of 10% or greater, riparian zones should be no less than 50 feet. The buffer zone size will also be affected by the width and depth of the waterway to be protected.
- b. Riparian zones and buffer areas are adequately vegetated with a diverse mix of species. Where riparian zones are already established, there should be good canopy cover (>50%) of mixed multi-aged, native and non-invasive non-native species. Where appropriate, newly established ground cover plantings should be designed for maximum diversity in through a mix of grasses. Trees and shrubs should provide a second-story of cover and habitat, especially along stretches of streams or rivers in need of bank stabilization and shade. The use of native species is recommended when available.
- c. Management needs in wetland and riparian areas are inventoried in order to identify improvement goals and establish an incremental plan for remedial actions, focusing first on the most serious problems degrading riparian zones. These zones need to stabilize soil, act as a filter strip, and provide shade. Inventory should include photographs taken from the same locations every year.
- d. On farms with identified needs and a remedial action plan, effective efforts are being taken to improve the vegetative cover and functional integrity of riparian zone buffer systems. The actual results of this effort will be determined by taking into account: (1) the economic status and objectives of the farm operation, (2) whether the farm field is rented, owned, or crop-shared, (3) the cause of problems and how long they have existed and whether they are growing worse,

and (4) the availability of technical and financial cost-share support and efforts by the farm operator to qualify for such support. In the end, on-the-ground improvement must be demonstrated.

A.2. Design, Location, and Maintenance of Stream Crossings and In-Stream Structures

- a. Stream crossings are kept to the absolute minimum necessary to provide access to crop and rangelands or livestock handling facilities.
- b. Crossing structures are designed to withstand 25-year flood events with minimum disturbance of in-stream habitat structure and should be kept clear of debris.
- c. When a new crossing is established, existing stream channels should not be modified unless back to its historic conditions.

A.3. Stream Channel Restoration

- a. Efforts are being taken to restore stream channels to their natural condition with techniques such as bank stabilization and habitat enhancement, to the full extent possible given accessible technical and financial support and the ability of the farm operation to invest in such work.

B. IRRIGATION WATER USE AND MANAGEMENT

B.1. Source Selection and Delivery System Design

- a. For farms with a choice of irrigation water sources, the selected source of irrigation water results in the least potential impact to in-stream flows of fish-bearing streams.
- b. The system utilizes design features to minimize delivery losses.
- c. The system includes a method to measure the volume of water withdrawals and return flows. Consumptive water use for each major crop on the farm can be estimated with reasonable accuracy.
- d. Fish losses are avoided by installing fish screens on diversions.

B.2. Efficient Use of Irrigation Practices

- a. Irrigation water is applied in an efficient manner so as to minimize leaching and the return of excess flow to off-farm areas.

C. EROSION: KEEPING SOIL OUT OF STREAMS

C.1. Maintaining Vegetative Cover

- a. Highly erodible cultivated land has been identified on the operation and a Natural Resources Conservation Service (NRCS) conservation plan, or its equivalent, is in place. This plan has been implemented to reduce erosion to or below applicable soil loss tolerance values.
- b. Vegetative ground cover capable of withstanding farm machinery is maintained and established on all disturbed sites. This includes between the rows in orchards and vineyards.

- c. Critical areas are maintained in continuous vegetative cover. Steps have been taken to minimize soil movement from high-erosion hazard areas including roads, steep slopes, dry gullies, animal watering and feeding locations, and animal trails.
- d. The ends of row crop furrows are planted in grass when farming on sloping erodible soils.
- e. Tillage and planting operations are timed to minimize erosion, whenever possible.

C.2. Controlling Water Runoff

- a. Field borders, filter strips, and/or grass waterways are used in areas subject to concentrated flow erosion and along down-slope field borders to slow runoff and trap sediment, nutrients and any weed, insect, or disease control substances. The width and design of the border area, filter strip or grassed waterway should match the volume and velocity of surface water runoff occurring during periods of peak runoff, as specified in NRCS field technical guides.
- b. When needed and where appropriate, sediment traps or catchment basins are installed consistent with NRCS field technical guides and are adequately maintained.
- c. Erosion control and field-edge practices effectively reduce runoff, trap sediment, and reduce the flow of sediment reaching down slope water resources.

