

Appendix B

Summary of South Shore Hazardous Fuel and Healthy Forest Restoration Project Best Management Practices (BMPs)

Summarized from “Water Quality Management for Forest System Lands in California – Best Management Practices”, USDA Forest Service, Pacific Southwest Region, September 2000

Best Management Practice	Description
BMP 1-1: Timber Sale Planning Process (TSP)	Earth scientists or other trained individuals will evaluate onsite watershed characteristics and the potential environmental consequences of activities related to the proposed timber harvest activities. They will design the timber sale to include site-specific prescriptions for each area of water quality concern.
PSW Region BMP 1-2: Timber Harvest Unit Design	Earth scientists or qualified specialists will conduct a hydrologic and geologic survey of the area affected by proposed harvest activities. Mitigations or changes needed to stabilize slopes or improve streamcourses will be incorporated into the harvest unit design.
PSW Region BMP 1-3: Determination of Erosion Hazard Rating (EHR) for Timber Harvest Unit Design	Use the EHR System developed by the California Soil Survey Committee to evaluate the potential erosion hazard of proposed timber harvest units during the pre-sale planning process, and use this information to help design the timber sale and to select appropriate erosion control measures.
PSW Region BMP 1-4: Use of Sale Area Maps (SAMs) for Designating Water Quality Protection Needs	The Interdisciplinary Team (IDT) will identify and delineate water quality protection features, such as the location of streamcourses and riparian zones to be protected, wetlands to be protected, boundaries of harvest units, and roads where log hauling is prohibited or restricted, as part of the environmental documentation process. The Sale Preparation Forester will include them on the SAM at the time of contract preparation.

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PSW Region BMP 1-5: Limiting the Operating Period of Timber Sale Activities	Limited operating periods will be identified and recommended during the TSPP by the IDT. Purchaser must submit a general plan of operation which will identify planned periods for, and methods of road construction, timber harvesting, completion of slash disposal, erosion control work and other contractual requirements. The purchaser will provide an annual schedule of anticipated activities. Limited operating period will be used to limit the purchaser's operation to specified periods when adverse environmental effects are not likely.
PSW Region BMP 1-6: Protection of Unstable Lands	The IDT will prepare plans and environmental documents, utilizing information provided from specialists trained and qualified to identify unstable areas. Where unstable lands are presently classified as suitable forest lands, the classification is changed to unsuitable forest lands, which will not be harvested until they can be harvested without irreversible adverse effects to soils, productivity, or watershed conditions.
PSW Region BMP 1-8: Streamside Management Zone Designation	Roads, skid trails, landings and other timber harvesting facilities will be kept at a prescribed distance from designated stream courses. Factors such as stream class, channel aspect, channel stability, sideslope steepness, and slope stability will be considered in determining the activities limited within Streamside Management Zones (SMZs). Aquatic and riparian habitat, beneficial riparian zone function, and their condition and estimated response to the proposed timber sale will also be evaluated in designating the SMZ.
PSW Region BMP 1-9: Determine Tractor Loggable Ground**	To minimize soil erosion and subsequent sedimentation and water quality degradation resulting from ground disturbance of logging systems. To determine tractor loggable ground, consider physical site characteristics such as steepness of slopes and soil properties. The Erosion Hazard Rating is one method that can be used.
PSW Region BMP 1-10: Tractor Skidding Design**	Watershed factors such as slope, soil stability, exposure, SMZs, meadows, and other factors that may affect surface water runoff and sediment yield potential will be considered when designing skidding patterns. The careful control of skidding patterns serves to avoid onsite and downstream channel instability, build-up of destructive runoff flows, and erosion in sensitive watershed areas such as meadows and SMZs.

