

appendix



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defense plutonium or defense plutonium materials to the Savannah River Site during the period beginning on February 1, 2002, and ending on the date on which such plans are submitted to Congress.

(g) **RULE OF CONSTRUCTION.**—Nothing in this section may be construed to prohibit or limit the Secretary from shipping defense plutonium or defense plutonium materials to sites other than the Savannah River Site during the period referred to in subsection (f) or any other period.

(h) **ANNUAL REPORT ON FUNDING FOR FISSILE MATERIALS DISPOSITION ACTIVITIES.**—The Secretary shall include with the budget justification materials submitted to Congress in support of the Department of Energy budget for each fiscal year (as submitted with the budget of the President under section 1105(a) of title 31, United States Code) a report setting forth the extent to which amounts requested for the Department for such fiscal year for fissile materials disposition activities will enable the Department to meet commitments for the disposition of surplus defense plutonium and defense plutonium materials located at the Savannah River Site, and for any other fissile materials disposition activities, in such fiscal year.

SEC. 3156. MODIFICATION OF DATE OF REPORT OF PANEL TO ASSESS THE RELIABILITY, SAFETY, AND SECURITY OF THE UNITED STATES NUCLEAR STOCKPILE.

Section 3159(d) of the Strom Thurmond National Defense Authorization Act for Fiscal Year 1999 (Public Law 105–261; 42 U.S.C. 2121 note) is amended by striking “of each year, beginning with 1999,” and inserting “of 1999 and 2000, and not later than February 1, 2002,”.

Subtitle F—Rocky Flats National Wildlife Refuge

Rocky Flats
National Wildlife
Refuge Act of
2001.
16 USC 668dd
note.

SEC. 3171. SHORT TITLE.

This subtitle may be cited as the “Rocky Flats National Wildlife Refuge Act of 2001”.

SEC. 3172. FINDINGS AND PURPOSES.

(a) **FINDINGS.**—Congress finds the following:

(1) The Federal Government, through the Atomic Energy Commission, acquired the Rocky Flats site in 1951 and began operations there in 1952. The site remains a Department of Energy facility. Since 1992, the mission of the Rocky Flats site has changed from the production of nuclear weapons components to cleanup and closure in a manner that is safe, environmentally and socially responsible, physically secure, and cost-effective.

(2) The majority of the Rocky Flats site has generally remained undisturbed since its acquisition by the Federal Government.

(3) The State of Colorado is experiencing increasing growth and development, especially in the metropolitan Denver Front Range area in the vicinity of the Rocky Flats site. That growth and development reduces the amount of open space and thereby diminishes for many metropolitan Denver communities the vistas of the striking Front Range mountain backdrop.

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(4) Some areas of the Rocky Flats site contain contamination and will require further response action. The national interest requires that the ongoing cleanup and closure of the entire site be completed safely, effectively, and without unnecessary delay and that the site thereafter be retained by the United States and managed so as to preserve the value of the site for open space and wildlife habitat.

(5) The Rocky Flats site provides habitat for many wildlife species, including a number of threatened and endangered species, and is marked by the presence of rare xeric tallgrass prairie plant communities. Establishing the site as a unit of the National Wildlife Refuge System will promote the preservation and enhancement of those resources for present and future generations.

(b) PURPOSES.—The purposes of this subtitle are—

(1) to provide for the establishment of the Rocky Flats site as a national wildlife refuge following cleanup and closure of the site;

(2) to create a process for public input on the management of the refuge referred to in paragraph (1) before transfer of administrative jurisdiction to the Secretary of the Interior; and

(3) to ensure that the Rocky Flats site is thoroughly and completely cleaned up.

SEC. 3173. DEFINITIONS.

In this subtitle:

(1) CERCLA.—The term “CERCLA” means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9601 et seq.).

(2) CLEANUP AND CLOSURE.—The term “cleanup and closure” means the response actions for covered substances carried out at Rocky Flats, as required by any of the following:

(A) The RFCA.

(B) CERCLA.

(C) RCRA.

(D) The Colorado Hazardous Waste Act, 25-15-101 to 25-15-327, Colorado Revised Statutes.

(3) COVERED SUBSTANCE.—The term “covered substance” means any of the following:

(A) Any hazardous substance, as such term is defined in paragraph (14) of section 101 of CERCLA (42 U.S.C. 9601).

(B) Any pollutant or contaminant, as such term is defined in paragraph (33) of such section 101.

(C) Any petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of paragraph (14) of such section 101.

(4) RCRA.—The term “RCRA” means the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.), popularly known as the Resource Conservation and Recovery Act.

(5) REFUGE.—The term “refuge” means the Rocky Flats National Wildlife Refuge established under section 3177.

(6) RESPONSE ACTION.—The term “response action” means any of the following:

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(A) AVAILABILITY OF LAND.—On submission of an application meeting each of the conditions specified in paragraph (2), the Secretary, in consultation with the Secretary of the Interior, shall make available land along the eastern boundary of Rocky Flats for the sole purpose of transportation improvements along Indiana Street.

(B) BOUNDARIES.—Land made available under this paragraph may not extend more than 300 feet from the west edge of the Indiana Street right-of-way, as that right-of-way exists as of the date of the enactment of this Act.

(C) EASEMENT OR SALE.—Land may be made available under this paragraph by easement or sale to one or more appropriate entities.

(D) COMPLIANCE WITH APPLICABLE LAW.—Any action under this paragraph shall be taken in compliance with applicable law.

(2) CONDITIONS.—An application referred to in paragraph (1) meets the conditions specified in this paragraph if the application—

(A) is submitted by any county, city, or other political subdivision of the State of Colorado; and

(B) includes documentation demonstrating that the transportation improvements for which the land is to be made available—

(i) are carried out so as to minimize adverse effects on the management of Rocky Flats as a wildlife refuge; and

(ii) are included in the regional transportation plan of the metropolitan planning organization designated for the Denver metropolitan area under section 5303 of title 49, United States Code.

(f) WIND TECHNOLOGY EXPANSION AREA.—The Secretary shall retain, for the use of the National Renewable Energy Laboratory, the approximately 25 acres identified on the map referred to in section 3173(8)(A) as the “Wind Technology Expansion Area”.

SEC. 3175. TRANSFER OF MANAGEMENT RESPONSIBILITIES AND JURISDICTION OVER ROCKY FLATS.

(a) TRANSFER REQUIRED.—

(1) IN GENERAL.—Subject to the other provisions of this section, the Secretary shall transfer administrative jurisdiction over the property that is to comprise the refuge to the Secretary of the Interior.

(2) DATE OF TRANSFER.—The transfer shall be carried out not earlier than the completion certification date, and not later than 30 business days after that date.

(3) COMPLETION CERTIFICATION DATE.—For purposes of paragraph (2), the completion certification date is the date on which the Administrator of the Environmental Protection Agency certifies to the Secretary and to the Secretary of the Interior that cleanup and closure at Rocky Flats has been completed, except for the operation and maintenance associated with response actions, and that all response actions are operating properly and successfully.

(b) MEMORANDUM OF UNDERSTANDING.—

(1) REQUIRED ELEMENTS.—The transfer required by subsection (a) shall be carried out pursuant to a memorandum

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(B) includes documentation demonstrating that the transportation improvements for which the land is to be made available—

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(b) MEMORANDUM OF UNDERSTANDING.—

(1) REQUIRED ELEMENTS.—The transfer required by subsection (a) shall be carried out pursuant to a memorandum

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of understanding between the Secretary and the Secretary of the Interior. The memorandum of understanding shall—

(A) provide for the division of responsibilities between the Secretary and the Secretary of the Interior necessary to carry out such transfer;

(B) address the impacts that any property rights referred to in section 3179(a) may have on the management of the refuge, and provide strategies for resolving or mitigating these impacts;

(C) identify the land the administrative jurisdiction of which is to be transferred to the Secretary of the Interior; and

(D) specify the allocation of the Federal costs incurred at the refuge after the date of such transfer for any site investigations, response actions, and related activities for covered substances.

(2) PUBLICATION OF DRAFT.—Not later than one year after the date of the enactment of this Act, the Secretary and the Secretary of the Interior shall publish in the Federal Register a draft of the memorandum of understanding.

(3) FINALIZATION AND IMPLEMENTATION.—

(A) Not later than 18 months after the date of the enactment of this Act, the Secretary and Secretary of the Interior shall finalize and implement the memorandum of understanding.

