

Attachment T

**Examples of Resources and Resource Information
that Should be Addressed in an RMP**

Attachment T

Following are the resources or environmental factors that should be addressed in the Resource Management Plan (RMP) and a description of the information that could be collected for each. The resources and environmental factors are not listed in any order of importance or placement. The amount of information collected will depend on available funding and the magnitude of the issues identified during preliminary scoping and during the public involvement and planning process. Typically, an entire chapter in the main body of the RMP is dedicated to resource inventory information.

Land Use and Management.—Existing land management is one of the more important aspects of an RMP. Therefore, it is important to identify current land management practices and activities. This includes all contractual agreements with entities, associations and interrelationships with others, and jurisdictional associations established by local, State, or Federal laws. A map showing the different locations of existing land uses may be used to supplement this component. (Refer to the Special Use Permits map in **attachment S** for an example.) The following information could be collected and addressed in the RMP:

- **Government.**—All local, county, State, Tribal/National, and Federal entities and services that are involved in the management area. Included are the following functions:
 - Fire services – Identification of agencies that have responsibility for wildland fire management and structural fire suppression.
 - Wildland Fire – The RMP will establish the framework for developing a Fire Management Plan prepared in accordance with the Federal Wildland Fire Management Policy (available at the National Fire Plan Web site [<http://www.fireplan.gov>]). The RMP should document the potential for wildland fires and fire hazards, evaluate the role of fire in the ecosystem, and provide the information necessary for developing a Fire Management Plan.
 - Law enforcement – Legal authorities of law enforcement officials and the extent to which local, State, and Federal laws, including hunting laws, can be enforced on Bureau of Reclamation (Reclamation) lands in the management area.
 - Roads/utilities – Use agreements, permits, rights-of-way, and any operation and maintenance (O&M) agreements with local, State, Tribal/National, and Federal entities.
 - Emergency response – How different entities respond to emergency situations within the management area should be outlined in an agreement(s) and described in the RMP.

- Hazardous waste – The current sources of hazardous wastes, handling practices, and responsible entities should be listed. Local, State, Tribal/National, and Federal regulations pertaining to the identified hazardous wastes should be documented.
 - Solid waste collection and disposal – An area of concern because it can often impact operating budgets and public safety. Approved disposal areas may be many miles away from the management area, resulting in illegal dumping on or off site. Hazardous waste disposal from sources within the management area needs to be addressed and properly handled. The collection of solid waste can become a wildlife concern if not properly addressed; for example, bears and rodents in search of food often seek out trash containers and can come in close contact with recreation users.
 - Transportation and parking – Transportation and parking are important for the operation of the Reclamation Project (Project) and identifying levels of public use in the management area. The adequacy of roads, parking facilities, and boat launch ramp(s) should be addressed for the management area. Main roads should be evaluated for current traffic, condition, and capacity. The major access roads to the management area should be evaluated for current traffic, condition, and capacity. Within the management area, recreation roads need to be evaluated for condition and capacity. Designated or unauthorized off-highway vehicle roads/trails within the management area should be identified along with current use and condition. All trails, such as handicapped accessible, foot traffic, bike, horse, and all-terrain vehicle, need to be identified and assessed.
- Communication Systems and Information Management.—Telephone, radio, cellular, and emergency systems. Television, radio, newspapers, digital (internet), visitor centers, and kiosks that distribute information to the public and among entities.
 - Land and Land Use.—Adjacent landowner status, planning, or zoning classifications (available in County Recorders Offices) and other State, Federal, or Tribal/National management plans adjacent to the management area (available by contacting other adjacent landowners). Information related to the following function items could be provided:
 - Recreation – Local, State, Federal, and private entities providing recreation management within the management area should be identified; local, State, Tribal/National, and Federal laws and regulations relating to recreation, hunting, fishing, and boating should be discussed.
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- Conservation of natural resources – Memoranda of Agreements with other government agencies, Indian Tribes/Nations, and conservation groups for the conservation, restoration, and enhancement of natural resources should be discussed in the RMP (e.g., wetlands, migratory bird habitat, and others).
 - Range resources – Any grazing practices within the management area, the animal-unit-months currently being permitted, and the status and management of range vegetation should be discussed.
 - Prime farm ground, timber, and rangelands – These items should be accurately mapped and described. All land use agreements, including licenses, leases, and permits, should be documented. Lands should also be evaluated to determine if they are needed for Project purposes and disposed of, if necessary.
 - Property boundaries – A map should be prepared that clearly identifies fee title and withdrawn lands, easements and rights-of-way, and other special title lands in the management area, as well as the exterior boundary and its accuracy according to legal property descriptions. The condition of boundary fencing and signs should also be noted.
 - Utility and service corridors and distribution – These should be mapped, and the appropriate license, lease, or permit should be documented along with any monitoring requirements and termination dates.
 - Adjacent land uses – Land uses change over time and need to be updated; however, an accurate document showing current surrounding land uses by landowners and the current zoning of lands from county records helps identify potential conflicts.
- Project-Related
- O&M – All contracts for O&M of facilities on Reclamation lands in the management area with local, State, Tribal/National, and Federal entities, concessions, and contractors.
 - Project features – These, as well as existing and previously authorized access roads, trails, and highways, should be mapped.

