SALMON SAFE CERTIFICATION ASSESSMENT

Salmon-Safe Assessor(s):
Date of Site Visit

I. CONTACT INFO:

Name:
Owner: Field Manager:
Physical Address:
Mailing Address:
Telephone:
Fax:
Email:

II. FARM OVERVIEW:

Total Acreage:

Property description/history/land use context:

Relevant certifications/awards:

Planning/Resource documents:

Acreage currently in production:

Crop types:

Percentage of marketable product grown off site:

Description of water ways:

Other relevant landscape features or environmental factors:

Summary:

Certification Scoring

A1
A2
A3

B1
B2
B3

C1
C2

D1
D2
D3
D4

E1
E2
E3

F1
F2

_____
Total

Recommendations:

III. CERTIFICATION COMPLIANCE CHECKLIST:

Criteria	*Yes*	No	*N*/A	Notes/Recommendations
A.1. Establishment of Riparian Buffers				**SCORE:**
A maximum score (+3) is achieved when the following are observed:				
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. 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 percent) of mixed multi-aged, native and non-invasive nonnative 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 negative score up to (-3) is assigned when the following is observed:				
e. Riparian zones or cultivation setbacks are generally less than 25 feet.				
f. There is apparent evidence of sedimentation or farm effluent reaching watercourses,regardless of the width of riparian zones or cultivation setbacks.				
g. Riparian and/or wetland areas are in a degraded state and are not being managed to achieve restoration goals.				
A.2. Design, Location, And Maintenance Of Stream Crossings And In-Stream Structures				***SCORE:***
A maximum score (+3) is achieved when the following are observed:				
a. Stream crossings are kept to the absolute minimum.				
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 are not modified unless back to historic conditions.				
A negative score up to (-3) is assigned when the following is observed:				
d. Excessive number of stream crossings.				
e. Poorly designed crossing structures unlikely to withstand 25-year storm events.				
f. Stream channel modifications adverse to fish habitat have been or are being undertaken, such as stream cleaning, diking, dredging, channelizing, and bank armoring.				
A.3. Stream Channel Restoration				***SCORE:***
A maximum score (+3) is achieved when the following are observed:				
a. A well-documented inventory of stream channel conditions has been conducted for purposes of identifying restoration needs and development of a remedial action plan.				
b. 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.				

A negative score up to (-3) is assigned when the following is observed:				
c. No restoration efforts are being undertaken or planned on degraded portions of streams.				
d. No inventory of stream course conditions for purposes of identifying restoration needs has been undertaken.				
IRRIGATION WATER USE & MANAGEMENT				
B.1. Source Selection And Delivery System Design				***SCORE:***
A maximum score (+3) is achieved when the following are observed:				
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.				
e. In installing and servicing pumps and intakes, steps are taken to minimize disruption of fish habitat, especially when and where spawning is underway.				
A negative score up to (-3) is assigned when the following are observed:				
f. The selected source of irrigation water results in significant reduction of in-stream flows at or above segments of a stream or river that supports salmon, or once supported salmon.				
g. The water delivery and irrigation system results in significant off-site infiltration or evaporation losses. Generally, losses are greatest with unlined open ditch water conveyance and poorly designed sprinkler systems.				
h. The farm operator has no means of measuring and/or controlling the volumes and/or timing of water applications.				
B.2. Selecting Crops For Cultivation With Minimum Irrigation Water Demands				***SCORE:***
A maximum score (+3) is achieved when the following are observed:				
a. The farm operator selects crops that are well suited to the meteorological regimes of the region in which the farm is located.				

b. Irrigated crops, particularly orchard trees, are managed so as to best balance overall growth with high quality fruit production, using practices such as pruning, cultivar selection, and modified fertilization regimes.				
A negative score up to (-3) is assigned when the following are observed:				
c. The crops that are selected for cultivation require large volumes of irrigation water that are clearly incompatible with regional meteorological and hydrologic circumstances.				
d. The value of final product per unit of water application is not maximized due to inadequate plant and fruit management.				
B.3. Efficient Use Of Irrigation Practices				***SCORE:+3***
A maximum score (+3) is achieved when the following are observed:				
a. Soil moisture monitoring systems are installed and are employed to provide timely information about soil moisture levels relative to crop needs.				
b. The volume of irrigation water applied is based upon measured soil moisture levels at rooting depths relative to known crop requirements. Excessive water application is avoided to minimize nutrient leaching and system efficiency.				
c. Timing and scheduling of water application considers crop requirements, daily rainfall amounts and evapotranspiration rates for the area. Water is applied based upon the soil moisture deficit, the water storage capacity of the soil, and water infiltration rates.				
d. Sufficient information is available to compute overall irrigation system efficiency in terms of acre-feet or gallons of net withdrawals per acre of cropland irrigated and per unit of crop harvested.				
e. The performance of irrigation system equipment is routinely monitored to assure motors, pumps, and delivery systems are performing well and according to specifications.				
A negative score up to (-3) is assigned when the following are observed:				