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PSW Region BMP 1-12: Log Landing Location	Landing locations proposed by the purchaser or their representatives must be agreed to by the Sales Administrator (SA). An acceptable landing will be evaluated according to a set of criteria that includes the following: the cleared or excavated size of landings should not exceed that needed for safe and efficient skidding and loading operations; landing locations that involve the least amount of excavation and the least erosion potential will be selected; landings will be located near ridges away from headwater swales, in areas that will allow skidding without crossing stream channels or causing direct deposit of soil and debris to the stream; landings will be located where the least number of skid roads will be required, and sidecast material can be stabilized without entering drainages; skid approach will be as nearly level as feasible; and the number of skid trails entering a landing will be minimized.
PSW Region BMP 1-13: Erosion Prevention & Control Measures During Timber Sale Operations	Equipment will not be operated when ground conditions are such that excessive damage will result. Erosion control measures will be kept current, which means daily, if precipitation is likely, or at least weekly, when precipitation is predicted.
PSW Region BMP 1-14: Special Erosion Prevention Measures on Disturbed Lands	Where required by the contract, the purchaser will give adequate treatment by spreading slash, mulch, wood chips, or some other treatment (if agreed upon) on portions of tractor roads, skid trails, landings, cable corridors, or temporary road fills. This provision is to be used only for timber sales that contain special soil stabilization problems that are not adequately treated by normal methods.
PSW region BMP 1-15: Revegetation of Areas Disturbed by Harvest Activities	Where soil has been severely disturbed and the establishment of vegetation is needed to control accelerated erosion, the purchaser will be required to establish an adequate ground cover of grass or other vegetative stabilization measures approved by the USFS.

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PSW Region BMP 1-16: Log Landing Erosion Prevention and Control	Timber Sale Contract (TSC) requirements provide for erosion prevention and control measures on all landings, which will include provisions for proper drainage. After landings have served purchaser's purpose, the purchaser will ditch or slope the landings and may be required to rip or subsoil and make provisions for revegetation to permit the drainage and dispersal of water.
PSW Region BMP 1-17: Erosion Control on Skid Trails	To protect water quality by minimizing erosion and sedimentation derived from skid trails, erosion control measures are required on a skid trails, tractor roads, and temporary roads. Normally, such measures involve constructing cross ditches and water spreading ditches. The location of all erosion control measures are designated and agreed to on the ground by the SA.
PSW Region BMP 1-18: Meadow Protection	At a minimum, meadow protection requirements contained in Forest Land and Resource Management Plans must be identified and implemented. Unauthorized operation of vehicular or skidding equipment in meadows or in protection zones is prohibited by the TSC. Damage to designated meadows and/or their associated protection zones will be repaired by the purchaser in a timely manner, as agreed to by the SA. Damage to a streamcourse or streamside management zone (SMZ) caused by unauthorized purchaser operations will be repaired by the purchaser in a timely manner and agreed upon manner.
PSW Region BMP 1-19: Streamcourse Protection (Implementation and Enforcement)	Streamcourse protection principles including but not limited to the following will be carried out: location and method of streamcourse crossings must be agreed to by the SA prior to construction; all damage to streamcourses, including banks and channels, must be repaired to the extent practicable; all debris generated by the project will be removed from streamcourses in an agreed upon manner that will cause the least disturbance; equipment use in SMZs will be limited or excluded; water bars and other erosion control structures will be located to disperse concentrated flows and filter out sediments prior to entry into a streamcourse; and material from temporary road and skid trail streamcourse crossings will be removed and streambanks restored to the extent practicable.

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PSW Region BMP 1-20: Erosion Control Structure Maintenance	During the period of the TSC, the purchaser will provide maintenance of soil erosion structures constructed by purchaser until they become stabilized, but not for more than 1 year after their construction. After 1 year, needed erosion control maintenance will be accomplished using other funding sources under TSC provisions B6.6 and B6.66.
PSW Region BMP 1-21: Acceptance of Timber Sale Erosion Control Measures Before Sale Closure	“Acceptable” erosion control means only minor deviation from established objectives, so long as no major or lasting damage is caused to soil or water. SAs will not accept erosion control measures that fail to meet these criteria.
PSW Region BMP 1-22: Slash Treatment in Sensitive Areas	Special slash treatment site preparation will be prescribed in sensitive areas to facilitate slash disposal without the use of mechanized equipment.
PSW Region BMP 1-25: Modification of Timber Sale Contract	Once timber sales are sold, they are harvested as planned in the TSC. Occasionally, however, it will be necessary to modify a TSC due to new concerns about the potential effects of land disturbance on a water resource. Where the project is determined to unacceptably affect watershed values, the appropriate Line Officer will take corrective actions, which may include contract modification.
PSW Region BMP 2-1: General Guidelines for the Location and Design of Roads	Location, design and construction of roads will be agreed upon by the IDT in order to result in minimal resource damage.
PSW Region BMP 2-2: Erosion Control Plan	Within a specified period after the award of a contract (currently 60 days prior to the first operating season), the purchaser will submit a general plan that, among other things, establishes erosion control measures. Operations cannot begin until the Forest Service has approved the plan in writing.