(B) In finalizing the memorandum of understanding, the Secretary and Secretary of the Interior shall specifically identify the land the administrative jurisdiction of which is to be transferred to the Secretary of the Interior and provide for a determination of the exact acreage and legal description of such land by a survey mutually satisfactory to the Secretary and the Secretary of the Interior.

(c) TRANSFER OF IMPROVEMENTS.—The transfer required by subsection (a) may include such buildings or other improvements as the Secretary of the Interior has requested in writing for purposes of managing the refuge.

(d) PROPERTY RETAINED FOR RESPONSE ACTIONS.—

(1) IN GENERAL.—The transfer required by subsection (a) shall not include, and the Secretary shall retain jurisdiction, authority, and control over, the following real property and facilities at Rocky Flats:

(A) Any engineered structure, including caps, barrier walls, and monitoring or treatment wells, to be used in carrying out a response action for covered substances.

(B) Any real property or facility to be used for any other purpose relating to a response action or any other action that is required to be carried out by the Secretary at Rocky Flats.

(2) CONSULTATION.—The Secretary shall consult with the Secretary of the Interior, the Administrator of the Environmental Protection Agency, and the Governor of the State of Colorado on the identification of all real property and facilities to be retained under this subsection.

(e) COST.—The transfer required by subsection (a) shall be completed without cost to the Secretary of the Interior.

(f) NO REDUCTION IN FUNDS.—The transfer required by subsection (a), and the memorandum of understanding required by

subsection (b), shall not result in any reduction in funds available to the Secretary for cleanup and closure of Rocky Flats.

SEC. 3176. ADMINISTRATION OF RETAINED PROPERTY; CONTINUATION OF CLEANUP AND CLOSURE.

(a) ADMINISTRATION OF RETAINED PROPERTY.—

(1) IN GENERAL.—In administering the property retained under section 3175(d), the Secretary shall consult with the Secretary of the Interior to minimize any conflict between—

(A) the administration by the Secretary of such property for a purpose relating to a response action; and

(B) the administration by the Secretary of the Interior of land the administrative jurisdiction of which is transferred under section 3175(a).

(2) PRIORITY IN CASE OF CONFLICT.—In the case of any such conflict, the Secretary and the Secretary of the Interior shall ensure that the administration for a purpose relating to a response action, as described in paragraph (1)(A), shall take priority.

(3) ACCESS.—The Secretary of the Interior shall provide to the Secretary such access and cooperation with respect to the refuge as the Secretary requires to carry out operation and maintenance, future response actions, natural resources restoration, or any other obligations.

(b) ONGOING CLEANUP AND CLOSURE.—

(1) IN GENERAL.—The Secretary shall carry out to completion cleanup and closure at Rocky Flats.

(2) CLEANUP LEVELS.—The Secretary shall carry out such cleanup and closure to the levels established for soil, water, and other media, following a thorough review by the parties to the RFCA and the public (including the United States Fish and Wildlife Service and other interested government agencies) of the appropriateness of the interim levels in the RFCA.

(3) NO RESTRICTION ON USE OF NEW TECHNOLOGIES.—Nothing in this subtitle, and no action taken under this subtitle, restricts the Secretary from using at Rocky Flats any new technology that may become available for remediation of contamination.

(c) OPPORTUNITY TO COMMENT.—The Secretary of the Interior shall have the opportunity to comment with respect to any proposed response action as to the impacts, if any, of such proposed response action on the refuge.

(d) RULES OF CONSTRUCTION.—

(1) NO RELIEF FROM OBLIGATIONS UNDER OTHER LAW.—Nothing in this subtitle, and no action taken under this subtitle—

(A) relieves the Secretary, the Administrator of the Environmental Protection Agency, the Secretary of the Interior, or any other person from any obligation or other liability with respect to Rocky Flats under the RFCA or any Federal or State law;

(B) impairs or alters any provision of the RFCA; or

(C) alters any authority of the Administrator of the Environmental Protection Agency under section 120(e) of CERCLA (42 U.S.C. 9620(e)), or any authority of the State of Colorado.

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(2) **CLEANUP LEVELS.**—Nothing in this subtitle shall reduce the level of cleanup and closure at Rocky Flats required under the RFCA or any Federal or State law.

(3) **PAYMENT OF RESPONSE ACTION COSTS.**—Nothing in this subtitle affects the obligation of a Federal department or agency that had or has operations at Rocky Flats resulting in the release or threatened release of a covered substance to pay the costs of response actions carried out to abate the release of, or clean up, the covered substance.

SEC. 3177. ROCKY FLATS NATIONAL WILDLIFE REFUGE.

(a) **IN GENERAL.**—On completion of the transfer required by section 3175(a), and subject to section 3176(a), the Secretary of the Interior shall commence administration of the real property comprising the refuge in accordance with this subtitle.

(b) **ESTABLISHMENT OF REFUGE.**—Not later than 30 days after the transfer required by section 3175(a), the Secretary of the Interior shall establish at Rocky Flats a national wildlife refuge to be known as the Rocky Flats National Wildlife Refuge.

(c) **COMPOSITION.**—The refuge shall be comprised of the property the administrative jurisdiction of which was transferred as required by section 3175(a).

(d) **NOTICE.**—The Secretary of the Interior shall publish in the Federal Register a notice of the establishment of the refuge.

(e) **ADMINISTRATION AND PURPOSES.**—

(1) **IN GENERAL.**—The Secretary of the Interior shall manage the refuge in accordance with applicable law, including this subtitle, the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd et seq.), and the purposes specified in that Act.

(2) **REFUGE PURPOSES.**—The refuge shall be managed for the purposes of—

(A) restoring and preserving native ecosystems;

(B) providing habitat for, and population management of, native plants and migratory and resident wildlife;

(C) conserving threatened and endangered species (including species that are candidates for listing under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)); and

(D) providing opportunities for compatible scientific research.

(3) **MANAGEMENT.**—In managing the refuge, the Secretary of the Interior shall—

(A) ensure that wildlife-dependent recreation and environmental education and interpretation are the priority public uses of the refuge; and

(B) comply with all response actions.

SEC. 3178. COMPREHENSIVE PLANNING PROCESS.

(a) **IN GENERAL.**—Not later than 180 days after the date of the enactment of this Act, in developing a comprehensive conservation plan for the refuge in accordance with section 4(e) of the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd(e)), the Secretary of the Interior shall establish a comprehensive planning process that involves the public and local communities. The Secretary of the Interior shall establish such process in consultation with the Secretary, the members of the Coalition, the Governor of the State of Colorado, and the Federal Deadline.

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and State of Colorado officials who have been designated as trustees for Rocky Flats under section 107(f)(2) of CERCLA (42 U.S.C. 9607(f)(2)).

(b) OTHER PARTICIPANTS.—In addition to the entities specified in subsection (a), the comprehensive planning process required by subsection (a) shall include the opportunity for direct involvement of entities that are not members of the Coalition as of the date of the enactment of this Act, including the Rocky Flats Citizens' Advisory Board and the cities of Thornton, Northglenn, Golden, Louisville, and Lafayette, Colorado.

(c) DISSOLUTION OF COALITION.—If the Coalition dissolves, or if any Coalition member elects to leave the Coalition during the comprehensive planning process required by subsection (a)—

(1) such comprehensive planning process shall continue; and

(2) an opportunity shall be provided to each entity that is a member of the Coalition as of September 1, 2000, for direct involvement in such comprehensive planning process.

(d) CONTENTS.—In addition to the requirements of section 4(e) of the National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd(e)), the comprehensive conservation plan referred to in subsection (a) shall address and make recommendations on the following:

(1) The identification of any land referred to in subsection (e) of section 3174 that could be made available under that subsection.

(2) The characteristics and configuration of any perimeter fencing that may be appropriate or compatible for cleanup and closure purposes, refuge purposes, or other purposes.

(3) The feasibility of locating, and the potential location for, a visitor and education center at the refuge.

(4) Any other issues relating to Rocky Flats.

(e) COALITION DEFINED.—In this section, the term "Coalition" means the Rocky Flats Coalition of Local Governments established by the Intergovernmental Agreement, dated February 16, 1999, among—

- (1) the city of Arvada, Colorado;
- (2) the city of Boulder, Colorado;
- (3) the city of Broomfield, Colorado;
- (4) the city of Westminster, Colorado;
- (5) the town of Superior, Colorado;
- (6) Boulder County, Colorado; and
- (7) Jefferson County, Colorado.

