Contents

Subchapter 4
State Forest Land Management

36.11.401 ACCOUNTABLE PARTIES

(1) The Trust Land Management Division of the Department of Natural Resources and Conservation shall implement the rules as outlined in this subchapter to provide field personnel with consistent policy, direction, and guidance for the management of forested state trust lands.

36.11.402 GENERAL APPLICABILITY

(1) The state forest land management rules in this subchapter shall apply to forest management activities on all state trust lands administered by the department.

36.11.403 DEFINITIONS

Unless the context otherwise requires, the words defined shall have the following meaning when found in these rules:

(1) "Abandoned road" means a road that is impassable to motorized vehicles and is restricted by a non-passable barrier or vegetation but has drainage structures that have not been removed. An abandoned road will not receive motorized use, including low-intensity forest management activities or commercial forest management activities.

(2) "Active bald eagle nest" means any bald eagle nest that either:

(a) is known to be occupied by a breeding pair; or

(b) has been occupied by nesting bald eagles within the past five years.

(3) "Adjacent wetland" means a wetland located within a streamside management zone established under **ARM 36.11.302**. Adjacent wetlands are located immediately adjacent to streams, lakes or other bodies of water.

(4) "Administrative" unit means the full set of lands managed and administered by an individual field office.

(5) "Administrative use" means any activities associated with project preparation, planting, pre-commercial thinning, project administration, forest inventory, monitoring, salvage, prescribed burning, slash disposal, on-site license or lease administration, and maintenance activities.

(6) "Bald eagle home range" means a circular area having a radius of 2.5 miles around all nest sites that have been active within five years or as defined in a bald eagle site-specific plan.

(7) "Bald eagle nest site area" means a circular area having a radius of 0.25 mile around active or alternate nests that have been active within five years or as defined in a bald eagle site-specific plan.

(8) "Bald eagle primary use area" means the circular area extending from 0.25 mile to 0.5 mile from active and alternate nests or as defined in a bald eagle site-specific plan. The exact configuration of this area may be altered upon consultation with a department biologist, if geographic conditions allow. The intention is to best approximate the area frequented by nesting eagles. Lacking other data or consultation, the 0.25 to 0.5 mile area shall be used.

(9) "Bald eagle site-specific plan" means a site-specific plan for isolated breeding areas or unique situations that are developed for resolution of conflicts. Such plans are completed only after an intensive research effort designed to determine home range, activity patterns, perch and roost areas, food habits, foraging areas, and responses to human activity of specific pairs.
10) "Best management practices or BMPs" means a practice or set of practices adopted and prescribed by the state of Montana to minimize non-point source water pollution from forest practices.
(11) "Biological infestation" means any situation where animals, insects, or diseases are present in sufficient amounts to threaten mortality to 25 percent or more of the standing live trees at the stand level.
(12) "Black-backed woodpecker habitat" means fire-killed stands of trees greater than 40 acres, less than five years since disturbance, and with greater than 40 trees per acre that are greater than or equal to nine inches DBH.
(13) "Broadcast burning" means spreading fire through a continuous fuel cover. The fuels consist of slash resulting from forest practices, surface litter, and duff. Fuels are left in place, fairly uniform, and ignited under certain conditions with the intent to meet planned management objectives in the desired area.
(14) "Categorical exclusion" refers to a type of action that does not individually, collectively, or cumulatively require an environmental assessment or environmental impact statement unless extraordinary circumstances occur.
(15) "Channel migration zone" (CMZ) means the width of a flood prone area at an elevation twice maximum bankfull depth.
(16) "Class I stream segment" means:
(a) a portion of stream that supports fish; or
(b) a portion of stream that:
(i) normally has surface flow during six months of the year or more; and
(ii) contributes surface flow to another stream, lake or other body of water.
(17) "Class II stream segment" means a portion of a stream that is not a Class I or Class III stream segment. Two common examples of Class II stream segments are:
(a) a portion of stream that:
(i) does not support fish;
(ii) normally has surface flow during less than six months of the year;and
(iii) contributes surface flow to another stream, lake or other body of water; or
(b) a portion of stream that:
(i) does not support fish;
(ii) normally has surface flow during six months of the year or more; and
(iii) does not contribute to another stream, lake or other body of water.
(18) "Class III stream segment" means:
(a) a portion of a stream that does not support fish;
(b) normally has surface flow during less than six months of the year; and
(c) rarely contributes surface flow to another stream, lake or other body of water.
(19) "Coarse filter" means an approach that supports diverse wildlife habitat by managing for a variety of forest structures and compositions, instead of focusing

on habitat needs for individual, selected species. A coarse filter approach assumes that if landscape patterns and processes similar to those species evolved with are maintained, then the full complement of species will persist and biodiversity will be maintained.

(20) "Coarse woody debris or CWD" means dead woody material such as stems or limbs, generally larger than three inches in diameter.

(21) "Connectivity" means:

(a) the extent to which conditions exist or should be provided between separate forest areas to ensure habitat for breeding, feeding, or movement of wildlife and fish within their home range or migration areas; or

(b) regarding management of lynx and fisher habitat:

(i) stand conditions where sapling, pole, mature, or old stands possess at least 40 percent crown canopy closure, in a patch greater than 300 feet wide provide connectivity; and

(ii) when managing within forest stands associated with riparian and streamside management zones, **ARM 36.11.425** shall also be considered to provide habitat connectivity for wildlife, including fisher and Canada lynx.

(22) "Cover type" means a descriptor of forest stands based upon tree species composition.

(23) "Denning period" (grizzly bear) means the period from November 16 through March 31.

(24) "Department" means the Department of Natural Resources and Conservation.

(25) "Desired future condition" means the land or resource conditions that will exist if goals and objectives are fully achieved.

(26) "Diameter at breast height or DBH" means the diameter of the stem of a tree measured at 4.5 feet from the ground.

(27) "Equipment restriction zone or ERZ" means a discrete management zone where wheeled or tracked equipment is restricted to operational periods such as dry, frozen, or snow-covered conditions to avoid excessive compaction, displacement, or erosion.

(28) "Facultative plants" means plants that are equally likely to occur in wetlands and non-wetlands (34 to 66 percent estimated probability).

(29) "Facultative wetland plants" means plants that usually occur in wetlands (67 to 99 percent estimated probability) but are occasionally found in non-wetlands.

(30) "Fire or other damage" means damage to the trees by fire or other natural agents that threaten mortality or cause tree damage.

(31) "Flammulated owl preferred habitat types" means regionally accepted climax vegetation classifications denoted by the following acronyms:

(a) PIPO (Pinus ponderosa) - all types;

(b) PSME (Pseudotsuga menziesii)/AGSP (Agropyron spicatum);

(c) PSME/FEID (Festuca idahoensis);

(d) PSME/FESC (Festuca scabrella);

(e) PSME/SYAL (Symphoricarpos albus);

(f) PSME/PHMA (Physocarpus malvaceus);

(g) PSME/VACA (Vaccinium caespitosum);

(h) PSME/CARU (Calamagrostis rubescens);

(i) PSME/SPBE (Spiraea betulifolia); and
(j) PSME/ARUV (Arctostaphylos uva-ursi).

(32) "Forest composition" means the presence and proportionate amounts of tree species occurring within a forest stand.

(33) "Forest improvement fees" means fees collected for the forest improvement program.

(34) "Forest management activities" means activities or operations normally associated with the management of department-administered forest land including:

(a) timber harvest;
(b) salvage harvest;
(c) thinning;
(d) control and disposal of slash;
(e) prescribed burning;
(f) site preparation;
(g) reforestation;
(h) weed control;
(i) road construction;
(j) road maintenance;
(k) road use;
(l) road reconstruction;
(m) installation, removal, maintenance, and replacement of stream structures;
(n) inventory;
(o) monitoring;
(p) fertilization;
(q) gravel quarrying; and
(r) grazing of classified forest lands.

(35) "HCP" means the Montana Department of Natural Resources and Conservation Forested State Trust Lands Habitat Conservation Plan.

(36) "Hiding cover" means vegetation that provides visual screening capable of obstructing from view 90 percent of an adult grizzly bear at 200 feet.

(37) "Human activity (high intensity)" means any human use or activity associated with:

(a) frequent and/or intensive public recreation;
(b) heavy equipment use;
(c) aerial yarding;
(d) blasting;
(e) logging;
(f) log hauling;
(g) pre-commercial thinning;
(h) road construction;
(i) site alteration; or
(j) site development.

(38) "Human activity (low intensity)" means any minor human use or activity associated with:

(a) dispersed and/or infrequent public recreation;
(b) project preparation;

(c) short-duration activities associated with site alteration or site development; and

(d) planting.

(39) "Hydric soils" means soils that are formed under conditions of:

(a) saturation;

(b) flooding; or

(c) ponding long enough during the growing season to develop anaerobic conditions in the upper soil horizons.

(40) "Investments" means the department's internal investments in forested state trust lands. These investments may include items such as:

(a) silvicultural prescriptions;

(b) road construction and maintenance;

(c) plantation establishment and maintenance;

(d) wildlife habitat structures; and

(e) public recreation.

(41) "Isolated wetland" means a wetland that does not intercept or lie within a SMZ boundary.

(42) "Lake" means a body of water:

(a) where the surface water is retained by either natural or artificial means;

(b) where the natural flow of water is substantially impeded; and

(c) which supports fish.

(43) "Low-intensity forest management activities" means non-commercial forest management activities, including:

(a) timber inventory;

(b) timber sale preparation;

(c) road location;

(d) road maintenance;

(e) bridge replacement;

(f) mechanical site preparation;

(g) tree planting;

(h) pre-commercial thinning;

(i) prescriptive and hazard reduction burning;

(j) patrol of fall/winter slash burns;

(k) heavy and non-heavy equipment slash treatments;

(l) monitoring;

(m) data collection; and

(n) noxious weed management.

(44) "Lynx habitat" means forest lands consisting of subalpine fir or hemlock habitat types where:

(a) forest types may be mixed-species composition of:

(i) subalpine fir;

(ii) hemlock;

(iii) Engelmann spruce;

(iv) Douglas-fir;

(v) grand fir;

(vi) western larch;

(vii) lodgepole pine;

(viii) hardwoods; and

(ix) stands dominated by lodgepole pine; or

(b) moist Douglas-fir, grand fir, western red cedar, and Engelmann spruce habitat types are intermixed with subalpine fir habitat types.

(45) "Lynx management area (LMA)" means delineated areas containing department lands of notable importance for lynx, where records indicate lynx are likely currently or recently present, or are lands considered important for maintenance of resident lynx populations, where increased levels of lynx conservation commitments are applied.

(46) "Management subzone" means five administratively defined areas approximating the size of a female grizzly bear home range on the Swan River State Forest where commercial activities are allowed during 3-year active windows followed by at least six years' rest on a rotational basis.

(47) "Mechanized activity" means all activities associated with:

(a) chainsaw operation and timber felling;

(b) pre-commercial thinning;

(c) motorized vehicle trips, including snowmobiles, associated with administrative uses;

(d) skidding and ground-based yarding operations;

(e) aerial yarding;

(f) mechanized road construction and maintenance;

(g) log loading;

(h) log processing; and

(i) log hauling.

(48) "Minimum asking price" means the lowest purchase price per unit of wood the department will accept on a timber sale.

(49) "Moderately stocked" means forest stand density described by crown closure of 40 to 69 percent.

(50) "Motorized trails" means any route longer than 500 feet that does not qualify as a "road," including those routes that conventional four-wheel drive vehicles could negotiate.

(51) "Non-denning period" (grizzly bear) means the period April 1 through November 15.

(52) "Non-recovery occupied habitat (NROH)" means the fixed land area outside the boundaries of established grizzly bear recovery zones where one would reasonably expect to find grizzly bear use occurring during any year/most years, as further clarified in **ARM 36.11.432**.

(53) "Obligate wetland plant" means plants that possess a greater than 99 percent probability of occurring in wetlands under natural conditions.

(54) "Old growth" means forest stands that meet or exceed the minimum criteria for number, diameter, age of large trees, and stand basal area as noted in "Old-Growth Forest Types of the Northern Region" by P. Green, J. Joy, D. Sirucek, W. Hann, A. Zack, and B. Naumann (1992 and subsequent revisions, USFS Northern Region, internal report).

(55) "Old growth maintenance" means silviculture treatments in old growth stands designed to retain old growth attributes, including large live trees, snags and CWD, but that would remove encroaching shade-tolerant species, create small canopy gaps generally less than one acre in size, and encourage regeneration of shade-intolerant species. This type of treatment is applicable on

sites that historically would be characterized by mixed severity fire regimes, either relatively frequent or infrequent.
(56) "Old growth network" means an area consisting of more than one forest stand designated or deferred by license or easement from treatment for old growth related reasons, especially for spatial considerations.
(57) "Old growth restoration" means silviculture treatments in old growth stands designed to reduce stand risk to loss by natural disturbance agents and return them to historic levels of stocking, and/or species composition. Generally, it involves removal of shade-tolerant species, reductions in stand density, and retention of most large shade-intolerant species. This type of treatment is applicable on sites that historically would be characterized by frequent non-lethal fire regimes.
(58) "Old growth set-aside" means an old growth stand(s) designated or deferred by license or easement from treatment.
(59) "Open road" means a road without limitation on motorized vehicle use, but also includes those accessible to the general public during any portion of the grizzly bear non-denning season where visual screening must be retained.
(60) "Other body of water" means ponds and reservoirs greater than 0.1-acre that do not support fish; and irrigation and drainage systems draining directly into a stream, lake, pond, reservoir or other surface water. Water bodies used solely for treating, transporting, or impounding pollutants shall not be considered surface water.
(61) "Other suitable habitat (lynx)" means forested habitat within lynx habitat with total stocking reflecting at least 40 percent crown closure in any combination of seedling/sapling, pole, or sawtimber size classes as identified in the department stand level inventory database, and also includes stands of saplings that contain at least 180 stems per acre that are greater than or equal to 6 feet tall.
(62) "Patch" means a contiguous area of vegetation similar in characteristics of interest, such as tree height, stocking, species composition, or age class. The patch can be composed of a stand, a part of a stand, or many stands.
(63) "Pileated woodpecker preferred habitat" means live, mature cottonwood stands and mature conifer forests patches greater than 40 acres with overstory canopies dominated by large-sized western larch or ponderosa pine, and containing Douglas-fir, large snags, and CWD.
(64) "Poletimber" means trees with a DBH from 5.0 to 8.99 inches.
(65) "Pre-commercial thinning" means the removal of trees not for immediate financial return but to reduce stocking to concentrate growth on the more desirable trees.
(66) "Preferred fisher cover types" means cover types occurring at elevations below 6000 feet that include:
(a) western larch/Douglas-fir;
(b) western white pine;
(c) mixed conifer;
(d) western red cedar;
(e) Engelmann spruce;
(f) Douglas-fir cover types where the species of secondary abundance is:
(i) Engelmann spruce;
(ii) grand fir; or

(iii) western red cedar.

(67) "Project level" means within the analysis of a proposed action under the Montana Environmental Policy Act (MEPA).

(68) "Reclaimed road" means a road that is impassable to motorized vehicles, but has been stabilized, and drainage features, if present, have been removed. The road prism may remain but is restricted to motorized vehicles by a non-passable barrier or vegetation. A reclaimed road will not receive motorized use, including low-intensity or commercial forest management activities.

(69) "Restricted road" means a road that is managed to limit motorized vehicle use seasonally or yearlong, and shall typically have:

(a) a physical barrier, which may be man-made or naturally occurring and include, but are not limited to:

(i) gates;

(ii) barricades;

(iii) earthen berms;

(iv) vegetation;

(v) rocks; or

(b) access controlled by another landowner(s) in a manner that, at a minimum, restricts the use of motorized vehicles by the general public.

(70) "Riparian area" means greens zones associated with lakes, reservoirs, estuaries, potholes, springs, bogs, fens, wet meadows, and ephemeral, intermittent, or perennial streams. The riparian/wetland zone occurs between the upland or terrestrial zone and the aquatic or deep water zone.

(71) "Riparian management zone (RMZ)" means an additional area of streamside buffer established when forest management activities are proposed on sites with high erosion risk or on sites that are adjacent to fish bearing streams or lakes.

(72) "Road" means all created or evolved routes that are greater than 500 feet long, which are reasonably and prudently drivable with a conventional passenger car or pickup.

(73) "Road closure" means gates, berms, debris, or other facilities necessary to close existing roads to motorized public use and/or administrative uses. Road closure types are classified as:

(a) Class A road closures can be easily opened and made passable for periodic administrative or seasonal public use;

(b) Class B road closures are not easily passable as they are intended to effectively restrict public and periodic administrative motorized use by the department for extended periods of time, and can typically be removed with the aid of heavy equipment to allow access for future management or emergencies such as wildland fire;

(c) Class P road closures are associated with private lands where access to a department parcel(s) is restricted by a neighboring private landowner(s), and are assumed to be restricted to public, commercial, or agency use unless use levels are specifically known.

(74) "Road construction" means cutting and filling of earthen material that results in a travel-way for wheeled vehicles.

(75) "Road maintenance" means maintenance and repair of existing roads that are accessible to motorized use, including but not limited to:

(a) blading;
(b) reshaping; or
(c) resurfacing the road to its original condition;
(d) cleaning culverts;
(e) restoring and perpetuating road surface drainage features; and
(f) clearing the roadside of brush.

(76) "Road reconstruction" means upgrading road to accommodate proposed use.

(77) "Sale-scoping announcement" means the initial public notification of the department's intent to develop a timber sale.

(78) "Salvage" means the removal of dead trees or trees being damaged or killed by injurious agents other than competition, such as fire, insects, disease, or blowdown, to recover the economic value that would be otherwise lost.

(79) "Saplings" means trees with DBH from one to 4.99 inches.

(80) "Sawtimber" means size class comprised of trees greater than or equal to nine inches DBH.

(81) "Security zone" means seven administratively defined areas comprising 22,007 acres on the Stillwater block where, to provide security for grizzly bears during the annual non-denning season of April 1 to November 15, the following is prohibited:

(a) motorized administrative use;
(b) motorized public use; and
(c) construction of additional permanent roads.

(82) "Seedling" means trees with DBH less than one inch

(83) "Silvicultural systems" means treatments applied to forest stands to accomplish specific goals.

(a) This term includes, but is not limited to:
(i) even-aged regeneration treatments;
(ii) uneven-aged treatments; and
(iii) commercial thinning.

(84) "Silviculture" means the art and science of managing trees and forests for specific objectives. Silviculture entails the manipulation of forest and woodland vegetation in stands and on landscapes to meet the diverse needs and values of landowners and society on a sustainable basis.

(85) "Simple linear calculation" means road mile distance divided by the number of 640 acre sections in a given analysis area.

(86) "Site index" means the height of free to grow trees at a specific base age of 50 years.

(87) "Site potential tree height" means the average height of the dominant or co-dominant trees of a stand for a given age based on site index.

(88) "Sites with high erosion risk" means sites located on highly erodible soils or subject to conditions that result in higher risk of erosion.

(a) Examples of highly erodible soils are non-cohesive sands such as:
(i) granitics; and
(ii) silts with low rock content.

(b) Conditions leading to high erosion risk include:
(i) those areas that are susceptible to mass wasting;
(ii) those areas already exhibiting high levels of erosion; or

(iii) severely burned areas where:
(A) bare mineral soil is exposed; or
(B) hydrophobic conditions occur.

(89) "Slash" means the woody debris that is dropped to the forest floor during forest practices and consists of:
(a) stems;
(b) branches;
(c) twigs; and
(d) leaves.

(90) "Spring habitat" (grizzly bear) means:
(a) areas associated with roads possessing restricted status during the spring period on the Stillwater block;
(b) all habitat below 5,200 feet elevation in the Swan River State Forest; and
(c) all habitat below 4,900 feet elevation on scattered parcels within grizzly bear non-recovery occupied habitat and recovery zones.