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PSW Region BMP 2-3: Timing of Construction Activities	Temporary road construction and road re-construction activities will be conducted during the dry season, when rain and runoff are unlikely and weather and ground conditions are such that impacts to soils and water quality will be minimal. Construction of drainage facilities and performance of other contract work to control erosion and sedimentation is required in conjunction with earthwork projects. The operator shall limit the amount of area being graded at a site at any one time, and shall minimize the time that an area is left bare.
PSW Region BMP 2-7: Control of Road Drainage	Used alone or in combination, methods such as the construction of properly spaced cross drains, water bars, or rolling dips; installation of energy dissipaters, aprons, downspouts, gabions, or flumes; armoring of ditches and drain inlets and outlets; and removing or adding berms can be used to control unacceptable effects of drainage.
PSW region BMP 2-9: Timely Erosion Control Measures on Incomplete Roads and Stream Crossing Projects	Apply protective measures to all areas of disturbed, erosion-prone, unprotected ground that is not to be further disturbed in the present year. Affected areas can include roads, road fills, skid trails, landings, stream crossings, bridge excavations, and firelines. Preventative measures include removal of temporary culverts, culvert plugs, diversion dams, or elevated stream crossings; installation of temporary culverts, side drains, cross drains, diversion ditches, sediment basins, berms, or other facilities needed to control erosion; removal of debris, obstructions and spoil material from channels and floodplains; and planting vegetation, mulching, and/or covering exposed surfaces with jute mats or other protective material.
PSW Region BMP 2-10: Construction of Stable Embankments	To construct embankments with materials and methods which minimize the possibility of failure and subsequent water quality degradation. Design and construct the roadway with a proper slope ratio and with adequate strength to support the treadway, shoulders, subgrade and the roads traffic loads. Construct embankments using one of the following methods: sidecasting and end-dumping, layer placement, controlled compaction, and/or using retaining walls, confinements systems, plantings, or combination.

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<p>PSW Region BMP 2-12: Servicing and Refueling Equipment</p>	<p>If the volume of fuel exceeds 660 gallons in a single container, or if total storage at a site exceeds 1,320 gallons, project Spill Prevention, Containment, and Counter Measures (SPCC) plans are required. Operators are required to remove service residues, waste oil, and other materials from National Forest land and be prepared to take responsive actions in case of a hazardous substance spill, according to the SPCC plan.</p>
<p>PSW Region BMP 2-13: Control of Construction and Maintenance Activities Adjacent to SMZs</p>	<p>Construction and maintenance fills, sidecast, and end-hauled materials are kept out of SMZs except at designated sites to minimize effects on the aquatic environment. It is also necessary to stabilize fill slopes to prevent sediment accumulations in the streamside zone.</p>
<p>PSW Region BMP 2-14: Controlling In-Channel Excavation</p>	<p>When necessary in the construction or removal of culverts, bridges, and other facilities, heavy equipment is permitted to cross or work in or near streams or lakes during construction under specific protection requirements. Excavation during the installation of instream structures must follow all of the following minimum water quality protection requirements: 1) Unless otherwise approved, no excavation will be made outside of caissons, cribs, cofferdams, or sheet piling; 2) the natural streambed or lake bottom adjacent to the structure will not be disturbed without prior approval of the ER or COR; 3) If any excavation or dredging is made at the site of the structure before it is sunk in place, all excavations will be restored to the original surface and the streambed or lake bottom must be protected with suitable material; 4) material deposited within the stream or lake area from foundation or other excavation will not be discharged into live streams or lakes, but will be put into settling areas as shown in plans or approved by the ER or COR; 5) If the channel or lake bottom is disturbed during construction, it must be restored to its original configuration while minimizing any additional disturbance; and, 6) disturbance of stream or lake banks are kept to a minimum. Disturbed banks are stabilized.</p>