Deadline.

(f) REPORT.—Not later than three years after the date of the enactment of this Act, the Secretary of the Interior shall submit to Congress—

(1) the comprehensive conservation plan referred to in subsection (a); and

(2) a report that contains—

(A) an outline of the involvement of the public and local communities in the comprehensive planning process, as required by subsection (a);

(B) to the extent that any input or recommendation from the comprehensive planning process is not accepted, a clear statement of the reasons why such input or recommendation is not accepted; and

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(C) a discussion of the impacts of any property rights referred to in section 3179(a) on management of the refuge, and an identification of strategies for resolving and mitigating these impacts.

SEC. 3179. PROPERTY RIGHTS.

(a) **IN GENERAL.**—Except as provided in subsections (c) and (d), nothing in this subtitle limits any valid, existing property right at Rocky Flats that is owned by any person or entity, including, but not limited to—

- (1) any mineral right;
- (2) any water right or related easement; and
- (3) any facility or right-of-way for a utility.

(b) **ACCESS.**—Except as provided in subsection (c), nothing in this subtitle affects any right of an owner of a property right referred to in subsection (a) to access the owner's property.

(c) **REASONABLE CONDITIONS.**—

(1) **IN GENERAL.**—The Secretary or the Secretary of the Interior may impose such reasonable conditions on access to property rights referred to in subsection (a) as are appropriate for the cleanup and closure of Rocky Flats and for the management of the refuge.

(2) **NO EFFECT ON OTHER LAW.**—Nothing in this subtitle affects any Federal, State, or local law (including any regulation) relating to the use, development, and management of property rights referred to in subsection (a).

(3) **NO EFFECT ON ACCESS RIGHTS.**—Nothing in this subsection precludes the exercise of any access right, in existence on the date of the enactment of this Act, that is necessary to perfect or maintain a water right in existence on that date.

(d) **UTILITY EXTENSION.**—

(1) **IN GENERAL.**—The Secretary or the Secretary of the Interior may allow not more than one extension from an existing utility right-of-way on Rocky Flats, if necessary.

(2) **CONDITIONS.**—An extension under paragraph (1) shall be subject to the conditions specified in subsection (c).

(e) **EASEMENT SURVEYS.**—Subject to subsection (c), until the date that is 180 days after the date of the enactment of this Act, an entity that possesses a decreed water right or prescriptive easement relating to land at Rocky Flats may carry out such surveys at Rocky Flats as the entity determines are necessary to perfect the right or easement.

SEC. 3180. LIABILITIES AND OTHER OBLIGATIONS.

(a) **IN GENERAL.**—Nothing in this subtitle shall relieve, and no action may be taken under this subtitle to relieve, the Secretary, the Secretary of the Interior, or any other person from any liability or other obligation at Rocky Flats under CERCLA, RCRA, or any other Federal or State law.

(b) **COST RECOVERY, CONTRIBUTION, AND OTHER ACTION.**—Nothing in this subtitle is intended to prevent the United States from bringing a cost recovery, contribution, or other action that would otherwise be available under Federal or State law.

SEC. 3181. ROCKY FLATS MUSEUM.

(a) **MUSEUM.**—To commemorate the contribution that Rocky Flats and its worker force provided to winning the Cold War and

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the impact that such contribution has had on the nearby communities and the State of Colorado, the Secretary may establish a Rocky Flats Museum.

(b) LOCATION.—The Rocky Flats Museum shall be located in the city of Arvada, Colorado, unless, after consultation under subsection (c), the Secretary determines otherwise.

(c) CONSULTATION.—The Secretary shall consult with the city of Arvada, other local communities, and the Colorado State Historical Society on—

(1) the development of the museum;

(2) the siting of the museum; and

(3) any other issues relating to the development and construction of the museum.

(d) REPORT.—Not later than three years after the date of the enactment of this Act, the Secretary, in coordination with the city of Arvada, shall submit to Congress a report on the costs associated with the construction of the museum and any other issues relating to the development and construction of the museum.

SEC. 3182. ANNUAL REPORT ON FUNDING.

For each of fiscal years 2003 through 2007, at the time of submission of the budget of the President under section 1105(a) of title 31, United States Code, for such fiscal year, the Secretary and the Secretary of the Interior shall jointly submit to Congress a report on the costs of implementation of this subtitle. The report shall include—

(1) the costs incurred by each Secretary in implementing this subtitle during the preceding fiscal year; and

(2) the funds required by each Secretary to implement this subtitle during the current and subsequent fiscal years.

**TITLE XXXII—DEFENSE NUCLEAR
FACILITIES SAFETY BOARD**

Sec. 3201. Authorization.

SEC. 3201. AUTHORIZATION.

There are authorized to be appropriated for fiscal year 2002, \$18,500,000 for the operation of the Defense Nuclear Facilities Safety Board under chapter 21 of the Atomic Energy Act of 1954 (42 U.S.C. 2286 et seq.).

**TITLE XXXIII—NATIONAL DEFENSE
STOCKPILE**

Sec. 3301. Definitions.

Sec. 3302. Authorized uses of stockpile funds.

Sec. 3303. Authority to dispose of certain materials in National Defense Stockpile.

Sec. 3304. Revision of limitations on required disposals of certain materials in National Defense Stockpile.

Sec. 3305. Acceleration of required disposal of cobalt in National Defense Stockpile.

Sec. 3306. Restriction on disposal of manganese ferro.

50 USC 98d note. **SEC. 3301. DEFINITIONS.**

In this title:

DRAFT**COMPATIBILITY DETERMINATION**

USE:	Hunting
REFUGE NAME:	Rocky Flats National Wildlife Refuge Jefferson and Boulder Counties, Colorado
ESTABLISHING AUTHORITY:	Rocky Flats National Wildlife Refuge Act of 2001 (P.L. 107-107)
REFUGE PURPOSES:	<ol style="list-style-type: none"> 1. Restoring and preserving native ecosystems. 2. Providing habitat for, and population management of, native plants, and migratory and resident wildlife. 3. Conserving threatened and endangered species (including species that are candidates for listing under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)). 4. Providing opportunities for compatible scientific research.
NWRS MISSION: .	.. to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats, of the United States for the benefit of present and future generations of Americans. (16 U.S.C. 668dd(a)(2)).
DESCRIPTION OF USE:	<p>The Refuge will administer a limited big game (mule deer, white-tailed deer, and elk) hunting program for youth and disabled hunters.</p> <p>A maximum of 10 hunter/participants would be allowed per hunt. There will be two (2) hunts per year (one for youth and one for disabled hunters). Each hunt will last for 1 weekend, including a Saturday and Sunday. Hunts will be scheduled during the period October 15 - January 15 annually.</p> <p>Weapons will be limited to: shotguns (20 gauge or larger), firing single projectiles; muzzleloading rifles; and archery (bow and arrow). No centerfire rifles will be allowed. Disabled hunters may be authorized to use centerfire handguns or cross-bow archery tackle, determined on a case-by-case basis, depending on the nature of the hunter's disability.</p> <p>All weapons will meet requirements of the Colorado Division of Wildlife, (CDOW) for the species hunted.</p> <p>The Rocky Flats NWR program will be highly managed. Permits/licenses will be issued by drawing cooperatively administered by the Refuge and Colorado Division of Wildlife. All hunters will be required to check-in prior to hunting and attend a safety/orientation briefing, and check-out at the end of each hunt day.</p> <p>Youth hunters will be required to hunt with a mentor and disabled hunters will be required to have a volunteer to assist them. There will be a minimum ratio of 1 Refuge or CDOW staff present on-site for every 3 hunter participants.</p>

Each hunter will be assigned to a unique hunting zone within the refuge for his/her exclusive use and is restricted to hunting in that zone.

Hunters will be required to present all harvested game for inspection and collection of biological data, including sampling for Chronic Wasting Disease.

Other authorized public uses of the Refuge will be suspended and the refuge will be closed for any non-hunting public use activities on hunt weekends.

Hunt dates, bag limits, hunter quotas, and any adjustments to Refuge Hunt Zones will be determined on an annual basis, in consultation with CDOW.

AVAILABILITY OF
RESOURCES:

It is anticipated that annual planning and execution of the proposed hunting program will require approximately 20 staff-days of work, spread among the Refuge Manager, Biological, Visitor Services and Law Enforcement staff and cost approximately \$5,000 to operate. Refuge OandM resources are expected to be augmented by the services and volunteers and partnership with CDOW and conservation organizations. This is a "pre-acquisition" compatibility determination, prepared to accompany the Comprehensive Conservation Plan (CCP) for the future Rocky Flats NWR. No facility development will be required to operate the proposed hunting program and funds are anticipated to be available for the operation of this program based on the refuge staffing levels and budget proposed in the CCP.