(91) "Spring period" (grizzly bear) means:
(a) April 1 through June 15 for non-spring habitat and April 1 through June 30 for areas within spring habitat for the Stillwater block;
(b) April 1 through June 15 for lands within the Swan River State Forest and scattered parcels in recovery zones and NROH.

(92) "Stand structure" means the vertical distribution of forest components which include tree height and crown layers of a forest stand.

(93) "Stillwater Block" means the blocked portions of the Stillwater and Coal Creek State Forests.

(94) "Stream" means a natural watercourse of perceptible extent that has a generally sandy or rocky bottom or definite banks and that confines and conducts continuously or intermittently flowing water.

(95) "Streamside management zone or SMZ" means the stream, lake, or other body of water and an adjacent area of varying width where management practices need to be modified if they might affect wildlife habitat, water quality, fish, or other aquatic resources. The SMZ encompasses a strip at least 50 feet wide on each side of a stream, lake, or other body of water, measured from the ordinary high-water mark, and extends beyond the high-water mark to include wetlands and areas that provide additional protection in zones with steep slopes or erosive soils.

(96) "Suitable lynx habitat" means forest stands within habitat types considered to be preferred by lynx that possess a total stocking level reflecting at least 40 percent crown closure in any combination of various stand size classes and combinations as defined by the department's lynx habitat map classifications and descriptions, which include the subsets of summer foraging habitat, winter foraging habitat, and other suitable habitat categories.

(97) "Summer foraging habitat" means dense sapling stands and moderately to densely stocked poletimber stands within suitable lynx habitat that possess abundant horizontal cover.

(98) "Temporary non-suitable lynx habitat" means recently harvested or naturally disturbed (e.g., burned) areas that have fewer than 180 saplings per acre at least 6-feet tall, or less than 40 percent total stand canopy cover, but have the potential to be suitable lynx habitat over time.

(99) "Temporary road" means a road built using the minimum standard necessary for the anticipated use, and which is reclaimed following use. Drainage structure(s) must be removed at the end of the temporary use period. Applicable BMPs will be implemented on these roads.
(100) "Total road density" means the percentage of a defined grizzly bear analysis area that exceeds two miles of:
(a) open roads;
(b) restricted roads; and
(c) motorized trails per square mile.
(101) "Urban/forestland interface" means lands managed by the department where proximity to human habitation warrants special consideration.
(102) "Unique and rare habitats" means a designation applied to areas of wetlands, caves, archeological sites, patches of threatened or endangered plants, or as required by state or federal law.
(103) "Visual obstruction" means that at least 90 percent of an adult grizzly bear is hidden from view.
(104) "Visual screening (grizzly bear)" means vegetation and/or topography capable of hiding a grizzly bear from view.
(105) "Water quality limited water body" means a water body considered by the Montana Department of Environmental Quality to be impaired, and included on the most recent version of the Montana 303(d) list.
(106) "Well stocked" means stands with:
(a) seedlings up to 0.99 inch DBH occurring at densities greater than 600 trees per acre;
(b) sapling trees one to 4.99 inches DBH occurring at densities greater than 300 trees per acre;
(c) pole trees five to 8.99 inches DBH providing crown canopy densities of greater than 69 percent; or
(d) sawtimber trees greater than or equal to nine inches DBH providing a crown canopy density of greater than 69 percent.
(107) "Wetland management zone or WMZ" means a specified area adjacent to and encompassing an isolated wetland or adjacent to a wetland located next to a stream, lake, or other body of water where specific resource protection measures are implemented.
(108) "Wetlands" means those areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions.
(a) Wetlands include:
(i) marshes;
(ii) swamps;
(iii) bogs; and
(iv) similar areas.
(109) "Windthrow" means trees blown to the ground or damaged by wind.
(110) "Winter foraging habitat" means sawtimber stands within lynx habitat that possess multi-layering of moderate or well stocked coniferous vegetation and horizontal cover, and must:
(a) occur on habitat types preferred by lynx;
(b) have one or more of the following species present:

(i) subalpine fir;
(ii) grand fir; or
(iii) Engelmann spruce; and

(c) have at least ten percent canopy closure in trees greater than or equal to nine inches DBH; and

(d) have a minimum of 40 percent total stand crown density in understory and overstory combined.

36.11.404 BIODIVERSITY - COARSE FILTER APPROACH

(1) The department shall promote biodiversity by taking a coarse filter approach thereby favoring an appropriate mix of stand structures and compositions on state lands. The department shall base appropriate stand structures and compositions on ecological characteristics such as:

(a) land type;
(b) climatic section;
(c) habitat type;
(d) disturbance regime; and
(e) unique and rare habitats.

(2) For coarse filter applications, the department shall describe forests and stands using these characteristics:

(a) forest composition;
(b) age class distributions;
(c) cover type; and
(d) stand structure.

36.11.405 BIODIVERSITY - DESIRED FUTURE CONDITIONS

(1) The department shall use a site-specific model that incorporates ecological characteristics through habitat and cover types to describe cover type representation. Cover type is one characteristic that describes desired future conditions. When run at the administrative unit level, the model describes a desired future condition in terms of cover type representation. The cover types defined are white pine, ponderosa pine, Douglas-fir, western larch/Douglas-fir, lodgepole pine, mixed conifer, and subalpine types. Where data do not allow unit-level descriptions, then project-level data and descriptions will be utilized.

(a) The model indicates the approximate number of acres of each cover type that represents a desired future condition for the unit as a whole. Treatments shall be determined at the project level. The department shall use local knowledge to improve estimates as necessary, such as identification of hardwood cover types as a desired future condition.

(i) The following describes the model referred to in (1). Each stand is tested sequentially against the following criteria. Once a stand is assigned it does not go through any of the subsequent steps.

(A) If white pine makes up 10 percent or greater of any of the four main species, the white pine type is assigned.

(B) If ponderosa pine makes up over 20 percent of the cover, the ponderosa pine cover type is assigned.

(C) If western larch represents a minimum of 10 percent of the stand, or any stand that has at least 30 percent cover represented by western larch and Douglas-fir, the western larch/Douglas-fir type is assigned.

(D) If Douglas-fir represents 50 percent or greater, the Douglas-fir type is assigned.

(E) If lodgepole pine represents 40 percent or greater, the lodgepole pine type is assigned.

(F) If the stand is not yet assigned and the habitat type is greater than 630, the subalpine type is assigned.

(G) All remaining stands are assigned to the mixed conifer type.

(b) The department shall consider stands in all age classes for treatment to promote appropriate conditions. One tenet of achieving biodiversity goals at the landscape level is the presence of stands in all age classes.

(c) The department shall select desired future stand structural conditions at the project level, and shall consider disturbance regimes in terms of frequency and severity (see **ARM 36.11.408**). The department shall assess stand structure at the project level and track quantities of various structures at the unit level, to the extent data are available.

(i) The department shall use the stand structure definitions as described in the department's stand level inventory.

36.11.406 BIODIVERSITY - FINE FILTER APPROACH

(1) Because it cannot assure that the coarse filter approach will adequately address the full range of biodiversity, the department shall also employ a fine filter approach for threatened, endangered, and sensitive species (see **ARM 36.11.428** through **36.11.432**), that focuses on a single species' habitat requirements to the extent consistent with the Endangered Species Act, 16 U.S.C Sections 1531 through 1544 and 77-5-116, MCA.

(a) The department shall manage for a desired future condition that promotes a diversity of habitat conditions beneficial to wildlife. The fine filter shall support habitat requirements of threatened, endangered, and sensitive wildlife and plant species. Where the coarse filter and fine filter appear to be at odds, the department shall move toward the conditions defined in **ARM 36.11.405** consistent with its fiduciary obligations owed to the trust beneficiary.

36.11.407 BIODIVERSITY - MANAGEMENT ON BLOCKED LANDS

(1) Within areas of large, blocked ownership, the department shall manage for a desired future condition that can be characterized by the proportion and distribution of forest types and structures historically present on the landscape.

(2) A typical analysis unit shall be the administrative unit wherein the department shall focus on maintaining or restoring a range of the forest conditions that would have naturally been present given topographic, edaphic, and climatic characteristics of the area, and considering fiduciary and other obligations.

(a) Among the forest conditions the department shall typically consider are:

(i) successional stage;

(ii) species composition;

(iii) stand structure;

(iv) patch size and shape;
(v) habitat connectivity and fragmentation;
(vi) disturbance regime;
(vii) old-growth distribution and attribute levels; and
(viii) habitat type.

(3) The department shall design timber harvests to promote long-term, landscape-level diversity through an appropriate representation of forest conditions across the landscape as described in **ARM 36.11.404**. Where state ownership contains forest conditions made rare on adjacent lands by the management activities of others, the department may not necessarily maintain those conditions in amounts sufficient to compensate for their loss when assessed over the broader landscape, except as it coincides with other agency objectives.

(a) However, if state ownership contains rare or unique habitat elements, as previously defined in **ARM 36.11.403** occurring naturally, the department shall manage so as to retain those elements, to the extent it is consistent with fiduciary duties owed to the beneficiary.

36.11.408 BIODIVERSITY - SELECTION OF SILVICULTURAL SYSTEMS

(1) Selection of silvicultural systems shall typically be based on natural disturbance regimes. The three predominant regimes are:

(a) stand-replacement fire;
(b) mixed severity fire; and
(c) non-lethal fire.

(2) Other disturbance mechanisms which may be predominant on a site and shall be considered when selecting treatments include, but are not limited to:

(a) insects;
(b) disease; and
(c) wind.

(3) The department shall consider the range of disturbance regimes possible for any site to avoid inflexible and inappropriate treatments.

(4) The department shall consider objectives that may suggest emulating a disturbance event that does not adhere to the predominant regime.

(5) When emulating a stand-replacement disturbance, the department shall leave some scattered or clumped standing live trees. Silvicultural systems that equate to stand-replacement are clearcut and seed tree.

(a) The department shall consider the patchy distribution of surviving trees following natural disturbance, and emulate that condition to the extent practicable.

(b) Actual numbers and distribution of live trees retained in emulations of stand replacement disturbances shall be site-specifically determined (see **ARM 36.11.411**).

(c) Larger proportions of early successional stands will typically be present with these regimes than with other regimes.

(6) Silvicultural systems that emulate mixed severity regimes are modified shelterwood and group selection.

(a) Retained trees shall be from among those that would most likely have survived the disturbance, and in an arrangement typical for the

disturbance, as appropriate for meeting fiduciary and project-level objectives.

(b) With most mixed severity treatments, the department shall open the stand enough for natural regeneration of shade intolerant species, or sufficiently so that inter-planted seedlings have the opportunity to survive.

(c) Clumps of small shade tolerant species may be appropriate for retention.

(d) Greater range in stand variability is typical of this regime, including clumps of similar age classes within multi-aged stands.

(7) Selection harvests shall be designed or developed to maintain uneven-aged conditions when emulating non-lethal underburns.

(a) The department shall design these treatments to ensure regeneration of shade intolerant species through natural regeneration or through planting of desired species.

(b) This regime will have higher proportions of older age classes and fewer early successional stands.

(c) The department shall generally avoid treatments that attempt to impose uneven-aged conditions on areas that traditionally existed in an even-aged condition.

(8) The department shall design selection systems or commercial thinnings when emulating single-tree or gap replacement disturbances. Such treatments do not fit within typical fire based disturbance regimes, but shall be used by the department as determined applicable at the project level. In such cases, the department does not expect regeneration of shade intolerant species and may not desire regeneration of any species. Two potential situations for this type of treatment are:

(a) commercial thinning to promote growth of residual trees; or

(b) individual tree selection in mixed stands of shade-tolerant species where, under natural conditions, individual trees died and subsequently fell, creating a gap in the canopy.

(9) Where fire is the predominant disturbance mechanism, the department shall consider:

(a) how fire may have burned in a particular location, and under site-specific conditions including:

(i) topography;

(ii) climatic zones; and

(iii) prevailing winds.

(b) using existing stand boundaries from previous fires to enhance a natural appearance, to the extent they coincide with boundaries expected from natural disturbance regimes.

36.11.409 BIODIVERSITY - SALVAGE HARVESTING

(1) Salvage of dead and dying material shall be conducted pursuant to 77-5-207, MCA. Salvage shall occur using site-specific assessment of the economic and ecological consequences, when the material left will be taken by firewood cutters, contribute to spread of insect and disease problems, or pose a human safety concern. The department shall recognize the role this material plays in maintaining biodiversity.

36.11.410 BIODIVERSITY - NUTRIENT RETENTION

(1) For nutrient retention purposes, treatments shall minimize the amount of fine branches and leafy material removed from the site.

(2) Whole tree skidding shall be discouraged, unless measures are taken to retain nutrients on site.

36.11.411 BIODIVERSITY - SNAGS AND SNAG RECRUITS

(1) The department shall retain snags and snag recruits in all harvest units involving live timber, including seed tree removals, fire, and other salvage operations as follows:

(a) in all timber harvest units post-harvest, the department shall retain an average of approximately two snags and two snag recruits over 21 inches DBH, per acre;

(b) in all cases, if snags or recruits over 21 inches DBH are not present, the next largest size snag or recruit shall be retained;

(c) retained snags and recruits may be evenly distributed or clumped;

(d) if there is an absence of sufficient snags or recruits, some substitution between the two may occur;

(e) Cull trees shall qualify as recruits provided they do not contribute to:

(i) insect and disease problems;

(ii) pose a human safety issue; or

(iii) present concerns over dysgenic practices.

36.11.412 BIODIVERSITY - MANAGEMENT AT THE URBAN/FOREST LAND INTERFACE

(1) In the urban/forest land interface, the department may diverge from other forest management rules as defined in **ARM 36.11.404** through **36.11.450**, if the following overriding concerns are identified at the project level:

(a) public safety, including the potential for loss or damage to critical power or communications systems;

(b) fire hazard; or

(c) adherence to the rules would yield undesirable results due to activities of others beyond the department's control, for example snags left for biodiversity reasons near open roads or housing, are likely to be harvested by firewood gatherers thus not fulfilling department objectives.

(2) The department shall consider the consequences of retaining snags and snag recruits that may be readily removed by the public for firewood, or that pose a public safety hazard.

36.11.413 BIODIVERSITY - RETENTION OF CULL MATERIAL

(1) Cull live trees, and cull snags (less than 33 percent sound for both live trees and snags) shall be retained giving due consideration to safety issues, and stand health.

36.11.414 BIODIVERSITY - RETENTION OF COARSE WOODY DEBRIS
(1) Adequate CWD shall be left on site to facilitate nutrient conservation and cycling, maintenance of biodiversity, wildlife needs, and other considerations.
(2) CWD retention amounts shall be determined at the project level using scientifically accepted technical references as determined by the department.

36.11.415 BIODIVERSITY - PATCH SIZE AND SHAPE
(1) The department shall emulate natural spatial patterns of patch size and shape to the extent practicable. Underlying processes and their resultant pre-management patterns shall be taken into account in design of projects while recognizing that previous management activities may have altered the landscape through fragmentation or disruption of linkages. The department shall consider the effects of fragmentation and connectivity at the project level.
(2) The department shall consider other factors that influence the ability to emulate natural spatial patterns, including public sentiments, and other resources.

36.11.416 BIODIVERSITY - MANAGEMENT ON SCATTERED LANDS
(1) On areas of smaller, and/or scattered ownership, the department shall base management on restoring a semblance of historic conditions within state ownership.
(2) Where state ownership contained forest conditions made rare on adjacent lands due to the management activities of others, the department shall not necessarily maintain those conditions in amounts sufficient to compensate for their loss when assessed over the broader landscape, except as it coincides with other department objectives.
(3) However, if state trust lands contain rare or unique habitat elements occurring naturally (e.g., bog, patches of a rare plant), the department shall manage so as to retain those elements.
(4) On scattered parcels, treatments shall be determined at the project level.
(5) The department shall apply the model referred to under **ARM 36.11.404** at the administrative unit level, to the extent data are available.
(6) Silvicultural considerations listed under **ARM 36.11.404** through **36.11.405**, and **36.11.417** and **36.11.418** shall be applicable with **36.11.416**.

36.11.417 BIODIVERSITY - COOPERATIVE PLANNING
(1) The department shall make reasonable efforts, in its sole discretion, to pursue cooperative planning with major adjoining landowners. The objectives of cooperative planning shall be to maintain appropriate amounts and distribution of stand structures and species mixtures to promote biodiversity at a landscape level, and to equitably maintain or promote trust revenue opportunities over the long-term.

(a) Cooperative plans shall be evaluated as needed, to monitor how successfully they are being implemented, and to determine if continued participation is warranted.

36.11.418 BIODIVERSITY - OLD GROWTH MANAGEMENT
(1) The department shall manage old growth to meet biodiversity and fiduciary

objectives. The department shall consider the role of all stand age classes in the maintenance of biodiversity when designing harvests and other activities. Stand age distributions, including old growth, shall be evaluated and managed as described in **ARM 36.11.407** through **36.11.416** based on the patterns historically present on the landscape as a result of natural disturbances. Amounts and distributions of all age classes will shift and change over time. No stands would be permanently deferred from management, although some stands may not be entered for relatively long time periods.

(a) The department shall identify old growth that occurs in a project area. Old growth stands shall be managed to achieve biodiversity objectives, including possible harvest. The department shall consider site-specific concerns and other legal criteria regarding the harvest of old growth. Interdisciplinary teams shall work to meet overall objectives to generate revenue for the trust, while also meeting biodiversity goals across the landscape, which shall entail project-level harvesting decisions.

(b) Designation of old growth set-asides, or networks, may be made as long as the trust secures full market value.

(c) When managing old growth the department shall apply restoration, maintenance, or removal treatments consistent with the range of natural disturbances.

(i) When utilizing old growth restoration treatments, the department shall retain sufficient large live trees to meet the old growth definition as defined in **ARM 36.11.403.** Such treatments shall be applicable on sites that historically had non-lethal frequent fire regimes. The department shall target shade tolerant species for removal and overall stand density shall be reduced. The department shall treat stands with periodic re-entry, and prescribed under-burning when practicable, to maintain relatively low densities, open understories and dominance by shade-intolerant species. The department shall determine specific prescriptions at the project level.

(ii) When utilizing old growth maintenance treatments, the department shall retain sufficient large live trees to meet the old growth definition as defined in **ARM 36.11.403**. The department shall apply such treatments on sites that historically had mixed severity fire regimes, either relatively frequent or infrequent. In some cases, the department may apply these treatments to stand replacement regimes when determined reasonable at the project level. The department shall target shade tolerant species for removal and reduce stand density. For residual stands, the department shall incorporate canopy gaps of sufficient size to encourage regeneration of shade-intolerant tree species. The department shall treat stands with periodic re-entry at less frequent intervals than for restoration. Densities and representation of shade-tolerant species will be higher than in restoration treatments. Fire shall be less frequently applied than in restoration treatments. The department shall determine specific prescriptions at the project level.

(iii) The department shall consider old growth removal treatments on sites that historically had stand replacement fire regimes. The department shall make selection of this treatment at the project level

after considerations for biodiversity and forest health. Post treatment stands shall no longer qualify as old growth. The department shall determine specific prescriptions at the project level.

(d) The department shall maintain the option to apply or to not apply old growth removal treatments, regardless of disturbance regime, when determined reasonable at the project level.

36.11.419 BIODIVERSITY - FIELD REVIEWS

(1) The department shall field review a subset of forest management activities after project completion, or every five years for ongoing projects, to evaluate the application of biological diversity measures at a stand and landscape level.

(2) The department shall check landscape evaluations to compare actual effects of management activities and natural processes against desired or predicted effects to the extent practicable.