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PSW Region BMP 2-15: Diversion of Flows Around Construction Sites	Streamflow must be diverted around construction sites such as bridges, culverts, and dams for all live streams. The diverted flows are returned to their natural streamcourse as soon as possible after construction or prior to the rainy season. All disturbed areas are stabilized prior to the rainy season or as needed.
PSW Region BMP 2-16: Stream Crossings on Temporary Roads	Stream crossing structures are required on all temporary roads where it is necessary to cross designated channels. Such crossings are designed to provide for unobstructed flows and the passage of fish, and to minimize damages to stream channels and water quality. The number of crossings will be kept to the minimum needed for access and will be as perpendicular to stream courses as possible. Temporary crossing facilities will be removed and the site stabilized prior to the rainy season each year or when the facility is no longer needed.
PSW Region BMP 2-17: Bridge and Culvert Installation	Spoil material from excavation during construction of in-channel structures should neither obstruct the stream course or natural floodplain nor impair the efficiency of the installed structure. Excavated material should be kept out of stream channels, stockpiled material on floodplains should be removed prior to a storm event, and flowing water should be diverted around work sites.
PSW Region BMP 2-21: Water Source Development Consistent with Water Quality Protection	Water source development to supply water for road construction and maintenance, dust control, and fire control shall avoid use of earth fill and dam construction. Cofferdams and water holes will be built out of sandbags filled with clean sand or gravel. Downstream water flow will not be reduced to a level that will be detrimental to established uses.
PSW Region BMP 2-22: Maintenance of Roads	Provide the basic maintenance required to protect the road and to ensure that damage to adjacent land and resources is prevented. This is the normal prescription for roads closed to traffic and often requires an annual inspection to determine what work is needed. At a minimum, maintenance must protect drainage facilities and runoff patterns. Additional maintenance includes surfacing and resurfacing, outsloping, clearing debris, etc.

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PSW Region BMP 2-23: Road Surface Treatment to Prevent Loss of Materials	When necessary, contractors, purchasers, special users, and Forest Service project leaders will undertake road surface treatment measures such as watering, sealing, aggregate surfacing, or paving to minimize loss of road materials.
PSW Region BMP 2-24: Traffic Control during Wet Periods	Roads that must be used during wet periods should have a stable surface and sufficient drainage to allow use while also maintaining water quality. Rocking, paving, and armoring are measures that protect the road surface and reduce soil loss. Where wet season field operations are planned, roads may need to be upgraded, use restricted to low ground pressure vehicles or frozen ground conditions, or maintenance intensified to handle the traffic without creating excessive erosion and damaging the road surface.
PSW Region BMP 2-25: Snow Removal Controls to Avoid Resource Damage	Where Forest Roads are used throughout the winter, the contractor will be responsible for snow removal that will protect roads and adjacent resources. Rocking or other special surfacing will be necessary before the operator is allowed to use the roads. Snow berms will be removed where they result in accumulation or concentration of snowmelt runoff on the road and erosive fill slopes. Snow berms will be installed in places that will preclude concentration of snowmelt runoff and that will serve to rapidly dissipate melt water.
PSW Region BMP 2-26: Decommission of roads	Temporary roads will be obliterated or decommissioned following their intended use. Obliteration/decommissioning may include re-contouring or outslipping to return the road prism to near natural hydrologic function, blocking the road to vehicle access, removing crossings and restoring natural drainage, and stabilizing road surfaces with ripping and/or revegetation.
PSW Region BMP 5-2: Slope Limitations for Mechanical Equipment Operations	Ground based equipment operation will be limited to slopes where corrective measures such as water bars can be effectively installed to reduce gully and sheet erosion and associated sediment production.

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PSW Region BMP 5-3: Tractor Operation Limitation in Wetlands and Meadows	Mechanical equipment will be excluded from wetlands and meadows except for the purpose of restoring wetland and meadow function. The target areas will be protected from mechanical operations except when they are identified for treatment by trained and qualified personnel on the IDT. Specific protection measures will be established for each area that could incur adverse water quality impacts.
PSW Region BMP 5-4: Revegetation of Surface Disturbed Areas	On unstable soil surfaces resulting from project activities, revegetation with native seed and/or application of mulch may be required to protect water quality and minimize soil erosion. The onsite factors evaluated will include soil productivity, topography, EHR, and soil water holding capacity.
PSW Region BMP 5-5: Disposal of Organic Debris	The project IDT will determine the methods of debris disposal and/or placement of debris after treatment. Methods of disposal include: prescribed burning, chipping, mastication, lop and scatter, and mechanical harvesting/collection.
PSW Region BMP 5-6: Soil Moisture Limitations for Mechanical Equipment Operations	To prevent compaction, gulying and rutting, mechanical equipment operations will be limited or excluded during wet soil conditions.
PSW Region BMP 6-1: Fire and Fuel Management Activities	To reduce public and private losses and environmental impacts that result from wildfires and/or subsequent flooding and erosion, measures including the use of prescribed fire or mechanical methods will be used to achieve defensive fuel profile zones, fuel reduction units, and fire suppression activities.