ANTICIPATED IMPACTS:

This limited big game hunting program is anticipated to have minimal potential impacts on refuge wildlife, but potentially significant beneficial impacts on the unique flora of the refuge. The proposed use is a Wildlife-Dependent Recreational Use and a Priority Public Use of the NWRS.

The Rocky Flats site has supported a mule deer herd numbering approximately 160 animals (on 6,240 acres) since at least the late 1990s (Kaiser Hill 2001). Small, but increasing numbers of white-tailed deer also occur on the site. Prior to 2002, elk were known to visit Rocky Flats, but were not considered to be a resident species by DOE (DOE 1997). During the winter of 2002 - 2003, significant numbers of elk were observed regularly on the east side of Hwy 93 adjacent to Rocky Flats and at least 9 cow elk are known to have calved on the site in the summer of 2003.

The future refuge is bordered by public conservation lands to the north and west. Fencing is typical stock fencing that does not impede movement of ungulates. Although there is potential for future commercial development on the west side of the site, it is anticipated that deer, elk and other large mammals will continue to be able to move freely between the refuge and adjacent public lands, and into the Roosevelt National Forest to the west.

The refuge is located in CDOW's Game Management Unit (GMU) No. 38, and adjacent to GMU 29. Those two GMUs make up CDOW's Data Analysis Unit (DAU) D-27 which covers to the Boulder Deer Herd. CDOW has published the Boulder Deer Herd Management Plan (CDOW 2002). DAU D-27 lies at the edge of the endemic area for Chronic Wasting Disease (CWD) in northeast Colorado. The plan focuses keeping the prevalence of CWD in the Boulder Deer Herd at no more than 1% infection rate and the Boulder Deer Herd.

In December 2002, 26 deer were collected at Rocky Flats, by CDOW as part of the state's CWD surveillance program. All animals harvested were negative for CWD. Under the Region 6 CWD Policy, it will be necessary to continue surveillance of the refuge herds for

occurrence and prevalence of CWD. Hunter-harvested deer and elk will provide data for this surveillance requirement and reduce or eliminate the need for refuge staff to take deer for CWD surveillance purposes.

Colorado has the largest elk population of any state or province in North America. The current Colorado elk herd is far above CDOW's objective level, and CDOW has taken aggressive action in recent years to reduce the herd through sport hunting. Increasingly, elk are becoming established in suburban and agricultural areas along the Front Range. Elk in the cities of Evergreen and Estes Park, and a newly established population near Loveland, Colorado are creating numerous depredation issues. In Rocky Mountain National Park, the unharvested elk herd is destroying important riparian habitat.

It will be important to prevent or control the establishment of a resident elk herd on the refuge. Year-round grazing and browsing by elk has the potential to significantly degrade rare plant communities and destroy or reduce the quality of Preble's meadow jumping mouse on the refuge.

Hunting will have a positive impact on habitats by controlling ungulate grazing and browsing pressure on the refuge. Direct impacts of the hunting program will be insignificant because of the timing (during Prebles meadow jumping mouse hibernation and outside the bird nesting season) and small number of participants walking through upland and riparian areas. The program will require no facility development or conversion of habitat areas to administrative use.

PUBLIC REVIEW AND
COMMENT:

This draft Compatibility Determination will be presented for public review and comment in conjunction with the public comment period for the Draft CCP/EIS for the future Rocky Flats NWR in the first quarter of CY 04.

COMPATIBILITY
DETERMINATION:

Using sound professional judgment (603 FW 2.6U, and 2.11A), place an "X" in appropriate space to indicate whether the use would or would not materially interfere with or detract from the NWRS Mission or the Purposes of Rocky Flats NWR.

Use is Not Compatible

Use is Compatible with the Following Stipulations

STIPULATIONS
NECESSARY TO INSURE
COMPATIBILITY:

The use (hunting) will not begin until a step-down hunting plan, ensuring biological integrity, and safety of the program, has been approved under provisions of 8RM5, and the Refuge has been formally opened to hunting through publication of a rule in the Federal Register and inclusion of Rocky Flats among refuges open to big game hunting in 50 CFR 32.7.

JUSTIFICATION:

Hunting is a form of wildlife-dependent recreation and is a priority use of the NWRS. Hunting will help control ungulate populations and distribution on the refuge, with a net benefit to conservation of rare botanical communities and conservation of habitat for the threatened Preble's meadow jumping mouse. Hunting will provide scientific data for surveillance of refuge deer and elk populations for Chronic Wasting Disease.

MANDATORY

RE-EVALUATION DATE: As a priority public use, the Compatibility Determination for this use is subject to mandatory re-evaluation in 15 years, on the Anniversary of final Compatibility Determination in 2019.

NEPA COMPLIANCE: This use is addressed in an Environmental Impact Statement and Record of Decision.

APPROVAL/
CONCURRENCE:

Prepared/Approved:

Refuge Manager:

Signature

Date

Concurrence:

Regional Chief:

Signature

Date

REFERENCES:

Colorado Division of Wildlife. 2002. Boulder Deer Herd Management Plan. Denver, Colorado. 39pp.

Department of Energy. 1997. Rocky Flats Cumulative Impacts Document. Rocky Flats Field Office, Rocky Flats Environmental Technology Site. Golden, Colorado

Kaiser-Hill, LLC. 2001. 2000 Annual Wildlife Survey for Rocky Flats Environmental Technology Site. Golden, Colorado

DRAFT

DRAFT**COMPATIBILITY DETERMINATION**

USE:	Interpretation and Environmental Education
REFUGE NAME:	Rocky Flats National Wildlife Refuge Jefferson and Boulder Counties, Colorado
ESTABLISHING AUTHORITY:	Rocky Flats National Wildlife Refuge Act of 2001 (P.L. 107-107)
REFUGE PURPOSES:	<ol style="list-style-type: none"> 1. Restoring and preserving native ecosystems. 2. Providing habitat for, and population management of, native plants, and migratory and resident wildlife. 3. Conserving threatened and endangered species (including species that are candidates for listing under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)). 4. Providing opportunities for compatible scientific research.
NWRS MISSION: .	.. to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats, of the United States for the benefit of present and future generations of Americans. (16 U.S.C. 668dd(a)(2)).
DESCRIPTION OF USE:	<p><i>Interpretation:</i> This is a priority public use of the National Wildlife Refuge System per the National Wildlife Refuge System Improvement Act of 1997. It is proposed to continue delivery of Interpretation programs to accomplish the goals and objectives of the Refuge as established in the CCP.</p> <p>Interpretation programs and facilities are proposed along designated trails and at the Visitor Contact Station on the west side of the Refuge. Facilities and programs would be mostly passive, consisting of interpretive panels on kiosks at trailhead access points and overlooks along trails. Signage would interpret the native prairie ecosystem, rare plant communities, wetlands, endangered species, invasive weeds, and the social significance and cultural resources of Rocky Flats NWR.</p> <p>Guided tours, led by Service personnel or volunteers, provide a similar but more detailed experience than the self-guided refuge visit. Tours and nature programs will be developed for delivery to the public on a scheduled basis, and by reservation for groups with special interests and needs. Tours will generally be conducted on the established trail system, but when guided by staff, may access all upland portions of the Refuge, depending on visitor interests, and the subject matter of the interpretive program.</p> <p>A variety of interpretive programs may also be delivered off-site.</p> <p><i>Environmental Education:</i> Environmental education at Rocky Flats NWR will emphasize teacher-led programs and be targeted to high school and college level students. No formal outdoor classroom facilities are planned, but the Refuge will provide sites for student</p>

field trips on an "as-arranged" basis. Temporary and impromptu outdoor classrooms will not be established or used in wetland, riparian and other sensitive communities during the growing season, and will be scheduled seasonally to avoid impacts to TandE species. Rocky Flats NWR will become a venue for implementation of environmental education curricula developed at Rocky Mountain Arsenal NWR

AVAILABILITY OF RESOURCES:

It is anticipated that initial development of interpretive facilities designated in the Comprehensive Conservation Plan for Rocky Flats NWR will cost approximately \$76,000. It is also anticipated that appropriated NWRS Operations and Maintenance funds for development of interpretive facilities will be leveraged through partnership arrangements with non-profit organizations and with local units of government and state agencies. Once developed, the annual maintenance costs for interpretive facilities is anticipated to be approximately \$5,000 per year.