(3) The department shall evaluate trends in:

(a) forest cover characteristics;

(b) habitat values;

(c) insect and disease activity; and

(d) other natural disturbances.

(4) The department shall complete biodiversity field reviews. The reviews shall focus on:

(a) general landscape and stand level considerations;

(b) implementation of the coarse filter;

(c) emulations of natural processes and disturbance regimes in treatment selection;

(d) threatened and endangered species; and

(e) other such considerations.

(5) The department shall summarize biodiversity field reviews in a monitoring report to the state board of land commissioners every five years.

(6) The department shall quantify forest cover conditions, including cover types and age class distributions, annually at the unit level using data from the department's forest management bureau's stand level inventory system. Every five years the reports shall be submitted as part of the monitoring report to the state board of land commissioners.

(7) Results of monitoring shall be used to help plan follow-up and future activities in the evaluation area, and to improve the department's ability to predict the effects of activities in similar situations elsewhere. Monitoring shall be frequent enough to accomplish these purposes effectively.

36.11.420 SILVICULTURE

(1) The department shall design all prescribed silvicultural treatments to maintain the long-term productivity of the site in order to ensure the long-term capability to produce trust revenue.

(2) The department shall evaluate ecological characteristics of the site and use the characteristics to develop stand management regimes that are compatible with the site.

(3) The department shall design management regimes to address:

(a) stand structures and development;

(b) species mixtures;
(c) silvicultural systems; and
(d) time periods for reforestation.

(4) Suitable management regimes shall be those that realize the productive capability of the site for producing desired products and benefits and minimize the risk of losses to biotic or abiotic agents (e.g., wind-throw, micro-climate changes).

(5) The department shall maintain and improve the long-term quality of the genetic base in terms of growth, form, and adaptation of tree species.

(6) The department shall maintain diversity of species, ages, and structure within or between stands, in order to maintain a complex and stable ecosystem that would be buffered against losses to:

(a) insects;
(b) disease;
(c) wildfire; and
(d) climatic elements.

(7) The department shall prepare silvicultural prescriptions for all planned treatments. These prescriptions shall be written to accomplish the following objectives in a clear and organized manner that:

(a) guides department personnel in the correct implementation of the prescribed treatments;

(b) provides a record of the objectives and details of prescribed treatments for future reference; and

(c) moves stands toward the selected desired future condition.

(i) The department will identify potential future treatments recognizing that conditions may change prior to implementation of those treatments.

(8) The department shall prescribe silvicultural treatments to meet other resource management rules and comply with all appropriate statutes and regulations. This requires coordination of treatments between stands in order to achieve parcel or landscape level goals for distribution of:

(a) stand composition;
(b) size;
(c) stocking; and
(d) structure characteristics.

(9) The department shall monitor the effectiveness of completed silvicultural treatments at meeting treatment objectives. Specific purposes of the silvicultural monitoring shall be to:

(a) identify promptly the need for follow-up treatments in order to meet treatment objectives and environmental commitments;

(b) provide information for improving the effectiveness of future silvicultural practices; and

(c) identify potential improvements to the silviculture rules.

(10) In all stands where a regeneration cut has been applied, the department shall complete a regeneration survey promptly to ensure that treatment objectives and environmental commitments are met.

(11) In planted stands, the department shall complete a survival survey the first fall after planting.

(a) When regeneration is a goal, the department shall prescribe site preparation treatments to provide for adequate vegetation control including, but not limited to, the following:

(i) herbicides;

(ii) mechanical scarification; and

(iii) broadcast burning.

(12) The department shall conduct stand evaluations prior to each scheduled entry and after each completed treatment.

(a) Evaluation methods and intensity shall be sufficient to provide information necessary for developing appropriate silvicultural prescriptions and for evaluating treatment results in terms of the prescribed objectives.

(13) The department shall maintain information on the dates and types of completed treatments and activities.

(14) The department shall maintain information on costs of intermediate silvicultural treatments including, but not limited to:

(a) planting;

(b) site preparation;

(c) slash reduction; and

(d) pre-commercial thinning.

36.11.421 ROAD MANAGEMENT

(1) The department shall plan transportation systems for the minimum number of road miles.

(a) The department shall only build roads that are necessary for current and near-term management objectives, as consistent with the other forest management rules.

(b) The department shall evaluate and use alternative yarding systems that do not require roads whenever possible.

(2) The department shall conduct transportation planning as part of landscape-level evaluations. The department shall also conduct an evaluation of existing and possible future transportation systems prior to road location and design. When planning transportation, the department shall consider:

(a) the relationship of access routes and road systems on adjacent sections, regardless of ownership. Managers shall plan systems cooperatively with adjacent landowners whenever practicable to minimize road construction.

(b) planning road systems cooperatively with adjacent landowners whenever practicable to minimize road construction.

(c) existing and probable future management needs of the tributary area, such as:

(i) coordination of department needs with adjacent ownership needs;

(ii) public access;

(iii) logging system capabilities;

(iv) forest improvement activities;

(v) fire protection; and

(vi) wildlife habitat protection.

(d) value(s) of resources being accessed for the proposed project as well as resources to be accessed from future road construction, road use or extension of transportation system.

(3) When planning the location, design, construction, and maintenance of all roads, the department shall:

(a) comply with BMP as necessary to avoid unacceptable adverse impacts or as funding is available to implement improvements to existing roads;

(b) build roads to the minimum standard necessary to best meet current and future management needs and objectives;

(c) manage roads to minimize maintenance;

(d) relocate existing roads if reconstruction, maintenance and/or use of existing roads would produce greater undesirable impacts than new construction; and

(e) use existing roads in SMZ only if potential water quality impacts can be adequately mitigated. The department shall primarily consider economic and watershed implications of relocating roads outside the SMZ.

(4) The department shall write contract specifications and administer construction projects to ensure roads are built as designed and to meet resource protection requirements.

(5) The department shall maintain roads commensurate with expected road use and appropriate resource protection.

(6) The department shall also maintain drainage structures and other resource protection measures on both restricted and open roads.

(7) The department shall include adequate maintenance requirements, proportional to road use, in all agreements for granting and acquiring rights-of-way, and the requirements shall be enforced during the administration of those agreements.

(8) The department shall plan road density to satisfy project level objectives, landscape-level plans and other forest management rules.

(9) The department shall determine which roads to restrict, abandon, or reclaim during project level analysis.

(10) The department shall consider restricting or reclaiming roads accessible to motorized vehicles:

(a) that are non-essential to near-term future management plans; or

(b) where unrestricted access would cause excessive resource damage.

(11) The department shall consider for reclamation roads that are deemed non-essential. The department shall leave reclaimed roads in a condition that provides adequate drainage and stabilization, while leaving intact the road prism and capital investment needed to construct that road.

(12) The department shall assess road maintenance needs by inspecting conditions on both open and restricted roads as determined by the inventory schedule described in the department HCP. The department shall then prioritize maintenance operations considering the results of the inspections and the resource value in the watershed as determined by the department HCP.

(13) The department shall inspect existing road systems during the planning and review of proposed timber sales and other projects. The inspections are intended to provide information used for:

(a) road planning;

(b) construction and maintenance; and

(c) giving an opportunity for the correction of problem areas by incorporating corrective measures into planned projects.

(14) The department shall inspect road closure structures, such as gates and earth berms, as part of ongoing administrative duties and in response to notice of ineffective road closures received from the public. The department shall repair or modify ineffective closures or consider alternative methods of closure. Repairs would be a high priority when allocating time and budget.

36.11.422 WATERSHED MANAGEMENT

(1) The department shall manage watersheds to maintain high quality water that meets or exceeds state water quality standards and protects designated beneficial water uses.

(2) The department shall incorporate BMPs into the project design and implementation of all forest management activities.

(a) BMPs appropriate for a given project or situation shall be determined during project development and environmental analysis.

36.11.423 WATERSHED MANAGEMENT - CUMULATIVE EFFECTS

(1) The department shall include an assessment of cumulative watershed effects on projects involving substantial vegetation removal or ground disturbance. Using the analysis, the department shall ensure that the project will not increase impacts beyond the physical limits imposed by the stream system for supporting its most restrictive beneficial use(s), when considered with other existing and proposed state activities for which the scoping process has been initiated. The analysis shall identify opportunities, if any exist, for mitigating adverse effects on beneficial water uses.

(a) The department shall determine the necessary level of cumulative watershed effects analysis on a project level basis. The level of analysis shall depend on the:

(i) extent of the proposed activity;

(ii) level of past activities; and

(iii) beneficial uses at risk.

(b) The department shall complete a coarse filter screening on the following projects:

(i) upland timber harvest and salvage harvest of more than 15 acres or 50 mbf;

(ii) RMZ harvest of green timber;

(iii) salvage harvest within the RMZ of one or more acres of dead and dying timber;

(iv) new road construction greater than 0.5 miles;

(v) new road construction located within an RMZ; or

(vi) construction of any length of new road that includes the installation of new Class1 stream crossings.

(c) The department shall complete a preliminary watershed analysis on projects when coarse filter evaluations determine there is anything other than low potential for cumulative impacts.

(d) The department shall complete a detailed watershed analysis when coarse filter screening or preliminary analysis predict or indicate the

existence of unacceptable cumulative watershed effects as a result of the proposal.

(e) The department shall establish threshold values for cumulative watershed effects on a watershed level basis.

(f) The department shall determine thresholds for cumulative watershed effects by taking into account such items as:

(i) stream channel stability;

(ii) beneficial water uses; and

(iii) existing watershed conditions.

(iv) The department shall set threshold values at a level that ensures compliance with water quality standards and protection of beneficial water uses with a low to moderate degree of risk.

(g) The department shall set threshold values for cumulative effects associated with projects proposed in the watershed of a water quality limited water body at a level that provides for protection of beneficial water uses with a low degree of risk.

(2) Whenever feasible, the department shall cooperate with other landowners in watersheds with mixed ownership to minimize cumulative watershed effects within acceptable levels of risk.

36.11.424 WATERSHED MANAGEMENT - MONITORING

(1) The department shall develop and maintain a monitoring strategy to assess watershed impacts of land use activities and the effectiveness of mitigation measures. The monitoring strategy shall include:

(a) qualitative assessments, such as BMP audits, on most projects with a substantial amount of soil disturbance. For future applications, the department shall revise BMPs that fail to provide adequate protection;

(b) site-specific monitoring projects using quantitative assessment methods on selected sites to determine the effectiveness of BMPs and other commonly applied mitigation measures;

(c) assessments of habitat conditions on selected streams identified as supporting the fish species listed as threatened or endangered under the Endangered Species Act, 16 U.S.C. Sections 1531 through 1544, and sensitive fish species;

(d) evaluations of the effects of forest management activities on soils at selected sites; and

(e) an inventory and analysis of watershed impacts on state trust lands as funding allows.

(i) If conducted, the analysis shall be sufficient to identify causes of watershed degradation and set priorities for watershed restoration. The department shall emphasize mitigation of existing water quality impacts in order to provide greater opportunities to produce trust income while maintaining beneficial uses.

(2) If watershed, soil, or fisheries monitoring indicate unacceptable impacts resulting from forest management activities, the department shall attempt to verify the problem, and correct or mitigate it to an acceptable level. When necessary, the department shall use the information collected to revise mitigation measures and/or modify future activities to avoid similar problems.

(3) The department shall participate in cooperative watershed monitoring effort with other agencies, public entities and private parties, where practical, when funding is available, and when the cooperative monitoring objectives are consistent with department monitoring objectives.

36.11.425 WATERSHED MANAGEMENT - STREAMSIDE MANAGEMENT ZONES, EQUIPMENT RESTRICTION ZONES, AND RIPARIAN MANAGEMENT ZONES

(1) The department shall establish an equipment restriction zone (ERZ) adjacent to the minimum width of the SMZ required under **ARM 36.11.302** when forest management activities are proposed on sites with high erosion risk.

(2) The department shall determine the presence of high erosion risk from:

(a) established soil surveys;

(b) existing inventories; or

(c) site-specific field evaluations.

(3) When the department proposes forest management activities on sites determined to have high erosion risk:

(a) the department shall establish an ERZ that when combined with the SMZ has a minimum of 100 feet when activities are located on slopes greater than 25 percent but less than 35 percent;

(b) the department shall establish an ERZ that when combined with the SMZ has a minimum of 150 feet when activities are located on slopes greater than or equal to 35 percent, but less than 50 percent;

(c) the department shall establish an ERZ that when combined with the SMZ has a minimum of 200 feet when forest management activities are located on slopes greater than or equal to 50 percent; and

(d) the department may modify and shorten ERZ widths established for high erosion risk when topographic breaks, existing roads or other factors are present that reduce erosion risk and provide suitable sediment delivery filtration. Modified or shortened ERZs must still meet the minimum width of the SMZ required under **ARM 36.11.302** and riparian management zone (RMZ) required under **ARM 36.11.425**.

(4) The following restrictions apply to forest management activities conducted within an ERZ established for high erosion risk:

(a) The department shall limit new road construction within an ERZ to situations in which:

(i) a stream crossing is required;

(ii) potential impacts can be adequately mitigated; or

(iii) alternative locations pose higher risk of resource impacts.

(b) The department shall restrict ground-based equipment operations within the ERZ.

(i) The department shall not allow the operation of wheeled or tracked equipment within an ERZ when it is located on slopes greater than 35 percent;

(ii) The department shall not allow the operation of wheeled or tracked equipment within an ERZ when it is located on slopes less than 35 percent, unless the operation can be conducted without causing excessive compaction, displacement, or erosion of the soil;

(iii) The department may allow the use of wheeled or tracked equipment inside of that portion of an SMZ or ERZ when operated from an established road on the side of the road away from the stream pursuant to **ARM 36.11.304**.

(c) The department shall restrict cable yarding of logs within and across an ERZ to cable systems and operations that do not cause excessive ground disturbance within the SMZ or ERZ.

(5) The department shall establish an RMZ which includes the minimum width of the SMZ required under **ARM 36.11.302**, when timber harvests are proposed on sites adjacent to fish bearing streams and lakes and on HCP covered lands adjacent to all Class I streams or lakes, which will:

(a) have a minimum width equal to the 100-year site index tree height;

(b) determine the 100-year site index tree height at the project level by field sampling the age and height of several site trees within the riparian stand and comparing those values to locally or regionally develop site index curves;

(c) maintain a 50-foot wide buffer within Class I RMZs, which:

(i) will start at the ordinary high-water mark and extend across the RMZ to a slope distance of 50 feet when measured perpendicular to the stream or lake; but

(ii) within the 50-foot wide buffer, it may be necessary to allow corridors associated with cable logging systems to fully suspend logs across streams; and

(iii) in these situations, the minimum corridor spacing will be 150 feet with no more than 15 percent of the 50-foot wide buffer affected;

(d) retain shrubs and sub-merchantable trees to the fullest extent practicable, and a minimum of 50 percent of the trees greater than or equal to 8 inches DBH for harvest within the remainder of the RMZ;

(e) specify that multiple harvest entries into a specific RMZ stand will only occur if:

(i) the existing RMZ stand is classified as a medium to well stocked, poletimber or saw timber size class; and

(ii) the proposed harvest meeting the minimum retention tree requirements in **ARM 36.11.305**; and

(f) extend SMZs to include adjacent wetlands, where the normal SMZ boundary intercepts a wetland. Retention tree requirements are the same as the requirements for the first 50 feet of SMZ.

(6) The department will extend RMZs on HCP lands in situations where channel migration is likely to influence riparian functions that are potentially affected by timber harvests by:

(a) establishing a Type 1 Channel Migration Zone (CMZ) within the flood prone area of meandering valley bottom streams that are actively eroding and depositing sediment through lateral migration of the stream channel, where:

(i) the portion of RMZ restricted to 50 percent retention on a Type 1 CMZ is extended to incorporate the entire flood prone area;

(ii) the standard RMZ harvest restrictions will be applied in the event that the width of the flood prone area does not extend beyond the normal RMZ;

(iii) the 50-foot buffer will not be extended on a Type 1 CMZ;

(b) establishing a Type 2 CMZ within the flood prone area of unstable streams exhibiting sudden erosion and deposition processes, where:

(i) on a Type 2 CMZ the normal 50-foot RMZ buffer is extended to include the entire flood prone area plus an additional 50 feet within the RMZ;

(ii) no timber harvest will occur within the entire flood prone width;

(iii) the delineation of the normal RMZ, including the additional 50 foot buffer, will begin at the edge of the flood prone width; and

(iv) examples of sudden erosion and deposition process are:

(A) moderately contained stream channels with evidence of recent sediment deposition in the flood prone area;

(B) alluvial fans; and

(C) debris flows or torrents.

(7) The department shall retain all bank edge trees on timber harvests conducted adjacent to streams.

(8) Allowances for harvest within Class I RMZ buffers include:

(a) potential harvest of diseased and insect-infested trees when an RMZ is being impacted by disease or insect infestations; where:

(i) such harvest must still meet the minimum retention tree requirements of **ARM 36.11.305(2);**

(ii) retained trees will include all streambank and downed trees lying within the stream channel or embedded in the stream bank;

(b) harvest of diseased and insect infested trees from the remaining RMZ, outside of the first 50 feet, may exceed those levels necessary to meet the normal 50 percent retention requirement;

(c) the salvage harvest of dead or downed trees which may exceed the normal 50 percent retention requirement in that portion of the RMZ outside of the 50-foot buffer in areas within an RMZ that have been subjected to windthrow and/or severe or stand-replacement fires, but:

(i) such harvest must still meet the minimum retention tree requirement of the SMZ Law;

(ii) no salvage harvest of fire-killed trees will occur within the 50-foot buffer;

(iii) downed trees lying within the stream channel or embedded in the stream bank will be managed pursuant to **ARM 36.11.305(4)(d);**

(d) necessary management of a portion of the total Class I RMZ acres of forested trust lands using harvest prescriptions designed to meet the minimum retention tree requirements under **ARM 36.11.305** (SMZ Law), where:

(i) the RMZ stands target to be managed in this manner will be those stand types where shade-tolerant species exists, and regeneration or maintenance of shade-intolerant tree species is necessary to achieve or maintain desired future stand types or provide long-term riparian functions;

(ii) a 50-foot wide buffer will not be required in these situations; and
(iii) tree retention will be based on the number of trees within the first 50 feet of RMZ on both sides of a stream. Where 50 percent of the trees greater than or equal to 8 inches DBH, or 10 trees per 100-foot segment of stream, whichever is greater, will be retained on each side of the stream.

(9) The department shall use existing roads in the SMZ or RMZ only if potential water quality impacts are adequately mitigated and beneficial uses are fully protected.

36.11.426 WATERSHED MANAGEMENT - WETLAND MANAGEMENT ZONES

(1) The department shall establish a wetland management zone (WMZ) when forest management activities are proposed within or adjacent to an isolated wetland or adjacent to a wetland found within an SMZ.

(a) For isolated wetlands greater than 0.25 acre the WMZ boundary shall be 50 feet.

(b) For isolated wetlands smaller than 0.25 acre the WMZ boundary shall only include the wetland itself.

(c) For wetlands found within a SMZ, the WMZ boundary shall be 50 feet.

(2) The department shall meet all requirements of **ARM 36.11.301** through **36.11.312** when conducting forest management activities within wetlands that are located within or intercepting an SMZ boundary.

(3) The criteria the department will use to identify wetlands are:

(a) plant species composition;

(b) soil characteristics; or

(c) depth of water table.

(4) The presence of one or more field indicators for any of the three following criteria shall be adequate for wetland designation:

(a) The department shall consider a site to meet the wetland plant species composition criteria for wetland identification if, under normal circumstances, more than 50 percent of the dominant plant species from all strata occupying the site are classified as:

(i) obligate wetland;

(ii) facultative wetland; or

(iii) facultative species.