f.	There is no means for accurately determining soil moisture levels.				
g.	Rainfall amounts are not monitored.				
h.	The farm operator lacks information sufficient to project daily water needs of the target crops.				
i.	Proven management practices that increase yields per unit of water application are not utilized or are under utilized.				
j.	Generally, irrigation practices are informal and *ad hoc* with little or no attempt to enhance efficiency of application; thereby increasing the volume of water required to produce a crop. Irrigation systems are clearly inefficient**.**				
k.	Minimal effort has been made to improve system efficiency and reduce energy use through changes in irrigation scheduling and delivery systems				
EROSION: KEEPING SOIL OUT OF STREAMS					
C.1. Maintaining Vegetative Cover					***SCORE:***
A maximum score (+3) is achieved when the following are observed:+3					
a.	Cover crops and green manure practices are systematically employed in conservation systems designed to sustain or increase soil organic matter levels, enhance soil fertility, and minimize soil erosion losses.				
b.	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.				
c.	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.				
d.	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				
e.	When farming on sloping erodible soils the ends of row crop furrows are planted in grass or ground covers				
f.	Active steps are taken to diversify ground cover species.				
g.	Straw mulching, or other methods, are used when bare				

soils may be subject to rain or irrigation-induced erosion				
h. As appropriate, tillage and planting operations are timed to minimize erosion.				
A negative score up to (-3) is assigned when the following are observed:				
i. The farm operator is not knowledgeable about or adequately committed to the use of techniques, practices and systems capable of minimizing soil erosion losses.				
j. Farm roads, paths or livestock trails are laid out in a manner which leads to concentrated flow erosion and the risk of gullying.				
k. Orchard corridors are inadequately protected (<50%) by cover crops.				
C.2. Controlling Water Runoff				***SCORE:***
A maximum score (+3) is achieved when the following are observed:				
a. Field borders; buffer and/or 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 pesticides. 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. Windbreaks and vegetative barriers are used to reduce wind erosion losses.				
e. There is regular monitoring of the quantity of soil movement in runoff at key points below areas of cultivation, especially after major precipitation events, in order to confirm the efficacy of conservation systems and identify places in the landscape where further measures are needed.				
A negative score up to (-3) is assigned when the following are observed:				
f. The farm operator has not inventoried the operation for				

	highly erodible land and lacks the information needed to design and monitor the effectiveness of a conservation system.				
g.	No special efforts are made to prevent erosion on sloping ground.				
h.	There is readily apparent evidence of unnecessary soil loss (e.g., small gullies in fields; sediment deposition at the bottom of slopes).				
i.	Soil losses exceed accepted tolerance levels.				
FERTILITY & PEST MANAGEMENT SYSTEMS: REDUCING IMPACTS ON SALMON ECOSYSTEMS					
D.1. Managing Crop Nutrient And Soil Fertility					***SCORE:***
A maximum score (+3) is achieved when the following are applied:					
a.	Plant tissue analysis is conducted on a routine basis to determine nutrient needs, according to Cooperative Extension or industry guidelines.				
b.	Soil is tested routinely, according to Cooperative Extension or industry guidelines, to determine nutrient needs, application rates, and to insure that soil quality indicators are moving in a positive direction.				
c.	Nutrient application is timed so as to minimize runoff to surface waters.				
d.	Where appropriate, small grain cover crops are employed to help tie up excessive nutrients. Green manure crops and crop rotations are used to maintain soil fertility to the maximum extent possible.				
e.	Yield targets are set to avoid excessive rates of fertilization.				
f.	Soil compaction is minimized by avoiding field operations when soils are wet and by periodically planting deep-rooted crops and/or cover crops, when appropriate. These practices help increase the soil infiltration rate and water holding capacity.				
g.	The farm operation has developed and is adhering to a nutrient management plan covering all major crops produced on the farm sufficient to estimate, by crop, the efficiency of nitrogen uptake into harvested crops and expected trends in soil P and K levels.				
A negative score up to (-3) is assigned when the following are observed:					
h.	Soil quality indicators are decreasing over time.				
i.	There is no systematic effort to assess soil chemistry and				