Climate.—This information should address the temperature ranges (high and low) and average temperature for the management area, amount and season of precipitation,

relative humidity, prevailing winds, solar aspect (latitude), and unique microclimates. This information may be obtained from a State Climate Center or the National Weather Service.

Noise.—Regulations and enforcement of noise pollution for the management area should be identified. Information is generally available from the State and the Environmental Protection Agency (EPA). Established noise levels for the management area should be documented or referenced.

Air Quality.—Regulations and enforcement of air quality standards for the management area should be identified through information generally available from State Air Quality Offices and the EPA.

Geology.—This information should include the identification and description of the major geological units found within and immediately adjacent to the management area, including the characteristics, origin, and development of the land forms. Unique features should be identified for future interpretation. Rock fall and landslide areas and other geologic conditions that could be a public health and safety concern should be identified. Locatable, leasable, and saleable minerals and energy resources should be identified, including sand and gravel sources, mineral ore deposits, and oil and natural gas reserves. An appropriate map showing the general geology of the management area should be provided. (Refer to the General Geology map in **attachment S** for an example.)

Soils and Topography.—This information should include the identification of the different types of soils within the management area. Soils productivity for native vegetation or crops, capability of soils for foundations and drainfields, and the potential erodibility of soils should be described. A soil association map¹ should be provided. Soils within a soil association share a common landscape position and type of parent material and, thus, a common management capability. For this reason, a soil association map is useful as a general guide for managing a watershed or wildlife area and in planning engineering structures, recreational facilities, and community development. Soil survey information is generally available from the Natural Resources Conservation Service (formerly the Soil Conservation Service). Information pertaining to the topography (slope) of the management area should

¹ A soil association is a landscape that has a distinctive proportional pattern of soils. Each association normally consists of one or more major soils and at least one minor soil and is named for the major soil(s). Any particular soil may be found in more than one soil association. Because soils within an association may differ in slope, depth, stoniness, drainage, and other characteristics that affect their management, a soil association map is not well suited for site-specific planning.

also be provided and a map included in the RMP document. (Refer to the Soils Association and Slope Classification maps in **attachment S** for examples of the two maps.)

Socioeconomics.—This section addresses the characteristics of the population in the management area in the following categories:

- Economic factors – These address the economy of the area and can be obtained from the State offices managing economic information. The area economy can be addressed by reviewing the following categories.
 - Employment/unemployment – Generally expressed in percent of unemployment. Represents the relative economic condition of the areas surrounding the management area.
 - Wages and income – Expressed in average hourly or annual income. This category identifies the relative wealth of the management area.
 - Housing – Identifies total housing units and their status. This includes vacancy rate (seasonal, recreational); the percentage of single detached homes, mobile homes, and multiple housing units; median house value; and median rent.
 - Revenue base – Identifies major sources of income and revenues for the management area, including agriculture, mining, construction, industry (manufacturing, transportation, communications, utilities), government, and trades and services.
 - Income sources, amounts, and distribution – This is similar to revenues, but deals more specifically with major income sources for individuals in the management unit and on the way(s) in which impacts to these income sources could impact individual incomes.
 - Government revenues – Identify how State and local governments receive their revenues, generally through property, income, sales, luxury and other taxes, Federal payments in-lieu of taxes, and special-use fees and licensing.
 - Tourism industry – Includes the total visitation to a management area and to its region (other visitor attractions) and spending information about travelers as it impacts the local economy and employment.
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- Social factors – Encompass factors that deal with human beings and their living together in the following components:
 - Population dynamics – Size, composition, distribution/density, mobility, and displacement of the population.
 - Social institutions – Educational, family, economic, political, military, religious, and recreation/leisure.
 - Special concerns – Minority/civil rights, environmental justice, and historic/archaeological/cultural.
 - Ways of life – Subculture variation, leisure and cultural opportunities, subsistence hunting and fishing, personal security, stability and change, basic values, cohesion and conflict, community identity, health, and safety.
 - Land tenure and land use – Information about the history of land ownership in the area and historic and emerging land uses.
 - Legal considerations – Federal laws, rules, and regulations that address the management area and State and local laws that impact the management area.