(b) The department shall consider a site to meet the wetland hydrology criteria if the area is:

(i) inundated either permanently or periodically to a depth at which emergent vegetation interfaces with open water; or

(ii) the soil has a frequently occurring high water table that remains within 12 inches of the surface for more than 14 consecutive days during the growing season of the prevalent vegetation.

(c) The department shall consider a site to meet the criteria for wetland soils if the soils occupying the site are classified as hydric soils.

(5) The department shall avoid the use and construction of roads in a WMZ.

(a) The department shall use existing roads or construct roads in a WMZ only if potential water quality impacts are adequately mitigated and wetland functions are maintained.

(6) The department shall restrict harvest and equipment operations within a WMZ.

(a) The department shall limit harvest and equipment operations within a WMZ to low-impact harvest systems and operations that do not cause:

(i) excessive compaction;

(ii) displacement; or

(iii) erosion of the soil.

(b) The department shall limit operation of ground-based equipment in a WMZ to periods of:

(i) low soil moisture;

(ii) frozen soil; or

(iii) snow covered ground conditions.

(c) Where ground based skidding through an isolated wetland is necessary, the department shall minimize the number of skidding routes and the number of passes.

(d) The department shall restrict cable yarding of trees from within a WMZ to systems that fully suspend harvested logs; or partially suspend logs when conducted during periods of:

(i) low soil moisture;

(ii) frozen soil; or

(iii) snow covered ground conditions.

(7) The department shall design harvest prescriptions in a WMZ to protect and retain shrubs and sub-merchantable trees to the fullest extent practicable.

36.11.427 FISHERIES

(1) The department shall minimize impacts to fish populations and habitat by implementing the watershed, SMZ, RMZ, and WMZ rules contained in **ARM 36.11.422** through **36.11.426**.

(2) The department shall review forest management activities proposed adjacent to streams, lakes, or other bodies of water supporting bull trout or other fish and aquatic species listed as threatened or endangered under the Endangered Species Act, 16 U.S.C. Sections 1531 through 1544, pursuant to **ARM 36.11.404** through **36.11.428**.

(a) The department shall make reasonable efforts, in its sole discretion, to cooperate in the implementation of conservation strategies developed by the state of Montana and United States fish and wildlife service (USFWS) for the restoration and recovery of bull trout and other listed fish species.

(i) The department shall design forest management activities to protect bull trout, habitat by implementing conservation strategies pursuant to the Bull Trout Recovery Plan (2015), where applicable.

(3) The department shall design forest management activities to protect bull trout, westslope cutthroat trout, and Columbia redband trout habitat by implementing the HCP.

(4) As designated by the department, pursuant to **ARM 36.11.436** the department shall:

(a) design forest management activities to protect and maintain:
(i) Yellowstone cutthroat trout;
(ii) arctic grayling; and
(iii) all other sensitive fish and aquatic species.
(b) manage habitat supporting fish and aquatic species designated by the department as sensitive in a manner that complies with other rules concerning sensitive species.
(c) make reasonable efforts to cooperate in the implementation of state conservation strategies for the protection of:
(i) westslope cutthroat and Yellowstone cutthroat trout;
(ii) arctic grayling; and
(iii) other fish species designated as sensitive by the department, as is practicable.

(5) When installing new stream crossing structures on fish-bearing streams, 83-5-501, MCA, the Stream Protection Act (124 permits) specifies:
(a) the department shall provide for fish passage by emulating streambed form and function; but
(b) stream crossing providing connectivity to limited or marginal fisheries habitat may not be required to emulate streambed form and function, if otherwise approved under the Stream Protection Act (124 permits).

(6) The department will inventory and assess all stream crossings on known and presumed fish habitat for connectivity on classified forest lands and within the HCP project area; and
(a) the department will prioritize stream crossing improvement based on existing levels of connectivity, species status, and population biological goals while taking into consideration other regulatory agencies or cooperative organization activities and goals.

36.11.428 THREATENED AND ENDANGERED SPECIES

(1) The department shall participate in recovery efforts of threatened and endangered plant and animal species as listed below. The department shall confer in its sole discretion with the United States Fish and Wildlife Service (USFWS) to develop habitat mitigation measures.
(a) Measures may differ from federal management guidelines because the department plays a subsidiary role to federal agencies in species recovery. In all cases, measures to support recovery must be consistent with department responsibilities under the Endangered Species Act and Trust Law. The department shall work with the USFWS to amend such measures when, in the judgment of the forest management bureau chief, they are inconsistent with trust management obligations.
(b) Measures to support species recovery shall be periodically updated to implement new biological information and legal interpretations as warranted.

(2) The department shall, in its sole discretion, participate on interagency working groups established to develop guidelines and implement recovery plans for threatened and endangered species.
(a) If additional plant or animal species with habitat on state trust lands are federally listed as threatened or endangered, the department shall, in its sole discretion, participate in working groups for those species.

(b) The department shall, in its sole discretion, also participate in interagency groups formed to oversee management of recently de-listed species.

(3) The department staff shall report sightings of threatened and endangered species to respective working groups or an appropriate data repository.

(4) With respect to Canada lynx, the department will:

(a) establish and maintain a lynx habitat map utilizing science-based habitat classifications, which may be revised and/or replaced based on improved scientific information upon approval of the forest management bureau chief, including:

(i) summer foraging habitat;

(ii) winter foraging habitat;

(iii) other suitable habitat;

(iv) temporary non-suitable habitat; and

(v) total potential habitat;

(b) commit to the following project-level measures in mapped lynx habitat to provide downed woody structure for lynx escape cover,habitat for prey species, and structure that may provide some potential den sites in the future by:

(i) providing for retention of coarse woody debris using applicable scientific publications;

(ii) emphasizing the retention of downed logs of 15-inch diameter or larger where they occur, and managing to retain at least one large log per acre that is at least 20 feet long; however

(iii) retention of coarse woody debris may be superseded in special management situations where other goals must be considered such as:

(A) fuels management and aesthetic considerations in the urban interface;

(B) projects near recreational areas, where downed wood is collected and burned;

(C) harvest units adjacent to open roads;

(D) broadcast burning; and

(E) meeting mandated hazard reduction requirements; but

(iv) ensuring adequate recruitment for Canada lynx, by retaining an average of two snags and two live snag recruitment trees of greater than 21 inches diameter at breast height (DBH) per acre in stands identified as lynx habitat:

(A) if snags or snag recruitment trees of greater than 21 inches DBH are not present, then the largest snags or snag recruitment trees available will be retained;

(B) snags may be evenly distributed or clumped, but if there is an absence of sufficient snags or recruits, some substitution between the two may occur;

(v) leaving one percent of the definable blowdown area unsalvaged on blowdown salvage projects involving flattened patches, where the material will be retained in a nonlinear patch or patches to the extent practicable;

(c) prohibit motorized forest management activities and prescribed burning associated with forest management activities within 0.25 mile of known active lynx den sites from May 1 through July 15;
(d) proceed with suspended activities if a department biologist has confirmed that lynx have vacated the den site vicinity prior to July 15;
(e) retain small, shade-tolerant trees including grand fir, subalpine fir, and Engelmann spruce in thinned portions of pre-commercial thinning units within mapped lynx habitat that do not pose substantial competition risks to desired crop trees;
(f) retain patches of advanced regeneration of grand fir, subalpine fir, and Engelmann spruce as a component of commercial harvest prescriptions in winter foraging habitat, where canopy cover of retained patches would typically not exceed ten percent of the stand area through implementation of this measure;
(g) design harvest units to maintain a connected network of suitable lynx habitat along RMZs, ridge tops, and saddles on timber sale projects;
(h) document in MEPA analysis the circumstances where maintaining habitat connectivity and travel corridors along ridge tops and saddles are impracticable, which may include:
(i) non-forested ridges;
(ii) non-forested saddles;
(iii) harvest units where cable systems are used;
(iv) locations where habitat associated with scattered parcels is isolated by management on surrounding ownerships;
(v) locations where lynx habitat polygons are isolated within a parcel;
(vi) locations where forest types not preferred by lynx bisect lynx habitat;
(vii) locations where silvicultural, fiduciary, or access objectives cannot be met;
(viii) lodgepole pine stands requiring stand-replacement harvest; and
(ix) retaining trees on sites with high potential for blowdown;
(i) implement the following on total potential lynx habitat on scattered parcels outside of LMAs:
(i) maintain at least 65 percent of total potential lynx habitat as suitable habitat at the land office scale; and
(ii) maintain no more than 35 percent as temporary non- suitable habitat at the land office scale;
(j) implement the following on defined LMAs:
(i) maintain at least 65 percent of total potential lynx habitat as suitable lynx habitat, and no more than 35 percent as temporary non-suitable habitat;
(ii) prohibit conversion of more than 15 percent of the total potential lynx habitat to temporary non-suitable habitat per decade within each lynx management area;
(iii) maintain at least 20 percent of total potential lynx habitat as winter foraging habitat;
(iv) identify and retain un-thinned 20 percent of each pre-commercial thinning project area in lynx habitat, where:

(A) patches will maintain a density of greater than 2,000 stems per acre;
(B) in stands where a density of 2,000 stems per acre is not present, areas will be retained with the greatest density available;
(C) retention patches will be designed to be at least five acres when possible to facilitate tracking and promote habitat function;
(D) retention patches of dense saplings will:
(I) emphasize retention of subalpine fir, Engelmann spruce, and/or grand fir, where available;
(II) locate retention patches adjacent to other suitable lynx habitat where practicable; and
(III) prohibit entry into retention patches for future pre-commercial thinning or commercial harvest until they structurally meet the department's minimum definition of sawtimber.

36.11.432 GRIZZLY BEAR MANAGEMENT AND PROGRAMMATIC RULES

(1) The department commits to following programmatic rules regarding grizzly bears, which include:

(a) provide written brochures that describe risks and concerns regarding humans living and working in bear habitat to contractors and their employees conducting forest management activities in forested state trust lands prior to start of operations;
(b) provide grizzly bear encounter avoidance training to new department personnel within one year of their employment date and refreshing the training for veteran employees every five years;
(c) prohibit department employees, contractors, and their employees from carrying firearms while on duty, unless the person is specifically authorized to carry a firearm under DNRC Policy 30621 to reduce direct mortality risk for grizzly bears;
(d) minimize human-bear conflicts by requiring department personnel, contractors, and their employees to:
(i) store all human or pet food, livestock food, garbage, and other attractants in a bear-resistant manner;
(ii) ensure all burnable attractants such as food leftovers or bacon grease will not be buried, discarded, or burned in an open campfire;
(e) minimize construction of new open roads in riparian management zones (RMZs), wetland management zones (WMZs), and avalanche chutes to reduce adverse effects of open roads on grizzly bear populations, however:
(i) in instances where construction of a new open road in an RMZ, WMZ, or avalanche chute is necessary for project or near-term management objectives, the department will minimize this occurrence to the extent possible and document the circumstances in the environmental analysis;
(f) suspend all motorized forest management activities within 0.6 mile (1 kilometer) of an active den site from the date of discovery through May 31 to protect active grizzly bear dens when encountered, unless:
(i) the department confirms that bears have vacated the den site vicinity prior to May 31, whereupon the department may proceed with the suspended activities;

(g) provide visual screening for grizzly bears in RMZs through the implementation of riparian timber harvest prescribed in **ARM 36.11.425**, and in WMZs through implementation prescribed in **ARM 36.11.426**;

(h) design helicopter operations requiring flights less than 500 meters (1,640 feet) above ground level for forest management activities in a manner that avoids or minimizes flight time, and where practicable, at least one mile from:

(i) known seasonally important areas in NROH or recovery zones;

(ii) scattered parcels in rest within recovery zones;

(iii) grizzly bear security zones; and/or

(iv) federally designated security core areas in recovery zones to minimize disturbance impacts to grizzly bears;

(i) following federal delisting, the department shall:

(i) consider grizzly bears as a sensitive species warranting special management consideration; and

(ii) adhere to the measures contained in the Northern Continental Divide Ecosystem conservation strategy for grizzly bears (Appendix 9 and 10) when on trust land management division projects.

(2) In NROH, as defined by Wittinger, et al., 2002, where grizzly bear programmatic rules **ARM 36.11.432(1**) also apply, the department commits to:

(a) minimize construction of new open roads, where:

(i) new roads will only be managed as open when necessary to meet project or near-term management objectives;

(ii) restricted existing roads will generally remain restricted, except in cases where access easements are granted; but

(iii) there is no target or cap on total road densities;

(b) discourage granting of future easements that relinquish control of roads, except for reciprocal access agreements, cost share agreements, and other federal road agreements;

(c) minimize effects to grizzly bears during the spring period by implementing the following measures:

(i) apply restrictions in the Stillwater block on all restricted roads during the spring period as indicated on the Stillwater Transportation Plan;

(ii) prohibit the following forest management activities in spring habitat during the spring period:

(A) commercial forest management activities, including salvage harvests;

(B) pre-commercial thinning;

(C) heavy equipment slash treatment;

(iii) allow ten days total annually on each administrative unit during the spring period in spring habitat for the purposes of mechanical site preparation, road maintenance, and bridge replacement, applicable to any combination of these activities:

(iv) minimize motorized activities on restricted roads during the spring period in spring habitat, with specific restrictions pursuant to **ARM 36.11.436** that apply in the Cabinet-Yaak recovery zone and Cabinet-Yaak NROH; however

(v) allow motorized use to conduct the following low-intensity forest management activities in spring habitat during the spring period:

(A) sale preparation;
(B) road location;
(C) tree planting;
(D) prescribed burning;
(E) data collection (including monitoring);
(F) non-heavy-equipment slash treatment, including chainsaws;
(G) patrol of fall/winter slash burns;
(H) noxious weed management; and

(vi) allow commercial forest management activities, including salvage harvests, and low-intensity forest management activities, within 100 feet of an open road during the spring period in spring habitat;

(d) design new clearcut and seed tree cutting units to provide topographic breaks in view or to retain visual screening for bears by ensuring that vegetation or topographic breaks be no greater than 600 feet in at least one direction from any point in the unit; however

(i) where impracticable the department will minimize sight distance to the extent possible, given the site-specific circumstances

(e) managing gravel development in accordance with the HCP.

(3) In federally defined grizzly bear recovery zones, where grizzly bear programmatic rules, **ARM 36.11.432(1),** and NROH rules, **ARM 36.11.432(2)** also apply, the department commits to:

(a) assess impacts to important grizzly bear habitat when designing timber sale projects in recovery zones, elements of which include:

(i) berry fields;
(ii) avalanche chutes;
(iii) riparian areas;
(iv) wetlands;
(v) white bark pine stands; and
(vi) unique congregation or feeding areas;

(b) develop site-specific mitigation measures that minimize impacts to these elements typically involving scheduling activities while bears are not likely to be using an area, or locating roads or skid trails to conserve important vegetative features, such as dense stands or thickets that provide visual screening;

(c) leave up to 100 feet of vegetation between open roads and clearcut or seed tree harvest units;

(i) leaving vegetation may not be practicable in areas such as:

(A) landings and skid trails near roads;
(B) clearings for traffic safety at road intersections;
(C) in localized fuels reduction areas;
(D) units harvested by aerial cable;
(E) salvage units with limited standing live vegetation near the roadway; and
(F) prescribed burn units where open roads serve as control boundaries;

(ii) the department will provide screening to the extent practicable when such conditions are present;

(d) design new clearcut and seed tree cutting units to provide topographic

breaks in view or to retain visual screening for bears by ensuring that vegetation or topographic breaks be no greater than 600 feet in at least one direction from any point in the unit; however

(i) in instances of impracticability, the department shall minimize sight distance to the extent practicable; and

(ii) the department will document the circumstances in the environmental analysis;

(e) examine all primary road closures in recovery zones annually and repair ineffective closures within one year of identifying the problem;

(f) prohibit motorized activities at elevations above 6,300 feet on slopes greater than 45 percent from April 1 through May 31;

(g) ensure that when issuing or granting easements within grizzly bear recovery zones, except federal road agreements such as cost-share agreements with the U.S. Forest Service or road agreements with the Bureau of Land Management:

(i) the forest management bureau will have an active role in the review and authorization of future easements across classified forest land in a recovery zone;

(ii) easements granted for existing restricted routes or newly proposed routes require the applicant to demonstrate that all other access possibilities have been explored prior to the department considering the application for access across trust lands;

(iii) work with easement applicants to incorporate easement terms to avoid or mitigate impacts to bears, which may include, but are not limited to:

(A) gated entry;

(B) maintenance of visual screening along routes;

(C) absorbing costs of gating associated with secondary and primary access routes;

(iv) document for each access easement granted in a recovery zone:

(A) how the granting of the easement was evaluated for each access easement granted in a recovery zone;

(B) how alternative routes were considered for each access easement granted in a recovery zone;

(C) how mitigations were considered and applied for each access easement granted in a recovery zone;

(v) work with the existing and future grantees to avoid or mitigate impacts to grizzly bears associated with motorized use as pertaining to access agreements on roads in grizzly bear recovery zones where the department is the grantor.

(4) In the Stillwater Block, where the grizzly bear programmatic rules, **ARM 36.11.432(1),** NROH rules, **ARM 36.11.432(2),** and recovery zone rules, **ARM 36.11.432(3)** also apply, the department commits to:

(a) manage transportation according to specific requirements in the Stillwater Transportation Plan, which includes:

(i) allowable road miles by road class, activity category, restriction type, and road locations;

(ii) permanent routes needed but not yet constructed;

(iii) changes to the plan may only occur following review and approval by the forest management bureau;

(b) document the circumstances if a road is encountered that is not in the Stillwater Transportation Plan, and evidence suggests that the road existed prior to February 2012;

(c) add segment(s) to the Stillwater Transportation Plan and consider the addition(s) part of the original baseline only following adequate documentation and review by the forest management bureau;

(d) maintain up to 15 miles of usable temporary roads within the block, which shall be built to a minimum standard and reclaimed within one operating season following completion of project-related activities;

(i) no more than two miles of temporary roads may be maintained on the Swift-BPA portion of the block;

(ii) no more than five miles of temporary roads may be maintained on the Lazy-Swift portion of the block;

(e) establish an accurate revised baseline, as applicable, for roads that may be added or removed from the Stillwater Transportation Plan when lands are acquired or disposed in the Stillwater block;

(f) maintain informational signs and provide public information pertaining to bear presence and bear awareness on the Stillwater and Coal Creek State Forests;

(g) apply the following to seven geographically distinct security zones in the Stillwater block that comprise 22,007 acres:

(i) no additional permanent roads will be constructed in security zones;

(ii) access needed for management activities will be from existing roads or temporary roads;

(iii) motorized activities including public, department administrative, and department commercial forest management activities are prohibited during the grizzly bear non-denning season from April 1 through November 15 each year;

(iv) commercial forest management activities shall only be allowed during the denning season below 6,300 feet in security zones;

(v) the department shall construct and reclaim temporary roads and skid trails after completion of project activities in a manner that prevents future use by motorized vehicles, including off-road vehicles, during the non-denning season;

(vi) when conducting commercial forest management activities near identified security zones during the non-denning season, the department will minimize the duration of ground-based harvest activities to the extent practicable, particularly in known areas of seasonal importance for bears;

(vii) the department will minimize the duration of administrative activities near security zones to the extent practicable;

(viii) the department shall make efforts to design helicopter flight routes in a manner that avoids and/or minimizes flight time across security zones, and/or known seasonally secure areas during the non-denning season;

(ix) when conducting commercial forest management activities near identified security zones during the non- denning season, the department

will minimize the duration of air-based harvest activities to the extent practicable, particularly in known areas of seasonal importance for bears;

(x) where practicable, the department shall design flight paths to occur greater than one mile from potentially affected security zones and/or areas of known seasonal importance during the non-denning season;

(xi) short-term disturbance will be allowed in any security zones at any time and for the necessary duration to address road sedimentation corrective actions;

(xii) commercial forest management activities, including salvage, are allowed in security zones during the winter period of November 16 through March 31 below 6,300 feet;

(h) limit the number of active gravel pits on the Stillwater block as described in the HCP.