nutrient deficiencies.				
j. Heavy equipment usage has led to areas of obvious soil compaction.				
k. Crop rotations are non-existent. There is no use of deep-rooted cover crops or other methods known to combat compaction.				
l. Anutrient management plan has not been, nor is in the process of being, developed.				
m. The farm operator is unaware of timing issues related to effectiveness of nutrient application.				
n. Yield targets are incompatible with soil productivity and typical climatic conditions leading to excessive rates of application of N, P, and K.				
D.2. Avoiding Use Of High-Risk Pesticides				***SCORE:***
A maximum score (+3) is achieved when the following are observed:				
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.				
b. Pesticides on the "Do Not Use" list are prohibited from use.				
A negative score up to (-3) is assigned when the following are observed:				
c. Prohibited pesticides are applied on the farm operation.				
D.3. Minimizing Pesticide Use Through Integrated Pest Management (IPM)				***SCORE:***
A maximum score (+3) is achieved when the following are observed:				
a. Farm managers are committed to the systematic use of Integrated Pest Management (IPM). Grower's can provide documentation of the use of IPM from scouting reports, pesticide use records, and records of other practices.				
b. Farm managers are very knowledgeable about pest management and economic thresholds for pesticide application.				
c. Past pest problems and previous pest control measures and cropping history have been evaluated to identify crop sensitivities and the effectiveness of pesticide applications.				
d. Fields are scouted as needed to enable early detection and targeted treatment of pest, disease, and weed outbreaks.				

A negative score up to (-3) is assigned when the following are observed:				
e. Farm managers do not employ procedures for systematically identifying when pesticides may be needed. There is no or insufficient periodic monitoring of field conditions and insect activity.				
f. Farm managers are not applying the concept of economic thresholds in determining the need for pesticide application.				
g. There is no operational use of IPM techniques				
D.4. Ensuring the Responsible/Safe Use of Pesticides				***SCORE:***
A maximum score (+3) is achieved when the following are observed:				
a. The selection of pesticides considers persistence, toxicity to aquatic species, runoff, and leaching potential.				
b. Policy requiring field worker training in pesticide handling and use is in place and effectively implemented. This is to ensure farm workers safety is never compromised.				
c. Spray equipment is calibrated routinely to assure accurate rates of application and minimize control failures and environmental impacts.				
d. Anti-backflow devices are used on all hoses carrying toxic materials.				
e. Mixing, loading, transport, and cleaning of pesticide and fertilizer application equipment do not produce any appreciable surface water runoff. Practical steps are taken to minimize the chances of accidental spills.				
f. On farms where fuel, fertilizer, or pesticides are stored in underground tanks, a groundwater or subsurface monitoring well is in place and checked at least once annually.				
g. 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				
A negative score up to (-3) is assigned when the following are observed:				

h. There is evidence that farm workers handling and applying pesticides are not adequately trained. There is no formal and systematic worker-training program and no monitoring of pesticide use applications or the cleaning of spray equipment.				
i. Spray equipment is not recalibrated on a routine basis.				
j. Pesticide applications are made without regard to effects on non-target species.				
k. Generally, farm managers are indifferent to, or unfamiliar with, the environmental risks associated with pesticide use.				
l. Farm chemicals are used in a haphazard fashion with little or no regard for environmental consequences including non-target organisms.				
m. There are no apparent efforts on the part of the farm operator to monitor the potential release of farm chemicals into surface or sub-surface waters.				
ANIMAL MANAGEMENT				
E.1. Manure Handling And Storage				***SCORE:***
A maximum score (+3) is achieved when the following are observed				
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 covered or handled in such a way that does not lead to runoff or leach into ground water.				
b. Large scale confined livestock facilities, manure piles, liquid storage tanks and lagoons should not be located in floodplains or areas with shallow groundwater tables and/or frequently moisture-permeated soils.				
c. Livestock confinement and manure storage facilities need to be designed to prevent any direct flow of manure into streams, rivers, or other surface water resources in the event of sustained heavy rains and runoff, ruptures in storage tanks, leaching from in-ground pits, or breaching of storage lagoons.				
A negative score up to (-3) is assigned when the following are observed:				
d. Inadequate manure storage facilities exist to allow storage of manures during periods inappropriate for manure				