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PSW Region BMP 6-2: Consideration of Water Quality in Formulating Fire Prescriptions	To ensure water quality protection while achieving management objectives through the use prescribed fires, prescription elements will include, but not be limited to, factors such as fire weather, slope, aspect, soil moisture, and fuel moisture. The prescription will include at the watershed and subwatershed level the optimum and maximum burn block size, aggregated burned area, acceptable disturbance for contiguous and aggregate length for the riparian/SMZ, and maximum expected area covered by water repellent soils.
PSW Region BMP 6-3: Protection of Water Quality from Prescribed Burning Effects	Implementation of techniques to prevent water quality degradation, maintain soil productivity, and minimize erosion from prescribed burning. These techniques include: constructing water bars in fire lines, reducing fuel loading in drainage channels, and retaining or re-establishing ground cover as needed to keep erosion of the burned site within the limits of the burn plan.
PSW Region BMP 7-3: Protection of Wetlands	Activities and new construction in wetlands will not be permitted whenever there is a practical alternative. Factors relevant to the survival and quality of the wetlands, such as water supply, water quality, recharge areas, habitat diversity and stability, and hydrologic function of riparian areas will be considered when evaluating proposed actions in wetlands. Replacement in kind of lost wetlands should be evaluated to apply a “no net loss” perspective to wetland preservation.
PSW Region BMP 7-7: Management by Closure to Use	If the Forest Supervisor determines that a particular resource or improvement needs protection from use to preclude adverse water quality effects, activities that could result in damages to those resources or improvements may be excluded.
PSW Region BMP 7-8: Cumulative Off-Site Watershed Effects	Cumulative Watershed Effects (CWE) analyses are used to protect identified beneficial uses of water from the combined effects of multiple management activities.

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BMP 1-1: Timber Sale Planning Process (TSPP)	Earth scientists or other trained individuals will evaluate onsite watershed characteristics and the potential environmental consequences of activities related to the proposed timber harvest activities. They will design the timber sale to include site-specific prescriptions for each area of water quality concern.
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PSW Region BMP 2-15: Diversion of Flows Around Construction Sites	Streamflow must be diverted around construction sites such as bridges, culverts, and dams for all live streams. The diverted flows are returned to their natural streamcourse as soon as possible after construction or prior to the rainy season. All disturbed areas are stabilized prior to the rainy season or as needed.

Best Management Practice	Description
PSW Region BMP 2-16: Stream Crossings on Temporary Roads	Stream crossing structures are required on all temporary roads where it is necessary to cross designated channels. Such crossings are designed to provide for unobstructed flows and the passage of fish, and to minimize damages to stream channels and water quality. The number of crossings will be kept to the minimum needed for access and will be as perpendicular to stream courses as possible. Temporary crossing facilities will be removed and the site stabilized prior to the rainy season each year or when the facility is no longer needed.
PSW Region BMP 2-17: Bridge and Culvert Installation	Spoil material from excavation during construction of in-channel structures should neither obstruct the stream course or natural floodplain nor impair the efficiency of the installed structure. Excavated material should be kept out of stream channels, stockpiled material on floodplains should be removed prior to a storm event, and flowing water should be diverted around work sites.
PSW Region BMP 2-21: Water Source Development Consistent with Water Quality Protection	Water source development to supply water for road construction and maintenance, dust control, and fire control shall avoid use of earth fill and dam construction. Cofferdams and water holes will be built out of sandbags filled with clean sand or gravel. Downstream water flow will not be reduced to a level that will be detrimental to established uses.
PSW Region BMP 2-22: Maintenance of Roads	Provide the basic maintenance required to protect the road and to ensure that damage to adjacent land and resources is prevented. This is the normal prescription for roads closed to traffic and often requires an annual inspection to determine what work is needed. At a minimum, maintenance must protect drainage facilities and runoff patterns. Additional maintenance includes surfacing and resurfacing, outsloping, clearing debris, etc.
PSW Region BMP 2-23: Road Surface Treatment to Prevent Loss of Materials	When necessary, contractors, purchasers, special users, and Forest Service project leaders will undertake road surface treatment measures such as watering, sealing, aggregate surfacing, or paving to minimize loss of road materials.