(5) In the Swan River State Forest, where grizzly bear programmatic rules, **ARM 36.11.432(1),** NROH rules, **ARM 36.11.432(2),** and recovery zone rules, **ARM 36.11.432(3)** also apply, the department commits to:

(a) manage access and security for grizzly bears by adhering to the Swan River State Forest Transportation Plan which will specify:

(i) five defined management subzones;

(ii) existing road segments by road class, restriction type, and location; and

(iii) permanent routes needed, but not yet constructed by the department;

(b) document the circumstances if a road is encountered that is not in the Swan River State Forest Transportation Plan, and evidence suggests that the road existed prior to February 2012;

(c) add segment(s) to the Swan River State Forest Transportation Plan and consider the addition(s) part of the original baseline only following adequate documentation and review by the forest management bureau;

(d) adjust numbers to accurately reflect baseline road amounts if a Swan River State Forest parcel is sold or traded;

(e) minimize the risk of death or injury to bears, and reduce displacement of bears due to the presence of roads by:

(i) limiting new road construction to the approximate locations and lengths indicated on the Swan River State Forest Transportation Plan map, including caps on additional restricted road amounts allowed under the forest management HCP;

(ii) ensuring temporary roads on the Swan River State Forest will not exceed 6.5 miles in length in any given year;

(A) building these roads to a minimum standard and reclaimed within one operating season following completion of project-related activity;

(f) maintain informational signs and provide public information pertaining to bear presence and bear awareness on the Swan River State Forest;

(g) considering opportunities to work with adjacent landowners in a cooperative manner to support grizzly bear conservation efforts;

(h) conducting commercial forest management activities in each of the

defined management subzones, including salvage harvest, for a maximum period of three years, followed by a mandatory rest period of at least six years, where:

(i) each subzone will have its own management schedule independent of the other subzones;

(ii) the three-year management period may be extended due to management delays beyond the control of the department, such as:

(A) extreme weather events;

(B) fire events;

(C) area closures due to fire danger; and

(D) legal injunction;

(iii) contractor equipment failure and extensions to address market fluctuations are not considered allowable delays;

(i) allowing the following activities in rested subzones:

(i) commercial forest management activities are allowed in winter below 6,300 feet without limitation during rest periods as rest status does not apply during the winter period of November 16 through March 31; and

(ii) low-intensity forest management activities are allowed during the rest period, except for restrictions during the spring period as described in **ARM 36.11.432(2)(c);**

(iii) commercial forest management activities for minor projects, including salvage, are allowed for a limited number of days after the spring period;

(A) for the Swan River State Forest, a total of 30 operating days in aggregate are allowed per year, per rested subzone;

(B) these days can only be used June 16 through September 15;

(C) this 30-day allowance may also be applied to resting subzones that have exceeded rest beyond six years and are not yet ready for large-scale planned commercial harvest;

(D) when tracking the number of operating days allowed for minor projects:

(I) two commercial operations within 0.5-mile radius of one another count as one operation for those days both are active;

(II) operations more than 0.5-mile radius apart are considered distinct and days must be tallied separately;

(III) commercial forest management activities within 100 feet of an open road do not count toward the allowable operating day limits;

(j) conducting salvage harvest activities when necessary on management subzones in rest status under the following order of preference when economically and operationally practicable:

(i) conduct salvage during the winter period;

(ii) for salvage harvest that must occur outside of the winter period, conduct the harvest in an expedient manner;

(iii) days used for operating salvage harvest from June 16 through September 15 shall count toward the 30 days allowed for minor projects;

(iv) the department will forgo unused annual operating days in other inactive subzones to compensate for the number of days required to

complete such projects;

(k) extending salvage projects that cannot be accomplished by applying **ARM 36.11.432(5)(i)** above between 31 and 150 days during non-denning period under the following conditions:

(i) following a 31 to 150-day extension for salvage, the department would be required to restart the rest period; where

(A) in this situation, a full uninterrupted six-year rest period must be achieved before allowing another 31 to 150-day interruption; and

(B) if a salvage harvest during the restarted rest period requires more than 30 days to complete, the action shall require review and approval by the forest management bureau;

(ii) the department will document the necessity for interrupting the rest period;

(iii) a department wildlife biologist will develop a site-specific mitigation plan addressing potential effects on grizzly bears through habitat considerations, timing restrictions, and transportation management and access, examples of which include:

(A) important secure areas;

(B) berry fields;

(C) avalanche chutes;

(D) riparian areas;

(E) wetlands;

(F) white bark pine stands; and

(G) unique congregation or seasonal feeding areas;

(iv) a copy of the mitigation documentation highlighting those measures implemented by the project leader and decision maker, after considering input from the department wildlife biologist, will be submitted to the forest management bureau for review prior to a project decision;

(l) limit the number of active gravel pits on the Swan River State Forest as described in the HCP.

(6) On scattered parcels in recovery zones, where grizzly bear programmatic rules, **ARM 36.11.432(1),** NROH rules, **ARM 36.11.432(2),** and recovery zone rules, **ARM 36.11.432(3)** also apply, the department commits to:

(a) evaluate each open road segment occurring within a forest management project to assess the potential to restrict access on that segment;

(b) not exceed baseline open road amounts at the administrative unit level, established August 31, 2018, on classified forest lands, but increases in open road densities at the project level to address road relocation considerations would not count against the unit-level cap;

(c) conduct commercial forest management activities and salvage harvest for each scattered parcel in a recovery zone for a maximum management period of four years, followed by a mandatory rest period of at least eight years, where each parcel will have its own management schedule independent of other parcels;

(d) extend the four-year management period, when necessary, due to management delays beyond the control of the department, such as:

(i) extreme weather events;

(ii) fire events;
(iii) area closures due to fire danger; and
(iv) legal injunction;

(e) write an explanation of the extension and submit it to the forest management bureau for approval at the time the extension is invoked;

(i) contractor equipment failure is not considered an allowable delay;

(f) within rested parcels:

(i) the rest status does not apply during the winter period of November 16 through March 31, and commercial forest management activities are allowed in winter below 6,300 feet without limitation during rest periods;

(ii) low-intensity forest management activities will be allowed during the rest period, except for restrictions during the spring period, as described in **ARM 36.11.432(2)(c**);

(iii) commercial forest management activities for minor projects, including salvage, are allowed for a limited number of days after the spring period from June 16 through November 15;

(iv) each administrative unit shall have a maximum number of allowable operating days per year on rested scattered parcels as follows:

(A) Clearwater Unit - 45 days;
(B) Helena Unit - 45 days;
(C) Kalispell Unit - 60 days;
(D) Stillwater Unit (scattered parcels) - 45 days;

(v) when tracking the number of operating days allowed for minor projects two commercial operations within 0.5-mile radius of one another count as one operation for those days both are active;

(vi) operations more than 0.5-mile radius apart are considered distinct, and operating days must be considered additive and tallied separately;

(vii) commercial forest management activities within 100 feet of an open road do not count toward the allowable operating day limits;

(g) conduct salvage harvest activities when necessary on scattered parcels in rest status under the following order of preference when economically and operationally practicable:

(i) conduct salvage during the winter period;

(ii) conduct salvage harvest in an expedient manner when it must occur outside of the winter period;

(iii) days used for operating salvage harvest from June 15 through November 15 shall count against the allowable days per administrative unit for minor projects;

(iv) the department will forgo unused annual allowable operating days usable in other inactive parcels to compensate for the number of days required to complete such larger projects;

(h) salvage harvest that cannot be accomplished using the four approaches listed above may be extended up to 150 days;

(i) the department is not required to restart the 8-year rest period on scattered parcels, but only one interruption is allowed per 8-year rest period per parcel for this purpose;

(i) document the necessity for interrupting the rest period;

(ii) a department wildlife biologist will develop a site-specific mitigation plan addressing potential effects on grizzly bears through timing restrictions, transportation management and access, and habitat considerations, examples of which include:

(A) important secure areas;
(B) berry fields;
(C) avalanche chutes;
(D) riparian areas;
(E) wetlands;
(F) white bark pine stands; and
(G) unique congregation areas;

(iii) a copy of the mitigation documentation highlighting those measures implemented by the project leader and decision maker, after considering input from the biologist, will be submitted to the forest management bureau for review prior to a project decision;

(j) One gravel pit per administrative unit may be operated as described in the HCP.

(7) On scattered lands in the Cabinet-Yaak ecosystem (CYE) and associated NROH, where grizzly bear programmatic rules, **ARM 36.11.432(1),** NROH rules, **ARM 36.11.432(2),** recovery zone rules, **ARM 36.11.432(3),** and rules for scattered parcels in recovery zones **ARM 36.11.432(6)** also apply, the department commits to:

(a) allow commercial forest management activities, including salvage harvests after the spring period, as it pertains to minor projects implemented during the eight-year rest period in **ARM 36.11.432(6)(f),** for parcels in both the CYE recovery zone and the CYE NROH, but are limited to the following number of annual operating days per administrative unit:

(i) Libby unit - 90 days total (30 west and 60 east);
(ii) Plains unit - 45 days;

(A) within these maximum operating days, commercial forest management activities and salvage harvest are limited to a total of ten parcels per non-denning season for each unit;
(B) when applying the allowable days, the duration of such management is limited to 15 days in aggregate on each parcel for each unit;

(b) prepare a mitigation plan when conducting salvage projects following **ARM 36.11.432(6)(g)** on parcels in rest status in the CYE and CYE NROH, as required under **ARM 36.11.432(6)(i)(ii**), and the project leader will submit the mitigation plan to the forest management bureau for approval prior to a project decision;

(c) conduct motorized use associated with low-intensity forest management activities on up to 50 percent of the parcels as deemed necessary in the CYE recovery zone and CYE NROH in spring habitat during the spring period;

(i) these uses include:

(A) tree planting;
(B) prescribed burning;
(C) patrol of slash burns; and
(D) noxious weed management;

(ii) any combination of the aforementioned activities is limited to ten days per parcel within the spring period each year;
(iii) motorized activity in spring habitat during the spring period associated with sale preparation, road location, data collection, and slash treatment is prohibited;
(iv) up to ten days total per year per administrative unit may be used for the purposes of road maintenance, mechanical site preparation, and bridge replacement;

(d) design, for scattered parcels in the CYE recovery zone only, helicopter operations less than 500 meters (1,640 feet) above ground level for commercial log yarding to avoid important areas for grizzly bears by requiring flight paths to be at least one mile from scattered parcels in rest or federally designated security core areas;
(i) where practicable, flight paths will also be designed to avoid or minimize disturbance to any known seasonally important areas;

(e) limit, for scattered parcels in the CYE recovery zone and NROH only, helicopter use associated with activities to those requiring less than 48 hours to complete, including, but not limited to:
(i) weed control;
(ii) prescribed burning ignition and control actions;
(iii) aerial seeding; and
(iv) moving large pieces of equipment or materials to remote and/or rugged locations.

36.11.436 SENSITIVE SPECIES

(1) The department recognizes that certain plant and animal species, both terrestrial and aquatic, are particularly sensitive to human activities in managed forests. Populations of such species are usually small and/or declining. Continued adverse impacts from land management activities may lead to their being federally listed as threatened or endangered. Because sensitive species usually have specific habitat requirements, consideration of their needs is recognized as a useful and prudent fine filter for ensuring the department meets the primary goal of maintaining diverse and healthy forests. Considering sensitive species in management actions helps ensure that decisions will be made appropriate to the fundamental philosophy and that additional federal listings will not be necessary.

(a) However, if objective analyses suggest that the underlying ecological forces would produce a distribution of cover types different than those existing, it is appropriate to move toward the historic pattern. Sensitive species considerations for habitat management are not intended to preclude a general move toward historic representation of cover types.

(2) The department shall manage to generally support populations of sensitive species on state trust lands. The department shall accomplish this by managing for site characteristics generally recognized as important for ensuring their long-term persistence. The department may accept localized adverse impacts, but only within the context of an overall strategy that supports habitat capability for these species.

(a) Department staff shall report notable observations of sensitive

plant and animal species to the Montana Natural Heritage Program (MNHP) or other appropriate data repository.

(b) Sites identified as important on projects with identified sensitive plant species shall be monitored to assess implementation of mitigation measures. On selected department projects with listed sensitive animal species, periodic follow-up surveys would be conducted to assess how well management actions have provided for site conditions needed to support those populations. Deficiencies would be documented and used to guide future management actions and mitigations.

(3) For sensitive plant species, the department shall protect important sites and/or site characteristics with mitigation measures applied to management activities likely to have substantial long-term impacts. Prior to conducting planned land management activities, the department, at its sole discretion, shall refer to databases maintained by the MNHP, the United States Forest Service (USFS) and/or other appropriate sources for information on occurrence of plant species of special concern. Where information indicates potential for sensitive plant species and their habitat to occur within project areas, field surveys and/or consultation with other qualified professionals may be required to determine the presence, location, and mitigation measures for sensitive plant species.

(4) For sensitive animal species, the department shall provide habitat characteristics recognized as suitable for individuals to survive and reproduce in situations where land ownership patterns, underlying biological conditions, and geographical conditions allow for them. The department's contribution toward conservation of wide-ranging animal species that occur in low densities and require large areas to support self-sustaining populations would be supportive of, albeit subsidiary to, the principal role played by federal agencies with larger land holdings.

(5) For proposed projects, the department shall look for opportunities to provide for habitat needs of sensitive animal species, primarily through managing for the range of historically occurring conditions appropriate to the sites. In blocked ownerships this shall include consideration of such issues as connectivity and corridors. In scattered ownerships, the department shall not necessarily commit to providing all the life-requisites of individual members of sensitive species, particularly if adjacent landowners managed in ways to limit the potential for individuals on state trust lands to be part of functional populations.

(6) The forest management bureau chief shall maintain a list of sensitive animal and fish species specific to each administrative land office. The department shall develop and modify this list using information and classification systems developed by the USFS, USFWS, MNHP and, for fish species only, the FWP. The department shall use this list at the project level for identifying species appropriate to consider in project analyses at each administrative area office. The department shall base listing by land office on general geographic distribution and habitat affinities of animal species, and would not require site-specific evidence of presence on state trust lands. Additions to, or deletions from this list, of any animal not already categorized as sensitive by USFS region one, or as "fish species of special concern" by FWP, would require written justification. The department would not routinely conduct site-specific surveys for the presence of sensitive animal species.

(7) BALD EAGLE:

(a) the department shall manage for bald eagles consistent with the Montana Bald Eagle Management Guidelines (2010);

(b) to guide management, the department may use site-specific management plans by a qualified biologist where applicable;

(c) maintenance of habitat for breeding bald eagles, where no site-specific management plans are in place, shall include recognition and delineation of three management zones around each active bald eagle nest, including:

(i) nest site area;

(ii) primary use area; and

(iii) home range;

(d) the department shall consider the following when conducting forest management activities within nest site areas:

(i) mechanized activities are restricted between February 1 and August 15, unless:

(A) the territory is documented as unoccupied during that breeding season;

(B) the eagles have fledged;

(C) nesting has failed;

(D) eagles have left the nesting area; or

(E) if allowed as specified in a site-specific management plan;

(ii) helicopter activity for forest management purposes shall not occur within 1,000 feet of an occupied bald eagle nest; however, the department may grant exceptions for other motorized activities such as road repair, maintenance, and planting, if, following site review and documentation, activities are deemed to be:

(A) of short duration;

(B) outside of critical nesting periods; and

(C) of minimal risk to nesting adults or offspring;

(iii) harvest within 330 feet of an active nest tree is prohibited, and the department shall design timber harvests to maintain the structural and ecological characteristics of the nest site area to include:

(A) moderate to well-stocked overstory;

(B) large emergent trees;

(C) snags;

(D) a multi-storied canopy; and

(E) vegetative screening from nearby low and high intensity human activity;

(iv) the department shall protect such areas from firewood cutting and gathering, to the extent practicable;

(v) the department shall limit additional human activity, both low and high intensity, over which it has control between February 1 and August 15 unless it has been documented by a qualified biologist that:

(A) the eagles have fledged;

(B) nesting has failed; or

(C) the eagles have left the nesting area;

(vi) the department shall limit permanent development associated with forest management activities;

(vii) the department shall close existing roads and trails under its control to motorized use between February 1 and August 15, if:

(A) vegetative screening from the nest is insufficient to prevent undue disturbance and human use is high; or

(B) the eagles' behavioral response suggests it is necessary;

(e) the department shall include the following considerations when conducting forest management activities within bald eagle primary use areas:

(i) limit mechanized activities between February 1 and August 15, unless it has been documented by a qualified biologist that:

(A) the nest site is unoccupied during that breeding season;

(B) the eagles have fledged;

(C) nesting has failed;

(D) eagles have left the nesting area;

(E) it has been demonstrated that eagles show tolerance to the activity; or

(F) if allowed as specified in a site-specific management plan;

(ii) low intensity and high intensity activities may be allowed during this restriction period if ample visual screening, including vegetative cover and/or topography, is present between the affected portion of the primary use area and the active nest tree;

(iii) the department may grant exceptions for such activities as:

(A) road repair;

(B) maintenance; and

(C) planting if following site review and documentation, activities are deemed to:

(I) be of short duration;

(II) be outside of critical nesting periods; and

(III) present minimal risk to nesting adults or offspring;

(iv) design timber harvests and salvage to maintain structural and ecological characteristics particularly:

(A) moderate or greater stocking in overstory;

(B) large emergent trees;

(C) multi-storied canopy, if present;

(D) snags;

(E) potential nest trees;

(F) perch trees;

(G) roost trees; and

(H) vegetative screening from areas of both low and high intensity human activity;

(v) low intensity human activity may occur, but high intensity human activity, over which the department has control, shall not occur between February 1 and August 15, unless ample visual screening, including vegetative cover and/or topography, is present between the primary use area and nest tree, or it has been documented by a qualified biologist that:

(A) the nest site is unoccupied during that breeding season;

(B) the eagles have fledged;

(C) nesting has failed;

(D) eagles have left the nesting area;

(E) it has been demonstrated that eagles show tolerance to the activity; or

(F) otherwise allowed in a site-specific management plan;

(vi) minimize permanent development associated with forest management activities;

(vii) minimize construction of new roads, trails, and open access routes;

(f) the department shall consider the following when conducting forest management activities within the bald eagle home range:

(i) design timber harvests to protect, and/or enhance, key habitat components that already exist in close proximity to:

(A) lakes;

(B) rivers;

(C) wetlands;

(D) meadows; or

(E) known flight paths, such as:

(I) large snags;

(II) large perch trees;

(III) emergent trees; and

(IV) roost trees;

(ii) design projects involving human activities, both low and high intensity, to minimize disturbance to foraging and roosting eagles, and to avoid conflict in frequently used areas during the nesting season;

(iii) minimize construction of new roads, trails, and open access routes.

(8) BLACK-BACKED WOODPECKER:

(a) when developing prescriptions for harvest in areas burned within the last five years in forest patches greater than 40 acres in size, the department will:

(i) manage at least ten percent of the burned acreage in an unharvested condition that is broadly representative of the entire burn (i.e., similar habitat types, fire intensity, elevations, stand density, and stand age class prior to burn) to be determined using site-specific information at the project level;

(ii) manage such areas in relatively contiguous blocks favoring close proximity to unharvested fire-killed deferred stands on neighboring ownerships considering the habitat needs of black-backed woodpeckers; and

(iii) leave standing sub-merchantable burned trees where soil, slope stabilization, and human safety concerns allow.