Water Resources.—This includes a broad range of information relating to the quantity, distribution, and storage of water and its interrelationship with other natural resource requirements. A water surface map showing the normal, average, and historic minimum water surface elevations could be used to supplement this component. Following is a partial list of hydrological information that may be collected and considered in an RMP:

- Historic water operations and supply – From documented use, or as identified in a definite plan report for the Project.
 - Streamflow regimes – The local and regional historical operation of the rivers and streams for flood control, irrigation, wildlife, and other purposes.
 - Flood plains – All the areas around the reservoir and at locations where tributaries enter reservoirs. Also include low areas that are occasionally inundated by changes in stream/riverflows and reservoir elevations.
 - Water rights and authorized uses associated with the Project water supply should be briefly discussed.
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- Groundwater recharge areas – Slow-moving river areas in gravel alluviums, around reservoirs, or along tributaries that recharge underground aquifers. They should be noted and protected from pollutants.
- Surface water – Reservoirs, rivers, streams, and intermittent streams. It is important to identify these sources of water in the management area and to avoid any water quality or pollution impacts.
- Water classification – A listing of State or EPA classification (recreational, agricultural, domestic use source, and others) of the waters within the management area and any water quality standards associated with the classification.

Water Quality.—Information on this environmental factor should include the documentation of existing and known future efforts to protect water quality within the management area. Following is a partial list of water quality information that may be collected and considered in an RMP:

- External nutrient loading – Sources from outside the management area could be identified.
- Lead shot – Problems which might exist from the accumulation of lead from hunting upland bird and waterfowl species in shallow waters. (*Note:* The trend is toward the use of nontoxic shot on federally managed lands.)
- Selenium and dissolved oxygen – Levels should be determined, corrected (if possible), and monitored.
- Turbidity – Particulate matter that could be in the reservoir as a result of erosion or underwater disturbance of sediments by wave action, and in streams (particularly during high spring runoff or after major storms).
- Water quality – The standard parameters of total dissolved solids, chemicals, organic material, and other contaminants in the water; identify trends and current status.

Recreation and Visual Resources.—These two resources tie directly to visitation in the management area and are related. Often, the reason the visitation occurs is because of the attractiveness of the natural landscape, water, or developed facilities. A map showing the developed recreation areas can be used to supplement the narrative writeup on this

resource. (Refer to the Developed Recreation Areas map in **attachment S** for an example.) To address these areas of the RMP, the following information could be collected and considered:

Recreation Resources.—

- Recreation facilities and resources – The major draws to the management area, which will include the most impacted areas and resources. Management decisions affecting these will have the greatest socioeconomic impacts. These should include an accurate and current listing or accounting of the existing recreation facilities in the management area and should include recreation use by activity.
 - Educational and interpretive opportunities – Important areas that offer opportunities to provide information about the area, safety practices, laws and regulations in force (such a leash laws), services, and others. This information can be distributed from entry stations, kiosks, and/or visitor centers, and via the internet.
 - Historical visitation and visitor profile – Past use and trends that provide information to document impacts to other resources and provide a basis for projecting future use and impacts. Information about the users (which is important to know when evaluating impacts in the management area), including demographics, spending, and characteristics of the users.
 - Carrying capacity – Statistical information identifying the total number of people at one time that the management area can accommodate while meeting all health and safety requirements. This is useful in identifying impacts that can occur when these limits are exceeded.
 - Issues and improvements – A broad category that addresses problems such as lack of management, inadequate facilities, user conflicts, resource damage, and others for a particular management area. Also included are plans, programs, facility improvements, and enforcement.
 - Information provided by recreation opportunity spectrum (ROS) – System developed by the U.S. Forest Service (FS) and the Bureau of Land Management (BLM) for evaluating lands and resources to establish appropriate levels of recreation activities within an identified area:
 - ROS class attractiveness looks at the variety rating and activity opportunities that are available.
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- ROS class delineation addresses the physical setting, social setting, and managerial settings for future recreation activities.
- Watercraft use and safety – Data on type and numbers of watercraft are valuable to establish use levels, identify potential or existing use conflicts, and evaluate and set capacities on waters in the management area. Boating laws, rules and regulations, and practices such as zoning of the water should be documented along with any special promotional activities, such as information pamphlets or on-site training sessions that enhance public safety.
- Wilderness resources – These generally tie to larger tracts of land owned by other Federal partners. Where these wilderness areas abut the lands in the management area they should be identified, and the appropriate level of use and range of activities should be compatible with the wilderness classification.
- Outfitters and guides – The number and types of outfitters and guides should be identified.
- Shooting ranges – Shooting ranges should be identified.
- Wild and Scenic Rivers – These rivers and their specific management and boundaries should be clearly identified in the RMP. Also, it is important to identify rivers that are in the process of being classified as wild and scenic and to address their recommended management.
- Winter recreation – Winter recreation activities, such as cross-country skiing, ice fishing, and ice boating, are often overlooked. Existing opportunities should be identified, and enhancing these opportunities should be addressed.