Best Management Practice	Description
PSW Region BMP 2-24: Traffic Control during Wet Periods	Roads that must be used during wet periods should have a stable surface and sufficient drainage to allow use while also maintaining water quality. Rocking, paving, and armoring are measures that protect the road surface and reduce soil loss. Where wet season field operations are planned, roads may need to be upgraded, use restricted to low ground pressure vehicles or frozen ground conditions, or maintenance intensified to handle the traffic without creating excessive erosion and damaging the road surface.
PSW Region BMP 2-25: Snow Removal Controls to Avoid Resource Damage	Where Forest Roads are used throughout the winter, the contractor will be responsible for snow removal that will protect roads and adjacent resources. Rocking or other special surfacing will be necessary before the operator is allowed to use the roads. Snow berms will be removed where they result in accumulation or concentration of snowmelt runoff on the road and erosive fill slopes. Snow berms will be installed in places that will preclude concentration of snowmelt runoff and that will serve to rapidly dissipate melt water.
PSW Region BMP 2-26: Decommission of roads	Temporary roads will be obliterated or decommissioned following their intended use. Obliteration/decommissioning may include re-contouring or outsloping to return the road prism to near natural hydrologic function, blocking the road to vehicle access, removing crossings and restoring natural drainage, and stabilizing road surfaces with ripping and/or revegetation.
PSW Region BMP 5-2: Slope Limitations for Mechanical Equipment Operations	Ground based equipment operation will be limited to slopes where corrective measures such as water bars can be effectively installed to reduce gully and sheet erosion and associated sediment production.
PSW Region BMP 5-3: Tractor Operation Limitation in Wetlands and Meadows	Mechanical equipment will be excluded from wetlands and meadows except for the purpose of restoring wetland and meadow function. The target areas will be protected from mechanical operations except when they are identified for treatment by trained and qualified personnel on the IDT. Specific protection measures will be established for each area that could incur adverse water quality impacts.

Best Management Practice	Description
PSW Region BMP 5-4: Revegetation of Surface Disturbed Areas	On unstable soil surfaces resulting from project activities, revegetation with native seed and/or application of mulch may be required to protect water quality and minimize soil erosion. The onsite factors evaluated will include soil productivity, topography, EHR, and soil water holding capacity.
PSW Region BMP 5-5: Disposal of Organic Debris	The project IDT will determine the methods of debris disposal and/or placement of debris after treatment. Methods of disposal include: prescribed burning, chipping, mastication, lop and scatter, and mechanical harvesting/collection.
PSW Region BMP 5-6: Soil Moisture Limitations for Mechanical Equipment Operations	To prevent compaction, gulying and rutting, mechanical equipment operations will be limited or excluded during wet soil conditions.
PSW Region BMP 6-1: Fire and Fuel Management Activities	To reduce public and private losses and environmental impacts that result from wildfires and/or subsequent flooding and erosion, measures including the use of prescribed fire or mechanical methods will be used to achieve defensive fuel profile zones, fuel reduction units, and fire suppression activities.
PSW Region BMP 6-2: Consideration of Water Quality in Formulating Fire Prescriptions	To ensure water quality protection while achieving management objectives through the use prescribed fires, prescription elements will include, but not be limited to, factors such as fire weather, slope, aspect, soil moisture, and fuel moisture. The prescription will include at the watershed and subwatershed level the optimum and maximum burn block size, aggregated burned area, acceptable disturbance for contiguous and aggregate length for the riparian/SMZ, and maximum expected area covered by water repellent soils.

Best Management Practice	Description
PSW Region BMP 6-3: Protection of Water Quality from Prescribed Burning Effects	Implementation of techniques to prevent water quality degradation, maintain soil productivity, and minimize erosion from prescribed burning. These techniques include: constructing water bars in fire lines, reducing fuel loading in drainage channels, and retaining or re-establishing ground cover as needed to keep erosion of the burned site within the limits of the burn plan.
PSW Region BMP 7-3: Protection of Wetlands	Activities and new construction in wetlands will not be permitted whenever there is a practical alternative. Factors relevant to the survival and quality of the wetlands, such as water supply, water quality, recharge areas, habitat diversity and stability, and hydrologic function of riparian areas will be considered when evaluating proposed actions in wetlands. Replacement in kind of lost wetlands should be evaluated to apply a “no net loss” perspective to wetland preservation.
PSW Region BMP 7-7: Management by Closure to Use	If the Forest Supervisor determines that a particular resource or improvement needs protection from use to preclude adverse water quality effects, activities that could result in damages to those resources or improvements may be excluded.
PSW Region BMP 7-8: Cumulative Off-Site Watershed Effects	Cumulative Watershed Effects (CWE) analyses are used to protect identified beneficial uses of water from the combined effects of multiple management activities.

**Tractor “loggable ground” and “skidding design” includes several types of mechanical equipment for removing fuels, in contrast to hand treatments.