(9) COMMON LOON:

(a) for all lakes where common loon nesting pairs exist, the department shall:

(i) limit construction of new permanent roads, structures, or permanent developments within a 500-foot radius of the nest site; and

(ii) limit mechanized activity within a 500-foot radius of the nest site between April 15 and July 15;

(b) for lakes which have been recently occupied but for which no currently nesting pair resides, the department shall:

(i) survey lakeshores for nesting loons prior to developing plans for lakeshore development, road construction, or timber harvest activities that will occur within 500 feet of the lakeshore;

(ii) prior to finalizing plans for any new roads, developments, timber sales, or intensive motorized activity that will occur on or near any lake potentially suitable for use by loons, design appropriate mitigation measures specific to the situation; and

(iii) if nesting is not documented, identify sites for proposed projects that would least likely be occupied by nesting loons in the future.

(10) FISHER:

(a) The department shall assess fisher habitat on projects that contain preferred fisher cover types for lands administered by the department's northwest land office and southwest land office;

(b) when conducting forest management activities, as consistent with 77-5-301 and 77-5-302, MCA, the department shall:

(i) implement retention measures contained in **ARM 36.11.425** when managing within preferred fisher cover types associated with riparian and streamside management zones to provide habitat and connectivity;

(A) where treatments reduce stand density below moderately stocked levels, the department shall make efforts to provide forest connectivity along the opposite stream bank;

(B) the department shall define a minimum of one buffered management zone connecting to other fisher habitat through sites where individual perennial and intermittent stream courses are difficult to define, such as those braided with many channels;

(C) the department shall retain large snags, snag recruits, and CWD pursuant to **ARM 36.11.409** through **36.11.414**, and promote recruitment if existing abundances are below expected levels;

(D) following large-scale stand replacement disturbance events in preferred fisher cover types, the department shall give consideration to maintaining an abundance of large snags and CWD within 100 feet of Class 1 streams and 50 feet of Class 2 streams;

(E) when practicable, the department shall avoid constructing new roads in preferred fisher cover types within 100 feet of Class1 streams or 50 feet of Class 2 streams, and where feasible, the department shall incorporate use of temporary roads, and obstruct or obliterate unnecessary existing roads;

(c) the department shall manage for at least one 300-foot-wide forested patch providing connectivity between adjacent third order drainages, preferably in saddles, where landscape conditions allow;

(d) the department shall consider importance of late-successional riparian and upland forest in meeting the life requisites of fishers.

(11) FLAMMULATED OWL:

(a) when harvesting timber where greater than 50 contiguous acres of flammulated owl preferred habitat types exist, the department shall:

(i) favor seral ponderosa pine on sites where historical fire regimes favor it;

(ii) favor older-aged ponderosa pine or, secondarily, Douglas-fir for retention or recruitment on warm, dry slopes;
(iii) retain and recruit large-sized snags pursuant to **ARM 36.11.404;**
(iv) open up dense stands on warm, dry slopes towards a basal area of 35 to 80 square feet;
(v) promote non-uniform stands and retain occasional dense patches of conifer regeneration and shrubs.

(12) PEREGRINE FALCON:

(a) the department shall manage for peregrine falcons within a 0.25 mile radius of a known nest site, and develop appropriate silvicultural mitigation measures for the particular situation;

(b) the department shall limit human activity, both low and high intensity, and mechanized activity typically within a 0.5 mile radius from known nest sites between March 1 and August 1; and

(c) the department shall determine distances for activity restrictions on a site-specific basis for aerial operations.

(13) PILEATED WOODPECKER:

(a) the department shall manage stands containing pileated woodpecker preferred habitat in larger, rather than smaller blocks, whenever practicable;

(i) where large contiguous tracts of such stands are unavailable, the department shall consider management of smaller stands in close proximity to one another, or close to similar stands on adjacent ownerships;

(ii) the department shall consider areas of pileated woodpecker preferred habitat of less than 40 acres, unless they are close to other appropriate stands;

(iii) within pileated woodpecker preferred habitat, the department shall manage for snags, snag recruits, and CWD according to **ARM 36.11.411, 36.11.413,** and **36.11.414**, particularly favoring retention of western larch, ponderosa pine, and black cottonwood, considering amounts that would historically occur on similar sites;

(A) the department shall consider broken-top snags greater than 20 feet tall priority candidates for retention;

(iv) where appropriate, the department shall manage to encourage retention of black cottonwood, particularly where it can attain large size.

36.11.443 BIG GAME

(1) The department shall promote a diversity of stand structures and landscape patterns, and rely on them to provide good habitat for native wildlife populations.

(a) To the extent possible, the department shall manage to provide for big game habitat. Measures to mitigate potential impacts shall be implemented if they are consistent with overall management objectives, and with **ARM 36.11.404** through **36.11.418.**

(b) The department shall consult with the FWP to determine which big game habitat values are most likely to be affected by proposed management actions, and would cooperate with FWP to limit detrimental impacts to big game.

(2) The department shall prohibit contractors and purchasers conducting

contract operations from carrying firearms while operating.
(3) Biodiversity monitoring procedures described in **ARM 36.11.419** shall be used to track health of forest ecosystems. This process shall be used as the primary indicator of the health of wildlife populations using these ecosystems. When necessary, corrective actions would be taken as described in **ARM 36.11.419.**

36.11.444 GRAZING ON CLASSIFIED FOREST LANDS AND OTHER lands within GRIZZLY BEAR RECOVERY ZONES AND Non-recovery occupied habitat (NROH)
(1) The department shall inspect grazing licenses issued on all classified forest trust lands before the renewal date to determine:
(a) range condition;
(b) plant species composition;
(c) riparian forage and browse utilization;
(d) streambank disturbance;
(e) presence of noxious weeds;
(f) erosion; and
(g) condition of improvements.
(2) The department shall inspect grazing licenses mid-term between renewals to determine:
(a) range condition;
(b) riparian forage and browse utilization;
(c) streambank disturbance; and
(d) overall tract conditions with an emphasis on potential concerns or problems noted during the previous renewal inspection.
(3) The department may specify grazing license stipulations any time during the term of the license.
(4) The department shall specify the number of animal unit months, type of livestock, and grazing period of use on grazing licenses for classified forest trust lands.
(5) The department shall determine stocking rates for grazing licenses using visual assessment of existing vegetative plant species composition. The department shall compare estimated species composition by weight per range site to potential (climax range condition) for specific range sites.
(6) The department shall require grazing management practices that are designed to minimize loss of riparian and streambank vegetation, and structural damage to stream banks that results in non-point source pollution for grazing licenses issued or renewed on forest classified lands.
(7) The department shall manage each grazing license to:
(a) maintain or restore both herbaceous and woody riparian species in a healthy and vigorous condition;
(b) facilitate the ability of vegetation to reproduce and maintain different age classes in the desired riparian-wetland plant communities;
(c) leave sufficient vegetation biomass and plant residue, including woody debris, to provide for adequate sediment filtering and dissipation of stream energy for bank protection; and
(d) minimize the physical damage to stream banks to a level that

maintains channel stability and morphological characteristics.

(8) The department shall authorize continuous or season-long grazing only when healthy riparian conditions are maintained.

(9) The department shall direct the grazing licensees to place mineral, protein, and other supplements in areas that minimize animal concentration near riparian areas.

(10) The department shall direct grazing licensees to locate holding facilities outside of riparian areas.

(11) The department shall evaluate existing riparian use for each license during renewal and midterm inspections and may specify acceptable riparian use and streambank impact levels through stipulations in the grazing license, if necessary to meet conditions described in (6).

(12) The licensee, with technical assistance from the department, shall mitigate or rehabilitate riparian and stream channel damage greater than the specified riparian use levels as determined pursuant to (11). If improved management does not resolve the damage, the department may make adjustments to the license to facilitate rehabilitation efforts.

(13) Licensees shall have primary responsibility for developing and maintaining rangeland improvements. The licensee shall also be responsible for maintaining or improving range sites by managing livestock grazing and utilization in a manner that would produce a stable or upward trend in range condition. The department may support rangeland improvements through technical and financial assistance, as workload and budget allow. Rangeland improvements include, but are not limited to, riparian management, weed control, water developments, grazing management systems, and fencing. The department and the licensee may cost-share improvements through an addendum to the license. The addendum stipulates terms and conditions by which the licensee may be required to reimburse the state for improvement expenses incurred.

(14) The department shall discourage the issuance of new grazing licenses and leases for the purpose of grazing sheep or other small livestock on NROH lands.

(15) Prior to issuing a license or lease for the use of small livestock on NROH lands for the purpose of weed control, a mitigation plan shall be prepared for the purpose of minimizing impacts to grizzly bears prior to issuing the decision; which

(a) will include a description of the location of the project and documentation identifying known activity by bears in the area;

(b) may include, but is not limited to, requirement of a full-time shepherd, guard dogs, nighttime electric pens, lessee assuming cost of losses incurred by predators, prohibition of grazing in spring habitat during spring periods, attending training on hazing techniques, and maintaining a list of professionals providing hazing services.

(16) On NROH and grizzly bear recovery zone lands, the department will cooperate with other parties, agencies, and bear management specialists on a case-by-case basis to address prompt removal of livestock carcasses identified as creating the potential for bear-human encounters.

(17) On lands within grizzly bear recovery zones, the department will prohibit authorization of any new small livestock (smaller than a cow) grazing licenses or leases, including those for the purposes of weed control, and will also not convert existing licenses to allow the grazing of small livestock.

(18) On lands within grizzly bear recovery zones, the department will not initiate establishment of new grazing licenses; however, proposals initiated by the public for larger, less vulnerable classes of livestock (such as cows and horses) may be considered and allowed.

36.11.445 WEED MANAGEMENT

(1) On classified forest lands the department shall use an integrated pest management approach for noxious weed management that includes prevention, education, cultural, biological, and chemical methods as appropriate.

(a) The department shall limit herbicide applications to areas where herbicides provide a cost-effective means of control.

(b) The department shall consider new outbreaks of noxious weeds and locations where native plant communities are threatened by noxious weed encroachment the first priority for control.

(c) The department shall submit general re-vegetation plans for land-disturbing projects to county weed boards as part of biennial agreements.

(d) The department shall promptly re-vegetate road rights-of-way and other disturbed areas with site-adapted species including native species, as available.

(2) The department shall manage forested state trust lands with the intent of controlling the spread of weeds.

(a) Practices to be utilized include, but are not limited to:

(i) the use of weed-free equipment;

(ii) prompt re-vegetation of roads;

(iii) minimizing ground disturbance; and

(iv) stipulations and control measures that limit the spread of weeds in timber sale contracts.

(3) A licensee of classified forest trust land shall be responsible for weed control at their expense pursuant to **ARM 36.25.132**.

(4) On sites where weeds were introduced by recreation use, the department shall make available a portion of recreational access fees for weed control pursuant to **ARM 36.25.159**.

(5) All right-of-way agreements shall require the permittee to control weeds commensurate with the permitted use.

(a) This may include fees charged for weed control by the department or the weed district.

(6) In areas where weeds are widespread across state and adjacent ownerships, the department shall cooperate with weed districts on control projects.

(7) The department shall review implementation of noxious weed control and mitigation measures on cooperative projects and shall establish reasonable goals to address deficiencies as determined by the department at its sole discretion.

36.11.446 FINANCES AND ECONOMICS

(1) The department shall manage forested state trust lands at different levels of intensity depending on biological productivity and economic potential. The department shall make investments according to trust law to maximize revenue over the long-term for the beneficiary, and to accomplish forest management objectives.

(a) The department shall retain flexibility in order to produce long-term stable income and pursue other income opportunities as guided by changing markets for new and traditional uses. Other site-specific income opportunities may occur on a minor amount of forest acreage. These uses may diverge from elements of ARM 36.11.401 through 36.11.445, but would not compromise the overall fundamental premise of managing for biodiversity and forest health.

(2) The department shall review on an annual basis its financial and economic assumptions used in management decisions.

(3) The department shall prepare an annual revenue/cost summary for the forest management programs.

36.11.447 CATEGORICAL EXCLUSIONS

(1) Forest management activities that are classified as categorical exclusion shall not require an environmental assessment or environmental impact statement.

(a) Categorical exclusions include activities on state trust lands conducted by others under the authority of the department as well as activities conducted by the department itself.

(2) Categorical exclusions shall not apply where extraordinary circumstances may occur. This includes, but is not limited to, activities affecting one or more of the following:

(a) sites with high erosion risk;

(b) federally listed threatened and endangered species or critical habitat for threatened and endangered species as designated by the USFWS;

(c) within municipal watersheds;

(d) the SMZ of fish bearing streams or lakes, except for modification or replacement of bridges, culverts and other crossing structures;

(e) state natural area;

(f) Native American religious and cultural sites;

(g) archaeological sites;

(h) historic properties and areas;

(i) several related projects that individually may be subject to categorical exclusion but that may occur at the same time or in the same geographic area. Such related actions may be subject to environmental review even if they are not individually subject to review; or

(j) violations of any applicable state or federal laws or regulations.

(3) Pursuant to **ARM 36.2.523**, the department adopts the following additional categorical exclusions for forest management activities conducted on state trust lands:

(a) Minor temporary uses of land involving negligible or no disturbance of soil or vegetation and having no long-term effect on the environment.

(b) Plans or modifications of plans adopted or approved by the department that would not essentially pre-determine future individual department actions affecting the physical or biological environment.

(c) The issuance, renewal, or assignment of a lease or license on land when the uses of the land authorized under the lease or license will remain essentially the same.
(d) Acquisition of fee title, easements, rights-of-way, or other interests in land that do not tend to commit the department to other actions.
(e) Maintenance and repair of existing roads.
(f) Reconstruction or modification of an existing bridge on essentially the same alignment, or replacement of a culvert, including temporary diversion or channelization of the stream, if done in accordance with all applicable state and federal laws and regulations and with BMPs to minimize sedimentation.
(g) Crossings of Class 3 stream segments by means of culvert, bridge, ford, or other means, in accordance with BMPs and pursuant to **ARM 36.11.304.**
(h) Issuing permits for temporary use of or easements for permanent access on existing roads.
(i) The closure of existing roads including installation of gates, berms, debris, or other facilities necessary to close existing roads to motorized public use.
(j) Removal of materials that have been stockpiled from previous excavation.
(k) Back filling of earth into previously excavated land with material compatible with the natural features of the site.
(l) Gathering small quantities of forest products for personal or commercial use, such as:
    (i) firewood;
    (ii) Christmas trees; or
    (iii) posts.
(m) Regeneration of an area to native tree species, through planting or other means, including site preparation that does not involve the use of herbicides or result in conversion of the vegetation type.
(n) Seed procurement, growing, lifting, and distributing nursery stock, and associated non-chemical disease and pest control.
(o) Drilling of water wells for domestic use and for irrigation of lawns and gardens for existing cabin sites or home sites.
(p) Herbicide or pesticide treatments, done in accordance with registered label instructions and uses, for control of pests or nuisance vegetation, using spot applications on less than 160 acres within a 640 acre section, during a calendar year.
(q) The handling of hazardous materials for fire suppression or other purposes (e.g., fuel for a helicopter seeding project) when done according to specifications of the United States department of transportation, state and federal regulations, and label specifications.
(r) Fence construction, which may include cutting minor amounts of live timber not in excess of 5000 board feet, if the fence is no more than 42 inches high and the bottom wire is at least 16 inches from the ground.
(s) Installation of water pipelines to improve livestock distribution or otherwise benefit grazing allotments.
(t) Mechanical removal of trees less than two feet tall that are encroaching on range or non-commercial forest lands, on up to 60 contiguous acres, not

to exceed a total of 160 acres within a 640 acre section, during a calendar year.

(u) Removal of hazardous trees from around structures, recreation areas, and roads, not to exceed 5000 board feet.

(v) Activities associated with cone collection to provide seed for reforestation.

(w) Individual timber permits of up to 500,000 board feet if no extraordinary circumstances occur as outlined in **ARM 36.11.447(2)(a)** through **(j).**

(x) low-intensity forest management activities as defined in **ARM 36.11.403 (43)**.

36.11.448 MANAGEMENT OF THE STATE FOREST LAND MANAGEMENT PLAN

(1) Beginning in the year 2005 and every five years thereafter, the forest management bureau chief shall make a written report to the director of the department and the Trust Land Management Division administrator on the current status of state forest land management plan implementation and effectiveness, including a recommendation on the need for significant changes to the plan.

(2) Upon review, the department shall consider changing the plan for one or more of the following reasons:

(a) new legislation is adopted that is not compatible with the selected alternative;

(b) the state board of land commissioners provides new direction; or

(c) the forest management bureau chief judges that the original assumptions supporting the plan no longer apply.

(3) The department may make minor changes or additions to the plan without a programmatic review of the entire plan as long as those changes are compatible with the overall plan, as determined at the sole discretion of the department.

(a) Cumulative minor changes could result in a programmatic review of the SFLMP.

(4) Changes that result in a departure from the fundamental intent of the plan as determined by the department shall require an environmental review of affected portions of the plan.

(5) The department shall monitor individual resources pursuant to **ARM 36.11.404** through **36.11.445**.

(a) The department shall compile the results of monitoring into a report for the state board of land commissioners by October 2005 and every five years thereafter.

(b) The department shall include monitoring mechanisms for applicable elements of **ARM 36.11.404** through **36.11.445** and project environmental analyses in forest management activity contracts.

(c) Contract administrators shall monitor compliance with all requirements specified in contracts for forest management activities. If contract requirements are not being met, the contractor shall correct them, under department supervision.

36.11.449 SITE-SPECIFIC ALTERNATIVE PRACTICES

(1) The department shall comply with **ARM 36.11.401** through **36.11.445** when conducting forest management activities, unless approval has been obtained from the forest management bureau chief for alternative forest management practices. Alternative practices may be designed in response to site-specific conditions encountered while planning forest management activities.

(2) The forest management bureau chief may approve proposed alternative practices only if such practices would be otherwise lawful, and it is determined with reasonable certainty that the proposed alternative practices would provide adequate levels of resource protection.

36.11.450 TIMBER PERMITS

(1) The department shall review and issue timber permits within the time frame specified by 77-5-212(5) and (6), MCA.

(2) Under the authority of 77-5-212, MCA, the department may issue commercial timber permits at commercial rates, and without advertising, for sales that do not exceed 500,000 board feet of timber.

(a) The department shall not be required to obtain approval from the Board of Land Commissioners to issue specific timber permits.

(b) The board shall retain administrative oversight of the timber permit program.

(c) Permits will not be subject to categorical exclusions except as stated in **ARM 36.11.447**.

Rules 36.11.457 through 36.11.469 reserved

36.11.470 LANDS SUBJECT TO A HABITAT CONSERVATION PLAN

(1) For trust land parcels subject to a habitat conservation plan contractually entered by the department and the United States Fish and Wildlife Service (USFWS) pursuant to Section 10 of the Endangered Species Act (ESA), the department shall implement the terms of the habitat conservation plan.

(2) If there are conflicts between the conservation strategies in the habitat conservation plan and the administrative rules for forest management in this subchapter, the department shall implement the terms of the habitat conservation plan.

36.11.471 CONSERVATION EASEMENTS

(1) For trust land parcels that have an appurtenant conservation easement that includes stipulations for forest management, the department shall implement the terms of the conservation easement.

(2) If there are conflicts between the stipulations of the conservation easement and the administrative rules for forest management in this subchapter, the department shall implement the terms of the conservation easement.

Subchapter 3
Streamside Management Zone

36.11.302 WIDTH OF STREAMSIDE MANAGEMENT ZONE – MARKING BOUNDARY

(1) The slope of the SMZ is measured perpendicular to the stream or lake from the ordinary high water mark to a point 50 feet slope distance from the ordinary high water mark.

