

2.0 Background

This section provides background information for the designated 800 acre Rock Creek Reserve, except where specified otherwise.

2.1 SETTING AND FACILITIES

More information about the existing facilities and future of the facilities for the Site can be found in the 1998 Natural Resources Management Policy and the 2006 Closure Project Baseline.

2.1.1 Location

Rock Creek Reserve is located on the northern edge of the Rocky Flats alluvial mesa (Fig 1). Near the line separating Boulder and Jefferson counties, the reserve is approximately two to three miles east of the foothills and on the far, western edge of the Great Plains. Rock Creek Reserve is bounded on the north by State Road 128, on the west by private land, other buffer zone area, and the DOE National Wind Technology Center. State Road 93 is in close proximity to the western boundary. The south and east portions of the Reserve are bordered by other portions of Rocky Flats and Indiana Street.

On a larger scale, Rock Creek Reserve is located in Jefferson County, Colorado (with 39 acres in Boulder County), 16 miles northwest of downtown Denver. Adjacent to the foothills of the Rocky Mountains, the Rock Creek Reserve is part of the 6266-acre Rocky Flats Environmental Technology Site, in close proximity to the large and rapidly growing Denver metropolitan area. Several million people now live within a 50-mile radius of the Site. Population growth is expected to continue along existing trends. Considerable development is now occurring in the vicinity of Rocky Flats.

Rock Creek/Rocky Flats is west of Interstate 25 and north of Interstate 70, the major north-south and east-west connectors across Colorado. Roads near the Site include State Highway 93 to the west, State Highway 128 to the north, Indiana Street on the east, and State Highway 72 to the south. No roads exist along the immediate southern and western boundary, and no public access roads traverse the Site. The Site is about 45 miles from Denver International Airport and about five miles from the Jefferson County Airport, which serves private and some commercial aircraft.

2.1.2 Rock Creek Reserve Acquisition and Acreage

Rock Creek Reserve was created in 1999 through a designation by Secretary of Energy Bill Richardson , and enactment of a cooperative agreement between DOE and the Service for management of Rock Creek Reserve's ecologically important resources. Approximately 800 acres of the northern Buffer Zone was designated as Rock Creek Reserve. One of the proposed actions is the expansion of the reserve to approximately 1700 acres. This alternative is discussed in Section 4.7.3.1.

Most of the Rock Creek Reserve was part of several livestock ranches (the Lindsay Ranch and other agricultural ownerships) before the property was purchased by DOE in 1974 through 1976.

2.1.3. Mineral Rights

When the federal government bought the lands comprising Rocky Flats, the purchases did not include additional mineral rights. A mining permit, called the Bluestone Permit, was granted by the Colorado Division of Mining and Geology, and a zoning variance was passed by the Jefferson County Commissioners in 1995 that included part to the Rock Creek Reserve. The portion of the Bluestone permit lying within Rock Creek Reserve is located in the northwest, and includes approximately 250 acres, of which about 20 acres are permitted for mining and about 230 acres of the permitted area are designated as non-mining buffer. Mining operations have not yet begun in this area.

2.1.4. Rock Creek Reserve Neighbors

Cities and Open Lands:

Rock Creek Reserve is located near the cities of Arvada, Louisville, Westminster, Broomfield, Superior, and Boulder, as well as unincorporated portions of Jefferson and Boulder Counties (Fig. 1). Land around the Site primarily consists of ranchland, preserved open space, mining areas, and low-density residential areas and businesses. However, this rural pattern is beginning to change due to spreading development.

The towns of Superior and Broomfield have already experienced extensive development northeast of the Site. There is potential for similar development south of the Site within Vauxmont, an approved 18,000-acre industrial, office, commercial and residential community. State-owned lands southwest of the Site are used for grazing, mining, and potential environmental purposes. Along Highway 93, an area of land approximately 1,200 feet wide adjacent to the Site's western boundary is zoned industrial for eventual development. The National Wind Technology Center is located immediately adjacent to the northwest corner of the Reserve.

Preserved open space is the primary existing and proposed use of the lands north, west and east of the Site. The City of Boulder recently purchased the Van Fleet and Jewel Mountain properties west of Highway 93. On the west boundary, Rocky Flats is separated from the open space land by private land and the NWTC.