Visual Resources.—An often overlooked but important resource for the visiting public. The FS and BLM have developed systems to identify the characteristic landscape, absorptive capability², cultural modifications, distance zones, variety classes, sensitivity levels, and visual integrity for the setting. Inventory of the visual resources should be accomplished to address such things as scenic byways or scenic rivers or other unique features.

² A detailed classification system used to denote relative ability of a landscape to accept human alterations without the loss of character of scenic quality.

Cultural Resources.—This information should include data about past human practices, environmental and social adaptations, opportunities for interpretive public education, and information about at-risk resources that should be avoided and protected. Cultural resources are prehistoric or historic archaeological sites or districts, buildings, structures, objects, or traditional cultural properties that may or may not be eligible for, or listed on, the *National Register of Historic Places*; cultural resources include artifacts, records, and material remains related to such a property or resource. Inventories of cultural resources that document the location and character of the resources and assist in the determination of areas of high and low potential for these resources to exist should be completed.

Vegetation.—Documenting and mapping the full range of vegetation in the management area is important to identify compatible uses and to evaluate impacts since vegetation is often a key indicator of change. Vegetation data collected may include noxious weeds; exotic organisms (e.g., Russian thistle and Siberian ibex); threatened and endangered plant species and wetland areas; and habitat/vegetation types (i.e., grassland, upland shrub, riparian, forest, including a diversity of tree species; rangeland, including conditions and trends; other major vegetation types; research natural areas [RNAs] that have major significance and potential; unique ecosystems [other than RNAs]; and areas that have a great diversity of plant communities). A map showing the variety of vegetative types should be included in the RMP document. (Refer to the Vegetation Groups map in **attachment S** for an example.)

Fish and Wildlife.—A habitat map for wildlife is a valuable tool for an RMP, along with information on wildlife populations, big game species, other mammals, raptors, reptiles, amphibians, water birds, upland game birds, migratory birds, other avifauna, and threatened, endangered, and candidate animal species. The ability to document the diversity of animal communities and delineate habitats needing special protection, and to manage for animal damage control and insects and diseases, will improve the quality and sustainability of the management area. This is often accomplished in a separate wildlife management plan that addresses biodiversity. This component also should address the current status and condition of the aquatic habitat, various species of fish and their populations, any nuisance aquatic species, and any threatened, endangered, and State-sensitive fish species. This information should be available from State fish and game departments and/or the U.S. Fish and Wildlife Service. A map showing wildlife habitat of different species could be used to supplement this component. (Refer to the Wildlife map in **attachment S** for an example.)

Indian/Nations Trust Assets.—Legal interests in assets held in trust by the Federal Government for Indian Tribes or individual Indians should be identified. Examples of

things that may be Indian Trust Assets are lands, minerals, hunting and fishing rights, and water rights. Coordination efforts with Native American Tribes/Nations in the area should be documented.

Paleontological Resources.—Any remains, traces, or imprints of organisms, preserved in or on the Earth's crust, which are of paleontological interest, should be identified as part of the planning process but not necessarily identified in the RMP document. If these resources are not to be interpreted as part of an overall interpretive program or not easily protected, they should not be documented for public use. Inventories of paleontological resources that document the location and character of the resources and assist in the determination of areas of high and low potential for these resources to exist should be completed.