(2) The SMZ width is 50 feet slope distance on each side of streams, lakes, and other bodies of water measured from the ordinary high water mark, in all cases except:

(a) where wetlands exist adjacent to the stream, lake, or other body of water, the SMZ extends to include the wetlands;

(b) on class 1 and 2 stream segments and lakes where the slope of the SMZ is greater than 35%, the SMZ width is 100 feet, except:

(i) where an established road exists between 50 and 100 feet from the ordinary high water mark, the SMZ boundary is located at the top of the road fill; or

(ii) where the slope of the SMZ decreases to 15% or less to form a bench that is 50 to 100 feet from the ordinary high water mark and at least 30 feet wide, the SMZ boundary is located at the edge of the bench nearest the stream.

(3) Where forest practices that are prohibited in the SMZ will be conducted adjacent to the SMZ boundary on a class 1 or class 2 stream segment, the SMZ boundary must be clearly marked prior to conducting such practices.

36.11.303 BROADCAST BURNING

(1) Broadcast burning in the SMZ is prohibited unless approved by the department under a site-specific alternative practice.

36.11.304 EQUIPMENT OPERATION IN THE SMZ

(1) Operation of wheeled or tracked equipment in the SMZ except on established roads is prohibited except as provided in this rule

(2) In order to permit timber harvest on wetlands under conditions that protect the integrity of the SMZ, an operator may, as an alternative practice without site-specific approval, operate wheeled or tracked equipment from the outside edge of an SMZ to within 50 feet of the ordinary high water mark wherever:

(a) the SMZ extends beyond 50 feet from the ordinary high water mark to include adjacent wetlands;

(b) there exist winter conditions with adequate snow or frozen ground; and

(c) operation of the wheeled or tracked equipment:

(i) does not cause rutting or displacement of the soil;

(ii) protects and retains shrubs and submerchantable trees to the fullest extent possible;

(iii) does not remove stumps; and

(iv) otherwise conserves the integrity of the SMZ.

(3) In order to minimize road construction and trails necessary for timber harvest on lands adjacent to the SMZ, an operator may, as an alternative practice without

site-specific approval, cross the SMZ and the stream or other body of water with wheeled or tracked equipment on a class 3 stream segment or other body of water at locations spaced approximately 200 feet apart or more provided that:

(a) crossings are located in areas where the stream or other body of water is dry and the banks and bottoms are stable;

(b) excavation is minimized;

(c) the capacity of the stream channel or other body of water is maintained; and

(d) the distance traveled through the SMZ is minimized.

(4) In order to minimize road construction necessary for timber harvest on lands adjacent to the SMZ, an operator may, as an alternative practice without site-specific approval, operate wheeled or tracked equipment inside the SMZ off of established roads on the side of the road away from the stream wherever:

(a) an established road exists inside the SMZ or construction of a road inside the SMZ is authorized under ARM 36.11.306;

(b) the toe of the road fill nearest the stream is at least 25 feet from the ordinary high water mark; and

(c) operations are conducted in such a manner that:

(i) wheeled or tracked equipment stays out of wetlands except under winter conditions as provided in (2);

(ii) all skidding of logs takes place on designated skid trails located approximately 200 feet apart or more;

(iii) all skid trails in such areas are reclaimed by installing erosion control measures and reestablishing vegetative cover;

(iv) drainage features are established or reestablished on all roads used under this section; and

(v) logs are not decked on the side of the road toward the stream.

(5) An operator may, as an alternative practice, without site-specific approval, operate equipment on an existing road located in the SMZ, to allow the extraction of logs or trees from within the SMZ. Under these conditions an operator may:

(a) store individual logs or small groups of logs on the side of a road toward the stream provided:

(i) no portion of any stored log encroaches on an area within 15 feet of the ordinary high-water mark;

(ii) all such areas are reclaimed by installing erosion control measures and the reestablishment of vegetative cover; and

(iii) there are no adverse impacts to the functions of the SMZ or to water quality.

(6) When logs are being winched or cable yarded across a class 1 or 2 stream segment, the logs must be fully suspended over the stream or stream bank unless approved by the department pursuant to a site-specific alternative practice and unless otherwise authorized pursuant to the Natural Streambed and Land Preservation Act of 1975, 75-7-101 et seq., MCA.

(7) Landings shall not be constructed in the SMZ unless the department has approved a site-specific alternative practice pursuant to ARM 36.11.310.

(8) The department may approve operation of wheeled or tracked equipment in the SMZ as a site-specific alternative practice only under conditions that:

(a) conserve the integrity of the SMZ;

(b) do not cause rutting of the soil; and
(c) protect the residual stand of shrubs and trees.

36.11.305 RETENTION OF TREES IN THE SMZ – CLEARCUTTING

(1) The forest practice of clearcutting is prohibited in the SMZ unless approved by the department under a site-specific alternative practice.

(2) In order to provide large woody debris, stream shading, water filtering effects, and to protect stream channels and banks, merchantable and submerchantable trees must be retained in the first 50 feet of the SMZ beyond the ordinary high water mark and in the entire SMZ where the SMZ is extended for wetlands under ARM 36.11.302(2)(a), on each side of streams, and along lakes and other bodies of water as follows:

(a) On each side of class 1 stream segments and lakes retain 50% of the trees greater than or equal to eight inches dbh, or ten trees greater than or equal to eight inches dbh in each 100 lineal feet of the SMZ, whichever is greater.

(i) If less than ten trees greater than or equal to eight inches dbh are present in any 100 lineal-foot segment of the SMZ, then a minimum of ten trees of the largest diameter available must be retained in that segment;

(ii) Trees retained must be representative of the species and size of trees in the preharvest stand; and

(iii) Shrubs and submerchantable trees must be protected and retained in the entire SMZ to the fullest extent possible when conducting forest practices in the SMZ.

(b) On each side of class 2 stream segments retain 50% of the trees greater than or equal to eight inches dbh, or five trees greater than or equal to eight inches dbh in each 100 lineal feet of the SMZ, whichever is greater.

(i) If less than five trees greater than or equal to eight inches dbh are present in any 100 lineal-foot segment of the SMZ, then a minimum of five trees of the largest diameter available must be retained in that segment;

(ii) Trees retained must be representative of the species and size of trees in the preharvest stand; and

(iii) Shrubs and submerchantable trees must be protected and retained in the entire SMZ to the fullest extent possible when conducting forest practices in the SMZ.

(c) On each side of class 3 stream segments and other bodies of water, shrubs and submerchantable trees must be protected and retained in the entire SMZ to the fullest extent possible when conducting forest practices in the SMZ.

(3) Hardwood trees and snags meeting diameter standards of (2) may be counted toward retention tree requirements in the same approximate proportion as their occurrence in the stand prior to commencement of forest practices.

(4) Trees retained pursuant to this rule must be distributed within the SMZ as guided by the following criteria:

(a) favor bank-edge trees;

(b) favor trees leaning toward the stream and those that cannot be felled without falling into the stream;

(c) where the SMZ is greater than 50 feet wide and harvesting will result in the minimum stocking of trees required to be retained under (2)(a) and (b), concentrate retained trees within 50 feet of the stream;

(d) all trees that have fallen through natural processes, across or in a class 1 or 2 stream, must be retained, unless removal of such trees is conducted pursuant to **ARM 36.11.304(6)**, is approved as a site-specific alternative practice, and is conducted consistently with other applicable federal and state laws and regulations.

(5) Trees retained pursuant to this rule may be salvaged only under the following conditions:

(a) trees to be harvested meet the definition of salvage found at **ARM 36.11.312**; and

(b) the minimum tree retention requirements of (2) are met by standing live trees, or by dead or fallen trees where sufficient standing live trees are not available.

(6) All practices which deviate from the tree-distribution criteria provided in (2) and (4) require approval as site-specific alternative practices.

36.11.306 ROAD CONSTRUCTION IN THE SMZ

(1) The construction of roads in the SMZ is prohibited except when necessary to cross a stream or wetland unless approved by the department under a site-specific alternative practice or as provided in this rule. The construction of roads across streams, wetlands or other bodies of water is not regulated by these rules but may be subject to other state and federal laws and regulations.

(2) Road fill material must not be deposited into the SMZ except as needed to construct crossings.

(3) In order to minimize excavation for road construction on erosive soils characteristic of eastern Montana, an operator may, as an alternative practice without site-specific approval, construct or locate a road inside the SMZ on class 3 stream segments in the eastern zone only wherever:

(a) the slope of the SMZ immediately adjacent to the stream is 10% or less for a distance of at least 25 feet from the ordinary high water mark;

(b) there exists in the outer portion of the SMZ a hillside with slopes in excess of 35%; and

(c) the road is constructed or located on the gentler slopes in such a manner that:

(i) cutting and filling of earthen material is minimized;

(ii) the toe of the road fill is located at least 15 feet from the ordinary high water mark;

(iii) the road is located as far away from the ordinary high water mark as is practical; and

(iv) road drainage features are installed as needed to minimize sediment delivery to streams.

36.11.307 HAZARDOUS OR TOXIC MATERIALS

(1) The handling, storage, application, or disposal of hazardous or toxic materials in the SMZ in a manner that pollutes streams, lakes, or wetlands or that may cause damage or injury to humans, land, animals, or plants is prohibited.

(2) Any application of herbicides or pesticides must be done in a manner that such materials are not introduced to streams, lakes, wetlands, or other bodies of water through surface runoff or subsurface flow.

(3) Any application of herbicides or pesticides must be done in a manner which does not destroy vegetation in the SMZ to an extent which impairs the capacity of the SMZ to provide shade or to act as an effective sediment filter.

(4) Any application of herbicides or pesticides in the SMZ must be in accordance with all label directions and in compliance with all applicable laws and regulations regarding the use of such material.

(5) Dust abatement agents which do not contain waste oil may be applied on roads in the SMZ provided that such material is not directly introduced into a stream, lake, or other body of water.

36.11.308 SIDE-CASTING OF ROAD MATERIAL

(1) The side-casting of road material into a stream, lake, wetland, or other body of water during road maintenance operations is prohibited in the SMZ.

36.11.309 DEPOSITING SLASH

(1) Depositing slash in streams, lakes, or other bodies of water is prohibited unless approved by the department under a site-specific alternative practice subject to other state and federal laws and regulations.

36.11.310 SITE-SPECIFIC ALTERNATIVE PRACTICES

(1) The owner or operator shall comply with the management standards stated in 77-5-303(1), MCA, and this subchapter, unless approval has been obtained from the department for alternative practices designed for site-specific conditions encountered during a timber sale prior to conducting such practices.

(2) The department may approve a proposed alternative practice only if such practice would be otherwise lawful and the department determines with reasonable certainty that the proposed alternative practice would conserve the integrity of the streamside management zone and would not significantly diminish the function of the zone as stated in 77-5-301, MCA:

(a) to act as an effective sediment filter to maintain water quality;

(b) to provide shade to regulate stream temperature;

(c) to support diverse and productive aquatic and terrestrial riparian habitats;

(d) to protect stream channels and banks;

(e) to provide large, woody debris that is eventually recruited into a stream to maintain riffles, pools, and other elements of channel structure; and

(f) to promote floodplain stability.

(3) In order to obtain department approval of alternative practices, the owner or operator shall submit to the department an application describing the proposed practices and location. Applications must provide all data specified by the department and must be submitted on forms provided or approved by the

department.
(4) Within ten working days of receipt of the application for approval of alternative practices the department shall determine if the application is approved, approved with modification, disapproved, incomplete, requires additional information or environmental analysis, or requires a field review. The department shall notify the owner and the applicant of its decision in writing.
(5) If the department determines a field review is necessary, the field review must be made at a mutually agreeable time. The owner or his designee must be present at the field review.
(6) Within ten working days after all necessary field review is complete, the department shall determine whether the application is approved, approved with modification, disapproved, incomplete, or requires additional information or environmental analysis. The department shall notify the owner and the applicant of its decision in writing. (7) The department may notify the applicant in writing that it declines to conduct further environmental analysis of an application if it determines that the proposed alternative practices are complex, or affect an environmentally sensitive area, or involve a high degree of uncertainty that the proposed alternative practices will have a significant impact on the quality of the human environment. The notice must briefly describe the department's reasons for declining to conduct further analysis. In this case, the applicant may conduct further environmental analysis and submit documentation to the department. The department shall independently review any further environmental analysis and documentation of the proposed alternative practices provided by the applicant and may adopt such documentation if it is adequate under the Montana Environmental Policy Act (75-1-101 et seq., MCA) and rules adopted thereunder (**ARM 36.2.521 through 36.2.611**). If so adopted, the department may utilize such environmental documentation in further consideration of the application for alternative practices.
(8) In the event the department determines that an application for alternative practices may be of significant interest to the public, the time provided in this rule for considering such application may be extended in order to allow time for the public to be notified and participate in the department's decision pursuant to 2-3-101 et seq., MCA, and **ARM 36.2.701 and 36.2.702**.
(9) Persons applying for approval of alternative practices shall agree in writing that approved alternative practices, including any additional conditions imposed by the department, shall have the same force and authority as the standards contained in 77-5-303, MCA, and shall be enforceable by the department under 77-5-305, MCA, to the same extent as such standards. Persons responsible for conducting alternative practices shall comply with all conditions of such practices. In determining whether to approve applications for alternative practices, the department may consider past violations of such standards or of the requirements of previously approved alternative practices by the applicant.
(10) Authorization to conduct alternative practices is valid for two years from the date of approval or for such period as may be specified by the department.

36.11.311 APPLICABILITY

(1) This subchapter applies to forest practices conducted within a timber sale in the streamside management zone. Such practices, as defined at 77-5-302(3), MCA, include the following activities when conducted within a "timber sale" defined in **ARM 36.11.312**:

(a) the harvesting of trees;

(b) road construction or reconstruction associated with harvesting and accessing trees;

(c) site preparation for regeneration of a timber stand;

(d) reforestation; and

(e) management of logging slash.

36.11.312 DEFINITIONS

Wherever used in this subchapter, unless a different meaning clearly appears from the context:

(1) "Alternative practices" means forest practices conducted in the SMZ that are different from the practices required by the standards provided in 77-5-303, MCA, and are approved by the department either by adoption of this subchapter or on a site-specific basis upon application of the operator.

(2) "Broadcast burning" means spreading fire through a continuous fuel cover. The fuels consist of slash resulting from forest practices, surface litter, and duff. Fuels are left in place, fairly uniform, and ignited under certain conditions with the intent to meet planned management objectives in the desired area.

(3) "Class 1 stream segment" means a portion of stream that supports fish; or a portion of stream that normally has surface flow during six months of the year or more; and that contributes surface flow to another stream, lake, or other body of water.

(4) "Class 2 stream segment" means a portion of stream that is not a class 1 or class 3 stream segment. Two common examples of class 2 stream segments are:

(a) a portion of stream which does not support fish; normally has surface flow during less than six months of the year; and contributes surface flow to another stream, lake, or other body of water; or

(b) a portion of stream that does not support fish; normally has surface flow during six months of the year or more; and does not contribute surface flow to another stream, lake, or other body of water.

(5) "Class 3 stream segment" means a portion of a stream that does not support fish; normally has surface flow during less than six months of the year; and rarely contributes surface flow to another stream, lake, or other body of water.

(6) "Clearcutting" means removal of all or virtually all the trees, large and small, in a stand in one cutting operation. Virtually all woody vegetation is removed from the site preparatory to establishment of new trees.

(7) "Construction" means cutting and filling of earthen material that results in a travel-way for wheeled vehicles.

(8) "Department," as defined at 77-5-302(2), MCA, means "the Department of Natural Resources and Conservation provided for in 2-15-3301, MCA

(9) "Diameter at breast height" (abbreviated "dbh") means the diameter of a tree measured 4 1/2 feet from the ground level. Ground level is the highest point of

the ground touching the stem.
(10) "Eastern zone" means the counties of Big Horn, Blaine, Carter, Chouteau, Custer, Daniels, Dawson, Fallon, Fergus, Garfield, Golden Valley, Hill, Liberty, McCone, Musselshell, Petroleum, Phillips, Powder River, Prairie, Richland, Roosevelt, Rosebud, Sheridan, Toole, Treasure, Valley, Wibaux, and Yellowstone.
(11) "Established road" means an existing access or haul route for highway vehicles that is passable under one or more of the following circumstances:
(a) without any work;
(b) with clearing of windfall or small woody vegetation;
(c) with surface blading;
(d) with replacement of stream crossing structures and drainage structures that were removed to restrict access; or
(e) with removal of constructed access barriers.
(12) "Hazardous or toxic material" means substances which by their nature are dangerous to handle or dispose of, or are a potential environmental contaminant, and includes petroleum products, pesticides, herbicides, chemicals, and biological wastes.
(13) "Lake" means a body of water where the surface water is retained by either natural or artificial means, where the natural flow of water is substantially impeded, and which supports fish.
(14) "Landing" means a cleared area in the forest to which trees or logs are yarded or skidded for processing or loading onto trucks for transport.
(15) "Major," as used in the damage table in **ARM 36.11.313**, means that the action disturbs the integrity of the SMZ and significantly diminishes two or more of the SMZ functions listed in 77-5-301(1)(a) through (f), MCA.
(16) "Minor," as used in the damage table in **ARM 36.11.313**, means that the action disturbs the integrity of the SMZ but does not significantly diminish more than one of the SMZ functions listed in 77-5-301(1)(a) through (f), MCA.
(17) "Operator," as defined at 77-5-302(4), MCA, means "a person responsible for conducting forest practices. An operator may be the owner or a person who, through contractual agreement with the owner, is obligated to or entitled to conduct forest practices or carry out a timber sale."
(18) "Ordinary high water mark" means the stage regularly reached by a body of water at the peak of fluctuation in its water level. The ordinary high water mark is generally observable as a clear, natural line impressed on the bank. It may be indicated by such characteristics as terracing, changes in soil characteristics, destruction of vegetation, presence or absence of litter or debris, or other similar characteristics.
(19) "Other body of water" means ponds and reservoirs greater than 1/10 acre that do not support fish; and irrigation and drainage systems discharging directly into a stream, lake, pond, reservoir, or other surface water. Water bodies used solely for treating, transporting, or impounding pollutants shall not be considered surface water.
(20) "Owner," as defined at 77-5-302(5), MCA, means "an individual, firm, partnership, corporation, or association of any nature that holds an ownership interest in forest land or timber."
(21) "Prolonged," as used in the damage table in **ARM 36.11.313**, means that

the impacts to the functions of the SMZ or water quality will last longer than one growing season (generally more than one to two years)
(22) "Road" means a travel-way suitable for highway vehicles.
(23) "Salvage" means harvesting trees that have been killed or damaged or are in imminent danger of being killed or damaged by injurious agents other than competition between trees.
(24) "Sidecasting" means the act of moving excess earthen material over the side of a road during road maintenance operations.
(25) "Slash" means the woody debris that is dropped to the forest floor during forest practices. Timber slash consists of stems, branches, and twigs left behind after forest practices.
(26) "Slope distance" means the length of a line between two points on the land surface.
(27) "Stream," as defined at 77-5-302(7), MCA, means "a natural watercourse of perceptible extent that has a generally sandy or rocky bottom or definite banks and that confines and conducts continuously or intermittently flowing water."
(28) "Streamside management zone" or "zone" (abbreviated "SMZ"), as defined at 77-5-302(8), MCA, means "the stream, lake, or other body of water and an adjacent area of varying width where management practices that might affect wildlife habitat or water quality, fish, or other aquatic resources need to be modified. The streamside management zone encompasses a strip at least 50 feet wide on each side of a stream, lake, or other body of water, measured from the ordinary high-water mark, and extends beyond the high-water mark to include wetlands and areas that provide additional protection in zones with steep slopes or erosive soils."
(29) "Temporary," as used in the damage table in **ARM 36.11.313**, means that the impacts to the functions of the SMZ or water quality will be negligible following one full growing season (generally less than one to two years).
(30) "Timber sale," as defined at 77-5-302(9), MCA, means "a series of forest practices designed to access, harvest, or regenerate trees on a defined land area for commercial purposes."
(31) "Wetlands" means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include marshes, swamps, bogs, and similar areas.