No development of specialized facilities is anticipated to facilitate teacher-led environmental education programs at Rocky Flats NWR. It is estimated that development of special curricula and lesson plans for Rocky Flats will require approximately 0.5 FTE of labor and \$30,000 over the course of the first five years following refuge establishment. The required level of staffing and funding to produce those materials is within the current operating budget and staffing pattern of the Rocky Mountain Arsenal NWR Complex.

This is a "pre-acquisition" compatibility determination, prepared to accompany the Comprehensive Conservation Plan (CCP) for the future Rocky Flats NWR. Funds are anticipated to be available for the operation of this program based on the refuge staffing levels and budget proposed in the CCP.

ANTICIPATED IMPACTS:

Development and implementation of interpretive and education programs at Rocky Flats NWR will have minimal and biologically insignificant impacts on refuge resources. Less than 0.25 acres of habitat will need to be disturbed or converted for development of all planned interpretive facilities (not including parking facilities).

Human presence and movement on the Refuge for participation in Interpretive and Environmental Education programs will result in some wildlife disturbance. The level of disturbance will be minimal and will not be additive to disturbances attributed to other public uses such as wildlife observation and trail use.

PUBLIC REVIEW AND COMMENT:

This draft Compatibility Determination will be presented for public review and comment in conjunction with the public comment period for the Draft CCP/EIS for the future Rocky Flats NWR in the first quarter of CY 04.

COMPATIBILITY DETERMINATION:

Using sound professional judgment (603 FW 2.6U., and 2.11A), place an "X" in appropriate space to indicate whether the use would or would not materially interfere with or detract from the NWRS Mission or the Purposes of Rocky Flats NWR.

Use is Not Compatible

Use is Compatible with the Following Stipulations

STIPULATIONS
NECESSARY TO INSURE
COMPATIBILITY:

1. Development and implementation of Interpretation and Environmental Education programs in the first five years following refuge establishment will be limited to one short trail from the Visitor Contact Station on the west side of the Refuge to the Lindsay Ranch site, and one (1) guided interpretive tour per month that will follow existing Department of Energy service roads.

2. A self-study training program will be prepared for use by educators. Teachers will be required to participate in that training, or in Service-sponsored teacher workshops prior to leading teacher-lead environmental education programs on the Refuge. The training will include information on site history, safety, residual contamination, closed areas, endangered species and wetland conservation, and preservation of rare habitats.

JUSTIFICATION:

Interpretation and Environmental Education are forms of wildlife-dependent recreation and are priority public uses of the NWRS. Interpretation and Environmental Education will increase public awareness and appreciation of the significant wildlife and habitat values of Rocky Flats NWR, and the National Wildlife Refuge System. It is anticipated that such appreciation and understanding will foster increased public support for the Refuge System and conservation of America's wildlife resources.

MANDATORY
RE-EVALUATION DATE:

As a priority public use, the Compatibility Determination for this use is subject to mandatory re-evaluation in 15 years, on the Anniversary of final Compatibility Determination in 2019.

NEPA COMPLIANCE:

This use is addressed in an Environmental Impact Statement and Record of Decision.

APPROVAL/
CONCURRENCE:

Prepared/Approved:

Refuge Manager:

Signature

Date

Concurrence:

Regional Chief:

Signature

Date

DRAFT

DRAFT

COMPATIBILITY DETERMINATION

USE: Multi-Use (Equestrian, Bicycle and Foot access) Trails

REFUGE NAME: Rocky Flats National Wildlife Refuge
Jefferson and Boulder Counties, Colorado

ESTABLISHING AUTHORITY: Rocky Flats National Wildlife Refuge Act of 2001 (P.L. 107-107)

REFUGE PURPOSES:

1. Restoring and preserving native ecosystems.
2. Providing habitat for, and population management of, native plants, and migratory and resident wildlife.
3. Conserving threatened and endangered species (including species that are candidates for listing under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)).
4. Providing opportunities for compatible scientific research.

NWRS MISSION: ... to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats, of the United States for the benefit of present and future generations of Americans. (16 U.S.C. 668dd(a)(2)).

DESCRIPTION OF USE: To provide access for compatible wildlife-dependent recreational activities of wildlife observation, wildlife photography and interpretation, a 16-mile system of trails will be developed at Rocky Flats NWR.

In order to provide connectivity with regional trail systems and complement public uses of adjacent public lands (municipal and county Open Space), some portions of the Rocky Flats NWR trail system will accommodate horseback riding and bicycles as modes of transportation for wildlife-dependent recreation.

Within the total anticipated trail system of 16 miles, approximately 3.8 miles of trail will be open to foot traffic only, and portions of those foot trails will be closed seasonally to reduce disturbance of wetland/riparian habitats during the months of May - September when the threatened Preble's meadow jumping mouse is active above ground.

In the northern portion of the Refuge, a multi-use trail approximately 4 miles long will follow the top of the mesa on the southern boundary of the Rock Creek drainage. This trail will connect a parking lot on State Highway 128, with open space parks managed by the City of Boulder, Boulder County, City and County of Broomfield, and Town of Superior with the proposed Visitor Contact Station on the west side of the Refuge and ultimately with regional trails to be located off-refuge in the State Highway 93 corridor west of the refuge. This trail will be open for foot and bicycle traffic only.

In the southern portion of the Refuge, a multi-use trail, approximately 8 miles long will follow portions of the Refuge south boundary, and mesa tops south of the main stem of

Woman Creek, connecting City of Westminster and City of Arvada Open Space with the Visitor Contact Station and eventually with other public lands and regional trails west of Rocky Flats. This southern multi-use trail will be open for equestrian, bicycle and foot traffic.

Most (96%) of the multi-use trails will follow existing gravel and dirt roads constructed prior to refuge establishment. None of the multi-use trails will traverse sensitive riparian habitats, except for the use of one existing crossing of Woman Creek at the west boundary of the Refuge. No habitat disturbance or conversion will be required to the development of multi-use trails.

Multi-use trails connecting the Refuge with adjacent public lands are not anticipated to be open for public use for the first five years following refuge establishment. Initial refuge management will focus on reclaiming and restoring grassland and riparian habitats on existing roads and trails that will not be retained for management or public use purposes.

AVAILABILITY OF
RESOURCES:

It is anticipated that initial development of the multi-use trail system will cost approximately \$83,368 including revegetation to reduce width of existing roads, signage, and in some places, augmentation of existing road surface materials with appropriate aggregate products. Annual maintenance of these trails, once established, is estimated to cost approximately \$8,000 per year. It is anticipated that appropriated funds for trail development and maintenance will be leveraged with volunteer labor and funds developed through partnerships with user groups, local governments and state agencies.

This is a pre-acquisition compatibility determination, prepared to accompany the Comprehensive Conservation Plan (CCP) for the future Rocky Flats NWR. Funds are anticipated to be available for the operation of this program based on the Refuge staffing levels and budget proposed in the CCP.

ANTICIPATED IMPACTS:

Trails occupy space and with an average estimated width of 8 feet, multi-use trails accommodating bicycle and/or equestrian traffic will occupy approximately 12 acres or 0.2% of the land area of the Rocky Flats site. However, since all but 4% of the multi-use trails will be located on existing DOE service roads, no loss of habitat will result from establishment of these trails. (Most of the remaining 4% would be located on non-native grassland that is to be restored to native prairie).

Trails also channelize visitor access to and travel through the Refuge. An authorized system of foot-only and multi-use trails provides access that is highly desired by the public for wildlife-dependent recreation, and makes priority public uses accessible to people with limited mobility. Well-maintained and posted trails reduce demands for general access to sensitive habitat areas. The use of unobtrusive barriers, such as post and cable fencing and signage reminds visitors to remain on trails and reduces trespass into sensitive areas.

Trails provide the only means to provide compatible wildlife observation and photography programs at Rocky Flats NWR. Without trails, the Refuge would need to be closed for those priority public uses to insure an adequate level of protection to sensitive habitats and federally listed T and E species.