There are two reservoirs just downstream and east of the Site. Standley Lake serves as the drinking water supply for the Cities of Westminster, Northglenn and Thornton. To protect water quality at Standley Lake, a reservoir was constructed downstream on Woman Creek, just off-site, but upstream of Standley Lake. Great Western Reservoir previously served as a drinking water supply for the City of Broomfield. A diversion ditch routes water leaving the Site via Walnut Creek around Great Western Reservoir. Rocky Flats Lake (Smart Reservoir) is located on land adjacent to the southwest corner of the Site. It is generally believed by Site hydrologists, that Antelope Springs flows are partially a result of leakage from Rocky Flats Lake.

Rocky Flats Environmental Technology Site:

1. Industrial Area

Encompassing approximately 400 acres, the Industrial Area is located in the center of Rocky Flats. The Industrial Area has more than 400 structures including manufacturing, chemical processing, laboratory and support facilities. The acreage of the Industrial Area includes the Protected Area.

2. Protected Area

Also located in the center of the Site, the Protected Area consists of 96 acres in the northern portion of the Industrial Area. The Protected Area contains the complex of former plutonium production or support buildings. This area is subject to stringent security requirements and other protection measures.

3. Buffer Zone

Rock Creek Reserve is located in the Rock Creek drainage area of the 5,870-acre Buffer Zone. The Buffer Zone surrounds the industrial area and protects it from potential encroachment by development. The Buffer Zone helps maintain distance to off-site residents in the case of accidental releases of hazardous or radioactive materials. Largely retained as open space, the Buffer Zone contains very few facilities, except for support facilities such as retention ponds, monitoring stations, sanitary landfills and dirt roads used for access and fire breaks. The entire Buffer Zone is fenced and access is regulated at the east and west entry gates.

The 280-acre DOE National Renewable Energy Laboratory (NREL), National Wind Technology Center is located in the northwest corner of the Buffer Zone, immediately adjacent to Rock Creek Reserve, on lands transferred from DOE/Rocky Flats Field Office custodianship to DOE/NREL.

2.1.5 Facilities

Rock Creek Reserve is located on a mostly unimproved area of Rocky Flats.

Structures

The Lindsay Ranch house, barn, some fencing, and an old manmade stock watering pond exist on the site. These structures have not been in use and are in various stages of disrepair. In the proposed boundary expansion, a landfill with small support building, constructed in the mid 1990s and never put into use, is located on the south boundary of the Rock Creek Reserve.

Easements

Rock Creek Reserve has outstanding easements for a U.S. West fiber optic line, a Coors Energy gas pipeline and Public Service has gas line and high voltage transmission line easements. The Upper Church and McKay ditches also flow through a portion of Rock Creek Reserve in the proposed boundary expansion.

Transportation System

Rock Creek Reserve is currently accessed primarily through the Site's west gate along State Highway 93, which is in close proximity to the western part of the reserve. Several unpaved access roads traverse the reserve.

Water

Rock Creek Reserve depends entirely on groundwater seeps, springs and surface water runoff to feed the streams. Local surface water is generated as storm runoff, snowmelt and discharge from springs into the stream channel of Rock Creek.

Currently, there is no water rights ownership within Rock Creek Reserve. Water rights are held both upstream (groundwater) and downstream (groundwater and surface water) of Rock Creek Reserve.

Storm Water Drainage System

Storm water on Rock Creek Reserve is not collected or treated. Storm water flows via over-ground flow through natural drainages and streams, washes, etc., to deposit in river drainages.

2.1.6 Projected Changes in Facilities

There are no projected changes in DOE facilities within the Rock Creek Reserve over the course of the 5-year period for which this Plan is intended. The change in facilities (including removal) for the remainder of Rocky Flats is described in the 2006 Closure Project Baseline.