spreading. There is no calculation of application rates based upon animal, plant, or soil resources.				
e. Field application of manure is not governed by a nutrient management plan				
f. Manure storage areas are exposed to the elements.				
g. There is direct runoff of manure to water bodies.				
E.2. Efficient Utilization Of Manure Through Nutrient Management Plan				***SCORE:***
A maximum score (+3) is achieved when the following are observed:				
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.				
b. A system is in place to beneficially recycle the nutrients in manure when supplies are in excess of local crop needs. Methods and data are available to document system performance relative to the fate of the excess nutrients.				
A negative score up to (-3) is assigned when the following are observed:				
c. The operator has no plan for monitoring or managing manure or nutrient runoff				
d. There is no system in place for reuse of nutrients.				
e. No documentation is kept relative to excess nutrients distribution				
E.3. Animal Movement And Husbandry System				***SCORE:***
A maximum score (+3) is achieved when the following are applied:				
a. Livestock is 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. On pasturelands, adequate forage growth remains throughout the year to protect soils and root systems, promote water infiltration and soil fertility, and to filter surface water runoff.				
d. Watering facilities are installed that exclude or limit livestock need for access to streams and irrigation ditches.				
e. 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.				
A negative score up to (-3) is assigned when the following are observed:				
f. No consideration is given to applying manures at agronomic rates.\				
g. No rotational grazing systems are applied or being considered				
h. Pasturelands are grazed such that inadequate growth remains to filter surface water. Pasture vigor is allowed to decline through lack of reseeding and/or overgrazing.				
i. No off-stream watering facilities have been developed or are contemplated				
j. There are no plans to limit livestock access to streams and wetlands.				
BIOLOGICAL DIVERSITY				
***F.1. Biodiversity Practices in Farmed Areas*:**				***SCORE:***
a. *Agroforestry* – optimizes the biological benefits that occur when trees and or shrubs are combined with crops and/or animals. Agroforestry combines agriculture and forestry by utilizing trees to protect crops and livestock, conserve natural resources, improve human environments, and provide new sources of income.				
b. *Crop Rotations* – is when crops are changed year by year in a planned sequence, adds complexity to farming systems, creating habitat for more species. Residues of different crops added to the soil stimulate soil organism diversity and aid nutrient anddisease management.				
c. *Intercropping* - two or more crops together in combinations can stimulate greater biodiversity by creating a more complex cropping system.				
d. *Strip Cropping* - is the planting of two or more crops in strips next to each other. It increases diversity over a larger area. Strip cropping can be less management intensive than other intercropping methods because it can be designed for mechanical planting and harvesting.				
e. *Cover crops* - provide soil cover between cropping cycles or in areas where the ground is not cropped. Cover crops provide habitat for beneficial insects and bird populations, nutrients, and organic matter.				
f. *Alternate Mowing* - ensures that all the habitat for beneficial insects and wildlife is not removed at one time.				

	When practical, harvest in sections to allow beneficial insects to escape to adjacent areas.				
g.	*'Beetle Banks'* - is a British term referring to grass strips that are planted in the center of large fields to provide habitat for beneficial insects, (especially ground beetles, an important predatory insect), and other wildlife. By planting 'beetle banks,' more edges are created in the field encouraging greater biodiversity.				
h.	*Reduced or Minimum Tillage* -reduces the intensity of soil cultivation and allow plant residues to accumulate on the soil surface. This leads to an increase in the diversity of soil organisms on and below the soil surface.				
i.	*High 'Organic Matter' Inputs* - such as compost, cover crops, and tilled-in plant residues help increase biodiversity within the soil which can lead to increased soil fertility and a more dynamic soil ecosystem.				
F.2. Biodiversity Practices in Non- Farmed Areas					***SCORE:***
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.				
b.	*Hedgerows and Buffers* - are multi-species planting strips located between fields, at field borders, and in riparian zones. Theses 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.				
c.	*Woodlands* - should be left as "wild" as possible. Fallen and rotting trees provide valuable habitat. Woodland edges can be "scalloped" 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.	*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.				