Trail use will result in some wildlife disturbance, and the level of disturbance resulting from various modes of transportation (horse, bicycle, foot) will vary depending on the species present and season. Many species of wildlife exhibit less of a reaction to the

presence of moving bicycles than they do to humans on foot. Many species are also more tolerant of equestrians than pedestrians. Because of the relatively small percentage of refuge habitats that are located near trails, the ability of some species to become acclimated to trail use, and the location of planned multi-use trails outside of sensitive habitats, disturbance resulting from trail use is anticipated to be biologically insignificant. It is acknowledged that some species do not acclimate to regular human presence in their habitat and that wildlife-dependent recreation on a multi-use trail system will result in reduced use of some habitat areas by some species.

Horse manure can be a source of weed seeds along equestrian trails. Weed seeds can also be introduced and spread by bicycle and motor vehicle tires and on boots and shoes. Rocky Flats NWR does have significant invasive weed problems, particularly with diffuse knapweed and dalmatian toadflax. It is believed that the principal source of these weeds are disturbed gravel mining areas and other developmental activities on neighboring lands. Horse manure on trails may also present a "mess" issue with some trail users.

Multi-use trails present some safety issues not associated with "foot-only" trails. Horses may be spooked by pedestrians and bicycles and cyclists travelling at higher speeds may present a hazard to pedestrians.

The greatest anticipated impact associated with multi-use trails is the potential for erosion and damage to trail surfaces caused by horses and bicycles. Permitting those modes of transportation is likely to increase maintenance costs and if not managed, could eventually lead to soil loss and reduced surface water quality.

It is noted that equestrian use is authorized in most units of the National Wilderness System, and is deemed appropriate with preservation of wilderness values, and that bicycle use on trails has proven to be a compatible mode of transportation on other urban units of the NWRS, including Minnesota Valley NWR and refuges of the San Diego NWR Complex.

PUBLIC REVIEW & COMMENT:

This draft Compatibility Determination will be presented for public review and comment in conjunction with the public comment period for the Draft CCP/EIS for the future Rocky Flats NWR in the first quarter of CY 04.

COMPATIBILITY DETERMINATION:

Using sound professional judgment (603 FW 2.6U., and 2.11A), place an "X" in appropriate space to indicate whether the use would or would not materially interfere with or detract from the NWRS Mission or the Purposes of Rocky Flats NWR.

Use is Not Compatible

Use is Compatible with the Following Stipulations

STIPULATIONS NECESSARY TO INSURE COMPATIBILITY:

1. Multi-use trails with equestrian and bicycle access are limited to those trail segments designated in the Comprehensive Conservation Plan for Rocky Flats NWR. Development or opening of additional areas for these uses will require additional evaluation under the National Environmental Policy Act, a new Compatibility Determination, and a new Intra-Service Section 7 Consultation.

2. No dogs or other pets will be allowed on any trails or other areas of Rocky Flats NWR.
3. Equestrian use is contingent on development and implementation of volunteer service agreements with equestrian user groups who will agree to pick up and remove horse manure from refuge trails at least twice a month to reduce the potential for horses to become a source of weed seed.
4. Trails will be posted with "yield" signs indicating that pedestrians must yield to equestrian users and bicycles must yield to both equestrians and pedestrians.
5. Trails open to bicycle use will be located on level ground to the maximum extent possible to discourage use by recreational mountain bikers for "thrill riding."

JUSTIFICATION:

Multi-use trails accommodating equestrian and bicycle use are not a form of wildlife dependent recreation. However, they are modes of access and transportation that facilitate public participation in wildlife observation, wildlife photography and interpretation. Within the context of an urban NWR, surrounded on three sides by public lands administered by local units of government, these trails provide needed connectivity among public lands to facilitate the public's appreciation of open space and habitat conservation at the edge of a rapidly urbanizing metropolitan area.

It is noted that equestrian use is authorized in almost all units of the National Wilderness System, and is deemed appropriate with preservation of wilderness values. Bicycle use on trails has proven to be a compatible mode of transportation on other urban units of the NWRS, including Minnesota Valley NWR and refuges of the San Diego NWR Complex that support far more sensitive habitats and far more significant migratory bird and endangered species resources than does Rocky Flats.

MANDATORY

RE-EVALUATION DATE:

As a priority public use, the Compatibility Determination for this use is subject to mandatory re-evaluation in 15 years, on the Anniversary of final Compatibility Determination in 2019.

NEPA COMPLIANCE:

This use is addressed in an Environmental Impact Statement and Record of Decision.

APPROVAL/

CONCURRENCE:

Prepared/Approved:

Refuge Manager:

Signature

Date

Concurrence:

Regional Chief:

Signature

Date

DRAFT

DRAFT**COMPATIBILITY DETERMINATION**

- USE:** Wildlife Observation and Photography, Including Public Use Facility Development to support those uses.
- REFUGE NAME:** Rocky Flats National Wildlife Refuge
Jefferson and Boulder Counties, Colorado
- ESTABLISHING AUTHORITY:** Rocky Flats National Wildlife Refuge Act of 2001 (P.L. 107-107)
- REFUGE PURPOSES:**
1. Restoring and preserving native ecosystems.
 2. Providing habitat for, and population management of, native plants, and migratory and resident wildlife.
 3. Conserving threatened and endangered species (including species that are candidates for listing under the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)).
 4. Providing opportunities for compatible scientific research.
- NWRS MISSION:** ... to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife and plant resources and their habitats, of the United States for the benefit of present and future generations of Americans. (16 U.S.C. 668dd(a)(2)).
- DESCRIPTION OF USE:** Wildlife Observation and Wildlife Photography programs are provided to the general public, during daylight hours, along an established and well delineated system of authorized trails designated in the Comprehensive Conservation Plan for Rocky Flats National Wildlife Refuge. A total of 16.2 miles of trail will be developed and open. Most of the trail system will be open year-round, however trails that enter the Rock Creek drainage and cross sensitive habitats of the Preble's meadow jumping mouse will be closed seasonally during April - October.
- Off-trail access for wildlife observation and photography will also be provided seasonally, on the southern third of the Refuge, during the Preble's hibernation season from October through April, outside the bird nesting season.
- Most areas of the Refuge are closed to general public access due to the sensitivity of habitats. Despite highly restricted access that prohibits visitor traffic in the Refuge's sensitive endangered species habitats, excellent opportunities are available for observing deer, coyotes, raptors, song birds other species from the approved trail system. Opportunities for wildlife observation and photography may also be available in conjunction with staff or volunteer-led interpretive tours and programs.
- The CCP calls for access to public use trails for wildlife observation and photography. The CCP also calls for enhanced programs including the addition of wildlife observation/photography blinds (1), and enhanced overlook facilities for observation and photography (3), a Visitor Contact Station, and trailhead parking areas. The Visitor

Contact Station would be a small (700 - 1000 square foot) building with associated restroom facilities. Parking facilities would include three (3) lots, to accommodate a total of 70 cars and 1 bus. Parking lots would be gravel surfaced, and enclosed with post and beam type fencing. Over 85% of the planned trail system will be located on existing roads. Approximately 1.73 miles of new foot trail will be constructed in the northwest corner of the refuge. Approximately 0.6 miles of existing roads would have to be improved to provide for accessibility for mobility impaired visitors.

AVAILABILITY OF
RESOURCES:

Most of the planned trail system will be located on existing roads, so wildlife observation and photography could be initiated without additional facility development, and with minimum costs for posting and staffing.

Construction of one new trail segment (1.73 miles), overlook facilities, viewing/photography blinds, trailhead parking lots and Visitor Contact Station represent one-time construction costs of approximately \$327,000.

Resources necessary to open and operate wildlife observation and photography programs, using the existing trail system are estimated to be 0.5 FTE and \$40,000 annually. Those resources are available within the existing staffing and budget allocations of the Rocky Mountain Arsenal NWR Complex. They will be well within the resources available under the proposed staffing and O&M budget proposed in the CCP for Rocky Flats NWR.

Resources are not currently available for development of new facilities to support the objective level of wildlife observation and photography programs for Rocky Flats NWR. Once approved, all facilities called for in the CCP will be incorporated in funding packages in the Refuge Operating Needs System (RONS), and will be developed as funds become available over the life of the CCP. Development of additional facilities are not required to open the refuge for limited wildlife observation and photography.

ANTICIPATED IMPACTS:

Continuation of the existing programs for interpretation, wildlife observation and wildlife photography will have a negligible impact on habitats. Development of facilities to support these uses will result in a loss of 1.4 acres of xeric tallgrass prairie and 2.6 acres of mixed grass prairie, mostly for parking lot development. Those acreages represent .09% and .12% of those habitat types at Rocky Flats, respectively. Facility development would result in no loss of upland shrub, riparian, or other wetland habitats.