2.1.7 Type and Extent of Contamination on Rock Creek Reserve

Characteristic of this part of Colorado, Rock Creek Reserve has low levels of radionuclides due to naturally occurring uranium in the Colorado Rocky Mountains and due to fallout from past atmospheric testing of nuclear weapons (fallout radionuclides). A 1995 report entitled "Geochemical Characterization of Background Surface Soils" (Executive Summary at Appendix 3), confirms the validity of the Rock Creek area as background for naturally occurring radionuclides. This report provides information on the background levels for naturally occurring metals and radionuclides and supporting parameters, as well as for fallout radionuclides. A 1999 Colorado Department of Public Health and Environment report "Buffer Zone Contamination Review" identified from aerial photographs several disturbed areas in the Buffer Zone that were considered to have a potential for contamination. These areas included the Lindsay Ranch, possible trenches and slump areas in the Rock Creek Reserve. Subsequent investigations on the ground found no further evidence of contamination at those sites.

Two fires in the industrial area, as well as dispersal from leaking drums stored on the 903 pad, have deposited radionuclides in some portions of the Buffer Zone. In general, most of the Buffer Zone is not contaminated with radionuclides or hazardous wastes. This is especially true of Rock Creek Reserve, which is located both upwind and upgradient of the Industrial Area. The Rock Creek Reserve basin drains the northwest portion of the Buffer Zone. This basin is topographically isolated from the developed areas and receives no water from the Industrial Area (described in Section 2.1.4). After crossing Highway 128, flow continues to the northeast until its confluence with Coal Creek.

2.2 LAND USE AND MANAGEMENT UNITS

2.2.1 Land Use

The acreage in Rock Creek Reserve, along with most of the remaining Buffer Zone surrounding the Industrial Area, has been utilized as a buffer area since it was acquired. The area is relatively undisturbed compared to areas east and northeast of Rocky Flats. Rock Creek Reserve is traversed by maintained dirt or gravel roads. Environmental remediation has disturbed less than 50 acres of the Buffer Zone, none of which has occurred in Rock Creek Reserve. Approximately 700 acres of the Site, with about 250 acres of that total in the Rock Creek Reserve, are under existing mining permits for minerals such as sand, gravel and clay (see Section 2.1.3). Land use on Rock Creek Reserve will not change during the time period this Plan covers.

2.2.2 Management Units

2.2.2.1 Rock Creek Reserve and Proposed Expansion

The established 800-acre Rock Creek Reserve is separated as a management unit for the purposes of this Plan because of the increased cooperative management with the Service in this particular area. The Service currently cooperates with Rocky Flats as a reviewer and in a consultation capacity when required. Rock Creek Reserve differs from the rest of the Site, however, in that the Service takes on a more proactive role in determining natural resource management priorities, policies and management recommendations. Expansion of Rock Creek Reserve to 1700 acres is proposed (Fig. 2). The Service recommends this expansion to provide a more comprehensive inclusion of the Rock Creek drainage area (watershed), which is approximately 1500 acres. Land management units are generally viewed and treated at a watershed level in contemporary management practices. A portion of the headwaters of the Rock Creek watershed occur off the Site to the west on privately owned land and the NWTC could not be included. Expansion of the boundaries of the Reserve will allow inclusion of all the Rock Creek watershed that exists on RFETS. Use of the term watershed in this plan refers only to the area of the watershed within RFETS and does not include the portion of the watershed off site..

The expansion would not impact any of the general management options listed in Chapter 4 of this Plan. The expansion does not include any known contaminated areas or eligible cultural sites. The expansion would include more of the xeric tallgrass prairie and Preble's meadow jumping mouse protection areas into one, more definable, management unit (watershed) than is currently described.

2.2.2.2 Remaining Buffer Zone

The remainder of the Buffer Zone will continue to be managed as currently outlined in existing management plans, policies and strategies. Many of these plans are updated annually. Buffer Zone drainages (Walnut Creek and Woman Creek) have been altered. No land use changes in the remaining Buffer Zone are anticipated over the course of this Plan.

2.2.2.3 Industrial Area

The Industrial Area, approximately 400 acres in the middle of the Site that comprise the nuclear weapons production plant, is where most of the closure and clean-up activities will occur. The cleanup and closure of the Industrial Area is driven primarily by the Rocky Flats Cleanup Agreement. Land use in the Industrial Area will not change significantly over the course of this Plan, but may change following closure.