D. FERTILITY AND PEST MANAGEMENT SYSTEMS TO REDUCE IMPACTS ON SALMON ECOSYSTEMS

D.1. Managing Crop Nutrient And Soil Fertility

- a. Nutrient application is timed so as to minimize runoff to surface waters.
- b. Soil compaction is minimized by avoiding field operations when soils are wet and by periodically planting deep-rooted crops that help increase the soil's infiltration rate and water holding capacity.

D.2. Avoiding Use Of High-Risk Pesticides

- a. No pesticides are applied on the farm operation that appear on the Salmon Safe "Do Not Use" list, unless the application is made during a time period not covered by the list or in a way that avoids any chance for adverse impacts on salmon or salmon ecosystem habitat.

D.3. Ensuring the Responsible/Safe Use of Pesticides

- a. Pesticides are stored in a safe, locked building with ready access to safety and fire protection equipment. To prevent liquid products from flowing directly into streams or rivers in the case of a fire or explosion, the storage building is either surrounded by a berm, or is sited sufficiently far from waterways.

E. ANIMAL MANAGEMENT

E.1 Manure Handling and Storage

- a. In general, sufficient storage capacity should be accessible to store 120 to 180 days of manure production, unless the operation has access to other environmentally acceptable methods to recycle manure nutrients (such as composting and movement

offsite, or biogas production). Manure should be either covered or handled in such a way as to not lead to runoff or leach into ground water.

- b. Large scale confined livestock facilities and manure piles or liquid storage tanks or lagoons should not be located in floodplains or areas with shallow groundwater tables and/or frequently moisture-permeated soils.

E.2 Efficient Utilization of Manure Nutrients through Nutrient Management Plans

- a. The operation has or is actively developing a manure and nutrient management plan covering all manure produced on the farm, as well as all other sources of nutrients.

E.3. Animal Movement and Husbandry System

- a. Livestock should be managed to avoid excessive compaction, erosion, and loss of vegetative cover.
- b. In riparian zones, grazing is managed to allow for recovery of native plants and prevent reduction in biodiversity. Rotational grazing systems or exclusion are utilized, as needed, to allow for recovery of vegetation.
- c. Watering facilities are installed that exclude or limit livestock need for access to streams and irrigation ditches.
- d. Permanent or temporary (e.g., electric) fences are utilized to limit direct livestock access to streams and other fish-bearing water bodies. The use of farm ponds is allowed and encouraged.

F. BIOLOGICAL DIVERSITY

In addition to promoting the use of farming practices that protect and enhance stream ecosystems, Salmon Safe encourages the use of practices that support and enhance biodiversity throughout the farm.

The use of the following practices helps support biodiversity on farms. These are not required practices for Salmon-Safe certification but can be considered Best Management Practices (BMPs) for encouraging biodiversity.

F.2. Biodiversity Practices in Non-Farmed Areas

Permanent Non-Farmed Areas can include: forests, wetlands, marginal fields, unimproved grasslands, fence rows, or other areas that are not actively farmed. These areas are of key importance and should be managed as refuges for biodiversity. When possible, these areas should be connected by non-farmed corridors.

- a. Farmscaping - is a term that refers to the use of hedgerows, nectar and pollen producing plants, cover crops, and water reservoirs to attract and support populations of beneficial organisms such as insects, bats, and birds of prey. Flowering plants are particularly important to adults of the wasp and fly families, which require nectar and pollen sources in order to reproduce the immature larval stages that parasitize or prey on insect pests.
- b. Hedgerows & Buffers - are multi-species planting strips located between fields, at field borders, and in riparian zones. These diverse plantings shade water, offer wildlife habitat, encourage beneficial insects, reduce soil erosion, provide bank stabilization,

uptake nutrients and pollutants, act as shelterbelts, windbreaks, and privacy screens. They can be managed to provide income.

- c. Woodlands - should be left as "wild" as possible. Fallen and rotting trees provide valuable habitat. Woodland edges can be "scaloped" to create warm, sheltered areas. Edges can be met with taller grass margins and low growing shrubs to provide continuous habitat from field to woodlands.
- d. Field Margins - especially of pastures, should be maintained "rough." Edges can be sown with taller perennial grasses. Inputs can be restricted from 5-10 feet from field edges creating pesticide refuges.
- e. Fallow Fields - provide tillage refuges. Fieldwork should be delayed, when possible, until after ground-nesting birds have finished nesting (fledged). Stubble provides an important resource for many species.
- f. Bird and Bat-Friendly Sites - encourage specie specific nesting boxes for bats and insect-eating birds.
- g. Ponds - provide additional habitat for a wide variety of species and are especially important on farms without riparian zones.