Some wildlife disturbance will result from these programs. Some birds will be flushed from foraging or resting habitats by the approach of people on trails. However, the area impacted by these disturbances is small compared to the overall habitat area available. Approximately 393 acres of habitat will be within 100 feet on either side of the proposed trail system. That amounts to 6.3% of the total acreage at Rocky Flats. It is also possible that some particularly sensitive bird species will avoid areas adjacent to trails for nesting purposes. However, under the CCP approved trail plan, over 80% of refuge habitats will be greater than 100 yds from any trail.

Off-trail access during the period October - April in the southern portion of the Refuge is provided to give bird watchers and photographers an opportunity for viewing and

photographing wildlife that may not be available on designated trails. This area avoids occupied Preble's habitat and the use will occur during seasons when there will be no impact to ground-nesting birds. Some trampling of vegetation will occur, but most plants will be senescent during those seasons. It is not anticipated that off-trail traffic will be intense enough to create social trails or damage habitat.

Disturbance caused by these uses is not anticipated to cause wildlife to leave or abandon the Refuge, and all areas are available to wildlife for undisturbed use during closed hours. Disturbance resulting from wildlife observation, and photography programs is deemed to be biologically insignificant.

Additionally, the CCP calls for continued closure and restoration of many roads and trails that will exist at the time of refuge establishment. Fencing, other barriers, signs and revegetation efforts will restore many acres and result in a net habitat gain. All stream crossings will be on existing roads, and no new disturbance of riparian habitats will be required for these uses. Numerous existing stream crossings will be restored. Trails that occur in riparian areas in the Rock Creek drainage will be closed seasonally to prevent wildlife observation and photography activities from impacting Preble's during the May - September active period.

The proposed uses, including development of facilities to support those uses will foster public appreciation and understanding of the prairie ecosystem, and the importance of refuge habitats for wildlife conservation. The proposed uses are also priority wildlife-dependent uses of the National Wildlife Refuge System and promote fulfillment of the intent of the National Wildlife Refuge System Improvement Act of 1997.

PUBLIC REVIEW & COMMENT:

This draft Compatibility Determination will be presented for public review and comment in conjunction with the public comment period for the Draft CCP/EIS for the future Rocky Flats NWR in the first quarter of CY 04.

COMPATIBILITY DETERMINATION:

Using sound professional judgment (603 FW 2.6U., and 2.11A), place an "X" in appropriate space to indicate whether the use would or would not materially interfere with or detract from the NWRS Mission or the Purposes of Rocky Flats NWR.

Use is Not Compatible

Use is Compatible with the Following Stipulations

STIPULATIONS NECESSARY TO INSURE COMPATIBILITY:

1. Wildlife observation and photography programs must be conducted in accordance with the Comprehensive Conservation Plan. Any new programs or facilities not prescribed in the CCP must be approved through an additional public planning process, in compliance with NEPA, Section 7 of the Endangered Species Act, and other environmental compliance requirements, prior to implementation.
2. Areas open for off-trail use in the southern third of the Refuge will be closely monitored by refuge staff. If off-trail use exceeds the capacity of the habitat (e.g to a point where trampling results in loss of vegetative cover), the off-trail portion of the program will be curtailed or reduced to preserve habitat integrity.

JUSTIFICATION: Wildlife Observation, and Wildlife Photography are priority wildlife-dependent public uses of the National Wildlife Refuge System. These uses, including existing and future enhanced programs as prescribed in the Comprehensive Conservation Plan for Rocky Flats NWR are compatible with the Refuge's establishment purposes, and with the mission of the National Wildlife Refuge System. These uses are not only justified but are encouraged by the National Wildlife Refuge Improvement Act of 1997. The Rocky Flats NWR Act of 2001 states that wildlife-dependent recreation is a priority public use of Rocky Flats NWR.

MANDATORY RE-EVALUATION DATE: As a priority public use, the Compatibility Determination for this use is subject to mandatory re-evaluation in 15 years, on the Anniversary of final Compatibility Determination in 2019.

NEPA COMPLIANCE: This use is addressed in an Environmental Impact Statement and Record of Decision.

APPROVAL/
CONCURRENCE:

Prepared/Approved:

Refuge Manager:

Signature

Date

Concurrence:

Regional Chief:

Signature

Date

DRAFT

LAWS AND REGULATIONS AFFECTING ROCKY FLATS NWR

Many procedural and substantive requirements of Federal and applicable State and local laws and regulations affect Refuge establishment, management, and development. The following list identifies the key federal laws and policies that were considered during the planning process or that could affect future Refuge management.

AMERICAN INDIAN RELIGIOUS FREEDOM ACT (1978): Directs agencies to consult with native traditional religious leaders to determine appropriate policy changes necessary to protect and preserve Native American religious cultural rights and practices.

AMERICANS WITH DISABILITIES ACT (1992): Prohibits discrimination in public accommodations and services.

ANTIQUITIES ACT (1906): Authorizes the scientific investigation of antiquities on Federal land and provides penalties for unauthorized removal of objects taken or collected without a permit.

ARCHAEOLOGICAL AND HISTORIC PRESERVATION ACT (1974): Directs the preservation of historic and archaeological data in Federal construction projects.

ARCHAEOLOGICAL RESOURCES PROTECTION ACT (1979) AS AMENDED: Protects materials of archaeological interest from unauthorized removal or destruction and requires Federal managers to develop plans and schedules to locate archaeological resources.

ARCHITECTURAL BARRIERS ACT (1968): Requires federally owned, leased, or funded buildings and facilities to be accessible to persons with disabilities.

BALD AND GOLDEN EAGLE PROTECTION ACT (1940): The Act prohibits the taking or possession of and commerce in bald and golden eagles, with limited exceptions.

CLEAN AIR ACT OF 1977, AS AMENDED: The primary objective of this Act is to establish Federal standards for various pollutants from both stationary and mobile sources and to provide for the regulation of polluting emissions via state implementation plants. In addition, and of special interest for National Wildlife Refuges, some amendments are designed to prevent significant deterioration in certain areas where air quality exceeds national standards, and to provide for improved air quality in areas which do not meet Federal standards ("non-attainment" areas). Federal facilities are required to comply with air

quality standards to the same extent as nongovernmental entities (42 U.S.C. 7418).

CLEAN WATER ACT (1977): Requires consultation with the Corps of Engineers (404 permits) for major wetland modifications.

EMERGENCY WETLANDS RESOURCES ACT (1986): The purpose of the Act is "To promote the conservation of migratory waterfowl and to offset or prevent the serious loss of wetlands by the acquisition of wetlands and other essential habitat, and for other purposes."

ENDANGERED SPECIES ACT (1973): Requires all Federal agencies to carry out programs for the conservation of endangered and threatened species.

EXECUTIVE ORDER NO. 11593, PROTECTION AND ENHANCEMENT OF THE CULTURAL ENVIRONMENT (1971): If the Service proposes any development activities that would affect the archaeological or historical sites, the Service will consult with Federal and State Historic Preservation Officers to comply with Section 106 of the National Historic Preservation Act of 1966, as amended.

EXECUTIVE ORDER 11987, EXOTIC ORGANISMS (1977): This Executive Order requires Federal agencies, to the extent permitted by law, to: restrict the introduction of exotic species into the natural ecosystems on lands and waters owned or leased by the United States; encourage States, local governments, and private citizens to prevent the introduction of exotic species into natural ecosystems of the U.S.; restrict the importation and introduction of exotic species into any natural U.S. ecosystems as a result of activities they undertake, fund, or authorize; and restrict the use of Federal funds, programs, or authorities to export native species for introduction into ecosystems outside the U.S. where they do not occur naturally.

EXECUTIVE ORDER 11988, FLOODPLAIN MANAGEMENT (1977): Each Federal agency shall provide leadership and take action to reduce the risk of flood loss and minimize the impact of floods on human safety, and preserve the natural and beneficial values served by the floodplains.

EXECUTIVE ORDER 11990, PROTECTION OF WETLANDS (1977): This order directs all Federal agencies to avoid, if possible, adverse impacts to wetlands and to preserve and enhance the natural and beneficial values of wetlands. Each agency shall avoid undertaking or assisting in wetland construction projects unless the head of the agency determines that there is no practicable alternative to such construction and that the proposed action includes measures to minimize harm. Also, agencies shall provide

opportunity for early public review of proposals for construction in wetlands, including those projects not requiring an EIS.

