

APPENDIX B

Research and Technical Data Needs



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RESEARCH AND TECHNICAL DATA NEEDS

RECREATION

Research Needs

1. Establish recreation carrying capacity in relation to an expected quality of experience to improve management direction. Develop separate information for developed, dispersed, and wilderness recreation.
2. Analyze present physical condition and management of the Wildernesses in relation to direction and policy intent at the time of their establishment.
3. Conduct research on the economic and social values of recreation, tourism, and visual resources.

Technical Needs

1. Evaluate the present condition of ROS class areas in relation to compatible class characteristics.
2. Refine ROS mapping to more closely reflect on-the-ground recreation settings.

RANGE

Research Needs

1. Establish relationship of grazing to riparian area maintenance.
2. Determine technical feasibility of type conversion of chaparral using fire, seeding, and grazing, only.

Technical Needs

1. Through range utilization studies, establish utilization guidelines for the perennial grasslands of the forest.
2. Determine if conflicts exist between cattle grazing and plantation management.
3. Determine amount of area compacted by wet season grazing.

HERITAGE RESOURCES

Technical Needs

1. Refine survey strategies through statistically valid testing of heritage resource density/sensitivity models to increase efficiency of inventories.
2. Sample or excavate different site types to build a framework for site appraisal.

WILDLIFE AND FISH

Research Needs

1. Determine northern spotted owl habitat utilization and movement patterns using techniques such as radio-telemetry.
2. Evaluate the effects of old growth habitat fragmentation on wildlife.
3. Refine and validate habitat capability models for management indicator species (MIS) on the forest.
4. Determine summer steelhead movements using radio-telemetry.
5. Investigate the possibility of moving summer steelhead into other streams.

Technical Needs

1. Conduct field inventory of goshawk, northern spotted owl, marten, and fisher habitat within habitat networks to validate suitability and occupancy.
2. Monitor peregrine falcon nest site and tule elk populations to determine habitat needs, population viability, and use patterns.
3. Refine location of key winter and summer deer habitats and locate and map major migration corridors.
4. Monitor summer steelhead adult and juvenile numbers each summer.
5. Continue sensitive plant location surveys for reported but unverified populations.

SOIL AND WATER

Research Needs

1. Continue research on cumulative watershed effects (CWE) and evaluate equivalent roaded acre coefficients used in predicting CWE.
2. Evaluate effects of soil loss and soil compaction on-site productivity.
3. Evaluate economic feasibility of timber harvest designed for increased water yield.
4. Continue research on the effects of logging and road construction on sediment delivery, runoff, and water quality.

Technical Needs

1. Continue to inventory watershed conditions, and update the watershed improvement needs inventory (WIN).
2. Inventory and map riparian areas and their conditions.
3. Inventory and analyze the physical, chemical, and biological water quality of high priority streams and lakes.

4. Continue the study of interrelationships between management activities in the Pillsbury Basin, water quality, and sedimentation in Lake Pillsbury.
5. Complete coordinated, updated soil mapping and soils report for all Counties as a Forest unit.

GEOLOGY

Research Needs

1. Establish standardized methodology, valid for all rock/soil types, quantifying the degree of landslide risk due to various management activities.
2. Continue research on the effects of timber harvesting, road construction, prescribed burning, and other management activities on landslide potential.

Technical Needs

1. Field verify the photo interpreted land instability risk mapping for the Forest.

TIMBER

Research Needs

1. Continue research on the value and role of cost-effective fertilization techniques to increase growth in forest plantations and stands.

Technical Needs

1. Acquire additional information on improved growth and yields obtained from managed plantations.
2. Develop ecosystem classification information for the hardwood/conifer complex (C2X, C4X).
3. Develop a list of suitable herbicides for site preparation, release, and stand maintenance.
4. Computerize resource data base applicable to project level planning, documentation of silvicultural prescriptions, treatment needs, and record keeping.

FIRE

Research Needs

1. Continue research on the use of chaparral as a biomass fuel.

Technical Needs

1. Evaluate the effects of past fire exclusion policy on Wilderness ecosystems.
2. Evaluate and compare the effectiveness of natural revegetation and broadcast seeding following wildfire, for erosion control and soil stabilization.