36.11.313 PENALTIES
(1) Each violation of Title 77, chapter 5, part 3, MCA, rules adopted thereunder, or of an order issued pursuant to 77-5-305, MCA, is subject to a separate civil penalty not to exceed $1,000, with each day of the violation constituting a separate violation.
(2) Upon determining that a violation may have occurred, the department will, prior to issuing a formal warning or repair-order, make a reasonable attempt to contact, by telephone, letter, electronic mail, or other means, the owner and operator.

(a) If the department is not successful in making contact with the owner and/or with the operator, it will proceed in the appropriate manner, including but not limited to, the issuance of a formal warning, repair-order, and/or assessment of a civil penalty.

(b) If the department determines that a violation does not warrant a civil penalty, as calculated in (5), it may seek voluntary compliance and site rehabilitation through warning, conference, or other appropriate means.

(3) For purposes of assessing penalties, the department shall divide SMZs into 100 lineal-foot segments. Each violation of a forest-practices standard set forth in 77-5-303(1), MCA, that occurs in a separate 100 lineal-foot SMZ segment shall constitute a separate violation and shall be subject to a separate civil penalty.

(4) The penalty matrix set forth in this rule establishes the initial penalty value for each violation. The significance of the violation, whether significant harm resulted to health, environment, water quality and quantity, aquatic and terrestrial riparian habitats, stream channels and banks, may decrease or increase a penalty within the limits listed below. The department shall have the option to select the most appropriate penalty and penalty value for each and every violation of the SMZ law, 77-5-301 through 77-5-307, MCA.

(5) SMZ violations that warrant a civil penalty and site rehabilitation shall be documented on a repair-order form prescribed by the department. For each separate violation, the department shall specify in the repair-order the nature of the violation and the damage or unsatisfactory condition resulting from the violation, shall specify the appropriate repair action, and shall, in order to implement the management standards provided in 77-5-303, MCA, and to provide specific direction necessary for owners and operators to understand and comply with the management standards, specify the amount of civil penalty per violation, according to the following formula: Penalty Formula = [($100 x Repair) + ($100 x Damage)] x # days of violation, where the repair and damage variables are determined as follows:

(a) Repair – Determined by whether the repair actions are completed by the deadline specified in the department's repair order, with one of the following values inserted into the Penalty Formula as the repair variable:

0 - Responsible party exceeds required repair actions.
2 - Responsible party meets required repair actions.
4 - Responsible party fails to complete repair actions.

(b) Damage – Determined by the extent of watershed damage, duration of impact, and stream class involved, as shown in the following damage table, with one of the following values inserted into the Penalty Formula:

Degree and Duration of Watershed Damage	Class 3 Stream	Class 2 Stream	Class 1 Stream
Minor and Temporary	1	2	3
Minor and Prolonged	2	3	4
Major and Temporary	2	3	4
Major and Prolonged	4	5	6

BEST MANAGEMENT PRACTICES FOR FORESTRY IN MONTANA
January 2006

I. DEFINITIONS

1."Hazardous or toxic material" means substances which by their nature are dangerous to handle or dispose of, or a potential environmental contaminant, and includes petroleum products, pesticides, herbicides, chemicals, and biological wastes.
2."Stream," as defined in 77-5-302(7), MCA, means a natural water course of perceptible extent that has a generally sandy or rocky bottom or definite banks and that confines and conducts continuously or intermittently flowing water.
3."Streamside Management Zone (SMZ)" or "zone" as defined at 77-5-302(8), MCA means "the stream, lake, or other body of water and an adjacent area of varying width where management practices that might affect wildlife habitat or water quality, fish, or other aquatic resources need to be modified." The streamside management zone encompasses a strip at least 50 feet wide on each side of a stream, lake, or other body of water, measured from the ordinary high water mark, and extends beyond the high water mark to include wetlands and areas that provide additional protection in zones with steep slopes or erosive soils.
4. "Wetlands" mean those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include marshes, swamps, bogs, and similar areas.
5. Adjacent wetlands are wetlands within or adjoining the SMZ boundary. They are regulated under the SMZ law.
6. Isolated wetlands lie within the area of operation, outside of the SMZ boundary, and are not regulated under the SMZ law

II. STREAMSIDE MANAGEMENT

The Streamside Management Law (77-5-301 through 307 MCA) provides minimum regulatory standards for forest practices in streamside management zones (SMZ). The "Montana Guide to the Streamside Management Zone & Rules" is an excellent information source describing management opportunities and limitations within SMZs.

III. ROADS

A. Planning and Location

1. Minimize the number of roads constructed in a watershed through comprehensive road planning, recognizing intermingled ownership and foreseeable future uses. Use existing roads, unless use of such roads would cause or aggravate an erosion problem.
2. Review available information and consult with professionals as necessary to help identify erodible soils and unstable areas, and to locate appropriate road surface materials.*
3. Fit the road to the topography by locating roads on natural benches and following natural contours. Avoid long, steep road grades and narrow canyons.

4. Locate roads on stable geology, including well-drained soils and rock formations that tend to dip into the slope. Avoid slumps and slide-prone areas characterized by steep slopes, highly weathered bedrock, clay beds, concave slopes, hummocky topography, and rock layers that dip parallel to the slope. Avoid wet areas, including moisture-laden or unstable toe slopes, seeps, wetlands, wet meadows, and natural drainage channels.
5. Minimize the number of stream crossings and choose stable stream crossing sites.
6. Locate roads to provide access to suitable (relatively flat and well-drained) log landing areas to reduce soil disturbance.*

B. Design

1. Properly design roads and drainage facilities to prevent potential water quality problems from road construction.*
2. Design roads to the minimum standard necessary to accommodate anticipated use and equipment. The need for higher engineering standards can be alleviated through proper road-use management.
3. Design roads to balance cuts and fills or use full bench construction (no fill slope) where stable fill construction is not possible.*
4. Design roads to minimize disruption of natural drainage patterns. Vary road grades to reduce concentrated flow in road drainage ditches, culverts, and on fill slopes and road surfaces.

C. Road Drainage

Road Drainage is defined as all applied mechanisms for managing water in a non-stream crossing setting, road surface drainage, and overland flow; ditch relief, cross drains and drain dips)

1. Provide adequate drainage from the surface of all permanent and temporary roads. Use outsloped, insloped or crowned roads, and install proper drainage features. Space road drainage features so peak flow on road surfaces or in ditches will not exceed capacity.

    a. Outsloped roads provide a means of dispersing water in a low-energy flow from the road surface. Outsloped roads are appropriate when fill slopes are stable, drainage will not flow directly into stream channels, and transportation safety can be met.

    b. For in-sloped roads, plan ditch gradients steep enough, generally greater than 2% but less than 8%, to prevent sediment deposition and ditch erosion. The steeper gradients may be suitable for more stable soils; use the lower gradients for less stable soils.

    c. Design and install road surface drainage features at adequate spacing to control erosion; steeper gradients require more frequent drainage features. Properly constructed drain dips can be an economical method of road surface drainage. Construct drain dips deep enough into the subgrade so that traffic will not obliterate them.

2. Design all ephemeral draw culverts with adequate length to allow for road fill width. Minimum culvert size is 15 inch. Install culverts to prevent erosion of fill, seepage and failure as described in V.C.4 and maintain cover for culverts as described in V.C.6.

3. Design all relief culverts with adequate length to allow for road fill width. Protect the inflow end of all relief culverts from plugging and armor if in erodible soil. When necessary construct catch basins with stable side slopes. Unless water flows from two directions, skew ditch relief culverts 20 to 30 degrees toward the inflow from the ditch to help maintain proper function.
4. Where possible, install culverts at the gradient of the original ground slope; otherwise, armor outlets with rock or anchor downspouts to carry water safely across the fill slope.
5. Provide energy dissipaters (rock piles, slash, log chunks, etc.) where necessary to reduce erosion at outlet of drainage features. Crossdrains, culverts, water bars, dips, and other drainage structures should not discharge onto erodible soils or fill slopes without outfall protection.
6. Prevent downslope movement of sediment by using sediment catch basins, drop inlets, changes in road grade, headwalls, or recessed cut slopes.*
7. Route road drainage through adequate filtration zones or other sediment-settling structures to ensure sediment doesn't reach surface water. Install road drainage features above stream crossings to route discharge into filtration zones before entering a stream.

D. Construction (see also Section IV on stream crossings)
1. Keep slope stabilization, erosion and sediment control work current with road construction. Install drainage features as part of the construction process, ensuring that drainage structures are fully functional. Complete or stabilize road sections within same operating season.*
2. Stabilize erodible, exposed soils by seeding, compacting, riprapping, benching, mulching, or other suitable means.
3. At the toe of potentially erodible fill slopes, particularly near stream channels, pile slash in a row parallel to the road to trap sediment (example, slash filter windrow). When done concurrently with road construction, this is one method that can effectively control sediment movement, and it can also provide an economical way of disposing of roadway slash. Limit the height, width and length of "slash filter windrows" so wildlife movement is not impeded. Sediment fabric fences or other methods may be used if effective.
4. Minimize earthmoving activities when soils appear excessively wet. Do not disturb roadside vegetation more than necessary to maintain slope stability and to serve traffic needs.*
5. Construct cut and fill slopes at stable angles to prevent sloughing and other subsequent erosion.
6. Avoid incorporating potentially unstable woody debris in the fill portion of the road prism. Where possible, leave existing rooted trees or shrubs at the toe of the fill slope to stabilize the fill.
7. Consider road surfacing to minimize erosion.*
8. Place debris, overburden, and other waste materials associated with construction and maintenance activities in a location to avoid entry into streams. Include these waste areas in soil stabilization planning for the road.
9. Minimize sediment production from borrow pits and gravel sources through proper location, development and reclamation.

10. When using existing roads, reconstruct only to the extent necessary to provide adequate drainage and safety; avoid disturbing stable road surfaces. Prior to reconstruction of existing roads within the SMZ, refer to the SMZ law. Consider abandoning existing roads when their use would aggravate erosion.

E. Maintenance

1. Grade road surfaces only as often as necessary to maintain a stable running surface and adequate surface drainage.
2. Maintain erosion control features through periodic inspection and maintenance, including cleaning dips and crossdrains, repairing ditches, marking culvert inlets to aid in location, and clearing debris from culverts.
3. Avoid cutting the toe of cut slopes when grading roads, pulling ditches, or plowing snow.
4. When plowing snow, provide breaks in snow berm to allow road drainage.*
5. Haul all excess material removed by maintenance operations to safe disposal sites and stabilize these sites to prevent erosion. Avoid sidecasting in locations where erosion will carry materials into a stream.*
6. Avoid using roads during wet periods if such use would likely damage the road drainage features. Consider gates, barricades or signs to limit use of roads during spring break up or other wet periods.
7. Upon completion of seasonal operations, ensure that drainage features are fully functional. The road surface should be crowned, outsloped, insloped, or water-barred. Remove berms from the outside edge where runoff is channeled.*
8. Leave abandoned roads in a condition that provides adequate drainage without further maintenance. Close these roads to traffic; reseed and/or scarify; and, if necessary, recontour and provide water bars or drain dips.

IV. TIMBER HARVESTING, AND SITE PREPARATION

A. Harvest Design

1. Plan timber harvest in consideration of your management objectives and the following*:
    a. Soils and erosion hazard identification.
    b. Rainfall.
    c. Topography.
    d. Silvicultural objectives.
    e. Critical components (aspect, water courses, landform, etc.).
    f. Habitat types.
    g. Potential effects on water quality and beneficial water uses.
    h. Watershed condition and cumulative effects of multiple timber management activities on water yield and sediment production.
    i. Wildlife habitat.
2. Use the logging system that best fits the topography, soil type, and season, while minimizing soil disturbance and economically accomplishing silvicultural objectives.
3. Use the economically feasible yarding system that will minimize road densities.*
4. Design and locate skid trails and skidding operations to minimize soil disturbance. Using designated skid trails is one means of limiting site disturbance

and soil compaction. Consider the potential for erosion and possible alternative yarding systems prior to planning tractor skidding on steep or unstable slopes.*
5. Locate skid trails to avoid concentrating runoff and provide breaks in grade. Locate skid trails and landings away from natural drainage systems and divert runoff to stable areas. Limit the grade of constructed skid trails on geologically unstable, saturated, highly erosive, or easily compacted soils to a maximum of 30%. Use mitigating measures, such as water bars and grass seeding, to reduce erosion on skid trails.
6. Minimize the size and number of landings to accommodate safe, economical operation. Avoid locating landings that require skidding across drainage bottoms.

B. Other Harvesting Activities

1. Tractor skid where compaction, displacement, and erosion will be minimized. Avoid tractor or wheeled skidding on unstable, wet, or easily compacted soils and on slopes that exceed 40% unless operation can be conducted without causing excessive erosion. Avoid skidding with the blade lowered. Suspend leading ends of logs during skidding whenever possible.
2. Avoid operation of wheeled or tracked equipment within isolated wetlands, except when the ground is frozen (see Section VI on winter logging).
3. Use directional felling or alternative skidding systems for harvest operations in isolated wetlands.*
4. For each landing, provide and maintain a drainage system to control the dispersal of water and to prevent sediment from entering streams.
5. Ensure adequate drainage on skid trails to prevent erosion. On gentle slopes with slight disturbance, a light ground cover of slash, mulch or seed may be sufficient. Appropriate spacing between water bars is dependent on the soil type and slope of the skid trails. Timely implementation is important.
6. When existing vegetation is inadequate to prevent accelerated erosion, apply seed or construct water bars before the next growing season on skid trails, landings and fire trails. A light ground cover of slash or mulch will retard erosion.*

C. Slash Treatment and Site Preparation

1. Rapid reforestation of harvested areas is encouraged to reestablish protective vegetation.*
2. When treating slash, care should be taken to preserve the surface soil horizon by using appropriate techniques and equipment. Avoid use of dozers with angle blades.
3. Minimize or eliminate elongated exposure of soils up and down the slope during mechanical scarification.*
4. Scarify the soil only to the extent necessary to meet the resource management objectives. Some slash and small brush should be left to slow surface runoff, return soil nutrients, and provide shade for seedlings.
5. Carry out brush piling and scarification when soils are frozen or dry enough to minimize compaction and displacement.
6. Carry out scarification on steep slopes in a manner that minimizes erosion. Broadcast burning and/or herbicide application is preferred means for site preparation, especially on slopes greater than 40%.

7. Remove all logging machinery debris to proper disposal site.*
8. Limit water quality impacts of prescribed fire by constructing water bars in firelines; not placing slash in drainage features and avoiding intense fires unless needed to meet silvicultural goals. Avoid slash piles in the SMZ when using existing roads for landings.

V. STREAM CROSSINGS

A. Legal Requirements

1. Under the Natural Streambed and Land Preservation Act of 1975 (the "310 law"), any activity that would result in physical alteration or modification of a perennial stream, its bed or immediate banks must be approved in advance by the supervisors of the local conservation district. Permanent or temporary stream crossing structures, fords, riprapping or other bank stabilization measures, and culvert installations on perennial streams are some of the forestry-related projects subject to 310 permits.

Before beginning such a project, the operator must submit a permit application to the conservation district indicating the location, description, and project plans. The evaluation generally includes on-site review, and the permitting process may take up to 60 days.

2. Stream-crossing projects initiated by federal, state or local agencies are subject to approval under the "124 permit" process (administered by the Department of Fish, Wildlife and Parks), rather than the 310 permit.
3. A short-term exemption (3a authorization) from water quality standards is necessary unless waived by the Department of Fish, Wildlife and Parks as a condition of a 310 or 124 permit. Contact the Department of Environmental Quality in Helena at 444-2406 for additional information.

B. Design Considerations (Note: 310 permit required for perennial streams)

1. Cross streams at right angles to the main channel if practical. Adjust the road grade to avoid the concentration of road drainage to stream crossings. Direct drainage flows away from the stream crossing site or into an adequate filter.
2. Avoid unimproved stream crossings. Depending on location, culverts, bridges and stable/reinforced fords may be used.

C. Installation of Stream Crossings (Note: 310 permit required for perennial streams)

1. Minimize stream channel disturbances and related sediment problems during construction of road and installation of stream crossing structures. Do not place erodible material into stream channels. Remove stockpiled material from high water zones. Locate temporary construction bypass roads in locations where the stream course will have minimal disturbance. Time construction activities to protect fisheries and water quality.
2. Design stream-crossings for adequate passage of fish (if present) with minimum impact on water quality. When using culverts to cross small streams, install those culverts to conform to the natural stream bed and slope on all perennial streams and on intermittent streams that support fish or that provides seasonal fish

passage. Ensure fish movement is not impeded. Place culverts slightly below normal stream grade to avoid outfall barriers.
3 Do not alter stream channels upstream from culverts, unless necessary to protect fill or to prevent culvert blockage. On stream crossings, design for, at a minimum, the 25-year frequency runoff. Consider oversized pipe when debris loading may pose problems. Ensure sizing provides adequate length to allow for depth of road fill.
4. Install stream-crossing culverts to prevent erosion of fill. Compact the fill material to prevent seepage and failure. Armor the inlet and/or outlet with rock or other suitable material where feasible.
5. Consider dewatering stream crossing sites during culvert installation.*
6. Maintain a 1-foot minimum cover for stream-crossing culverts 15 to 36 inches in diameter, and a cover of one-third diameter for larger culverts, to prevent crushing by traffic.
7. Use culverts with a minimum diameter of 15 inches for permanent stream crossings.*

D. Existing Stream Crossing

1. Ensure stream crossing culverts have adequate length to allow for road fill width and are maintained to preserve their hydrologic capacity. To prevent erosion of fill, provide or maintain armoring at inlet and/or outlet with rock or other suitable material where feasible. Maintain fill over culvert as described in V.C. 6.

VI. Winter Logging

A. General

1. Consider snow-road construction and winter harvesting in isolated wetlands and other areas with high water tables or soil erosion and compaction hazards.*
2. Conduct winter logging operations when the ground is frozen or snow cover is adequate (generally more than one foot) to prevent rutting or displacement of soil. Be prepared to suspend operations if conditions change rapidly, and when the erosion hazard becomes high.*
3. Consult with operators experienced in winter logging techniques.*

B. Road Construction and Harvesting Considerations

1. For road systems across areas of poor bearing capacity, consider hauling only during frozen periods. During cold weather, plow any snow cover off of the roadway to facilitate deep freezing of the road grade prior to hauling.*
2. Before logging, mark existing culvert locations. During and after logging, make sure that all culverts and ditches are open and functional.*
3. Use compacted snow for road beds in unroaded, wet or sensitive sites. Construct snow roads for single-entry harvests or for temporary roads.*
4. In wet, unfrozen soil areas, use tractors or skidders to compact the snow for skid road locations only when adequate snow depth exists. Avoid steeper areas where frozen skid trails may be subject to erosion the next spring.*
5. Return the following summer and build erosion barriers on any trails that are steep enough to erode.*

VII. HAZARDOUS SUBSTANCES

A. General

1. Know and comply with regulations governing the storage, handling, application (including licensing of applicators), and disposal of hazardous substances. Follow all label instructions.
2. Develop a contingency plan for hazardous substance spills, including cleanup procedures and notification of the State Department of Environmental Quality.*

B. Pesticides and Herbicides

1. Use an integrated approach to weed and pest control, including manual, biological, mechanical, preventive and chemical means.*
2. To enhance effectiveness and prevent transport into streams, apply chemicals during appropriate weather conditions (generally calm and dry) and during the optimum time for control of the target pest or weed.*

*BMPs Not Monitored During Audits