EXECUTIVE ORDER 12898, ENVIRONMENTAL JUSTICE (1994): This order provides minority and low-income populations an opportunity to comment on the development and design of Reclamation activities. Federal agencies shall make achieving environmental justice part of their missions by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.

EXECUTIVE ORDER 12996 MANAGEMENT AND GENERAL PUBLIC USE OF THE NATIONAL WILDLIFE REFUGE SYSTEM (1996): Defines the mission, purpose, and priority public uses of the National Wildlife Refuge System. It also presents four principles to guide management of the System.

EXECUTIVE ORDER 13007 INDIAN SACRED SITES (1996): Directs Federal land management agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners, avoid adversely affecting the physical integrity of such sacred sites, and where appropriate, maintain the confidentiality of sacred sites.

EXECUTIVE ORDER 13084, CONSULTATION AND COORDINATION WITH INDIAN TRIBAL GOVERNMENTS (1998): The United States has a unique legal relationship with Indian tribal governments as set forth in the Constitution of the United States, treaties, statutes, Executive orders, and court decisions. Since the formation of the Union, the United States has recognized Indian tribes as domestic dependent nations under its protection. In treaties, our Nation has guaranteed the right of Indian tribes to self-government. As domestic dependent nations, Indian tribes exercise inherent sovereign powers over their members and territory. The United States continues to work with Indian tribes on a government-to-government basis to address issues concerning Indian tribal self-government, trust resources, and Indian tribal treaty and other rights.

FEDERAL AID IN WILDLIFE RESTORATION ACT OF SEPTEMBER 2, 1937 (16 U.S.C.669-669i), AS AMENDED: This Act, commonly referred to as the "Pittman-Robertson Act", provides to States for game and non-game wildlife restoration work. Funds from an excise tax on sporting arms and ammunition are appropriated to the Secretary of the Interior annually and apportioned to States on a formula basis for approved land acquisition, research, development and management projects and hunter safety programs.

FEDERAL NOXIOUS WEED ACT (1990): Requires the use of integrated management systems to control or contain undesirable plant species; and an interdisciplinary approach with the cooperation of other Federal and State agencies.

FISH AND WILDLIFE COORDINATION ACT OF MARCH 10, 1934 (16 U.S.C. 661-66c), AS AMENDED: This Act authorizes the Secretary of the Interior to assist Federal, State and other agencies in development, protection, rearing and stocking fish and wildlife on Federal lands, and to study effects of pollution on fish and wildlife. The Act also requires consultation with the Fish and Wildlife Service and the wildlife agency of any State wherein the waters of any stream or other water body are proposed to be impounded, diverted, channelized or otherwise controlled or modified by any Federal agency, or any private agency under Federal permit or license, with a view to preventing loss of, or damage to, wildlife resources in connection with such water resource projects. The Act further authorizes Federal water resource agencies to acquire lands or interests in connection with water use projects specifically for mitigation and enhancement of fish and wildlife.

FISH AND WILDLIFE ACT (1956): Established a comprehensive national fish and wildlife policy and broadened the authority for acquisition and development of refuges.

FISH AND WILDLIFE COORDINATION ACT (1958): Allows the Fish and Wildlife Service to enter into agreements with private landowners for wildlife management purposes.

FOOD SECURITY ACT OF 1985 (TITLE XII, PUBLIC LAW 99-198, 99 STAT. 1354; DECEMBER 23, 1985), AS AMENDED: Authorizes acquisition of easements in real property for a term of not less than 50 years for conservation, recreation, and wildlife purposes.

LAND AND WATER CONSERVATION FUND ACT (1965): Uses the receipts from the sale of surplus Federal land, outer continental shelf oil and gas sales, and other sources for land acquisition under several authorities.

MIGRATORY BIRD CONSERVATION ACT (1929): Establishes procedures for acquisition by purchase, rental, or gift of areas approved by the Migratory Bird Conservation Commission.

MIGRATORY BIRD TREATY ACT (1918): Designates the protection of migratory birds as a Federal responsibility. This Act enables the setting of seasons, and other regulations including the closing of areas, Federal or nonfederal, to the hunting of migratory birds.

NATIONAL ENVIRONMENTAL POLICY ACT (1969): Requires all Federal agencies to examine the impacts upon the environment that their actions might have, to incorporate the best available environmental information, and the use of public participation in the planning and implementation of all actions. All Federal agencies must integrate NEPA with other planning requirements, and prepare appropriate NEPA documentation to facilitate sound environmental decision making. NEPA requires the disclosure of the environmental impacts of any major Federal action that affects in a significant way the quality of the human environment.

NATIONAL HISTORIC PRESERVATION ACT (1966) AS AMENDED: Establishes as policy that the Federal Government is to provide leadership in the preservation of the nation's prehistoric and historic resources.

NATIONAL WILDLIFE REFUGE SYSTEM ADMINISTRATION ACT OF 1966 AS AMENDED BY THE NATIONAL WILDLIFE REFUGE SYSTEM IMPROVEMENT ACT OF 1997, 16 U.S.C. 668DD-668EE. (REFUGE ADMINISTRATION ACT): Defines the National Wildlife Refuge System and authorizes the Secretary to permit any use of a refuge provided such use is compatible with the major purposes for which the refuge was established. The Refuge Improvement Act clearly defines a unifying mission for the Refuge System; establishes the legitimacy and appropriateness of the six priority public uses (hunting, fishing, wildlife observation and photography, or environmental education and interpretation); establishes a formal process for determining compatibility; established the responsibilities of the Secretary of Interior for managing and protecting the System; and requires a Comprehensive Conservation Plan for each refuge by the year 2012. This Act amended portions of the Refuge Recreation Act and National Wildlife Refuge System Administration Act of 1966.

NATIONAL WILDLIFE REFUGE SYSTEM IMPROVEMENT ACT OF 1997: Sets the mission and administrative policy for all refuges in the National Wildlife Refuge System. Clearly defines a unifying mission for the Refuge System; establishes the legitimacy and appropriateness of the six priority public uses (hunting, fishing, wildlife observation and photography, or environmental education and interpretation); establishes a formal process for determining compatibility; establishes the responsibilities of the Secretary of the Interior for managing and protecting the System; and requires a Comprehensive Conservation Plan for each refuge by the year 2012. This Act amended portions of the Refuge Recreation Act and National Wildlife Refuge System Administration Act of 1966.

NATIVE AMERICAN GRAVES PROTECTION AND REPATRIATION ACT (1990): Requires Federal agencies and museums to inventory, determine ownership of, and repatriate cultural items under their control or possession.

REFUGE RECREATION ACT (1962): Allows the use of refuges for recreation when such uses are compatible with the refuge's primary purposes and when sufficient funds are available to manage the uses.

REHABILITATION ACT (1973): Requires programmatic accessibility in addition to physical accessibility for all facilities and programs funded by the Federal government to ensure that anybody can participate in any program.

REFUGE REVENUE SHARING ACT OF 1935, AS AMENDED: Provides for payments to counties in lieu of taxes, using revenues derived from the sale of products from refuges. Public Law 88-523 (1964) revised this Act and required that all revenues received from refuge products, such as animals, timber and minerals, or from leases or other privileges, be deposited in a special Treasury account and net receipts distributed to counties for public schools and roads. Payments to counties were established as: 1) on acquired land, the greatest amount calculated on the basis of 75 cents per acre, three-fourths of one percent of the appraised value, or 25 percent of the net receipts produced from the land; and 2) on land withdrawn from the public domain, 25 percent of net receipts and basic payments under Public Law 94-565 (31 U.S.C. 1601- 1607, 90 Stat. 2662), payment in lieu of taxes on public lands.

ROCKY FLATS NATIONAL WILDLIFE REFUGE ACT OF 2001: Establishes Rocky Flats National Wildlife Refuge following cleanup and closure of the site, directs the development of a Comprehensive Conservation Plan for the Refuge, and other details.



**UNITED STATES ENVIRONMENTAL PROTECTION
AGENCY**

**REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466**

Ref: 8EPR-F

Mr. Mark Sattelberg
Senior Contaminant Biologist
US Fish and Wildlife Service
Rocky Mountain Arsenal National Wildlife Refuge
Building 111
Commerce City, CO 80222-1748

Re: USFWS Future Activities at Rocky Flats

Dear Mr. Sattelberg:

This is in response to your letter dated August 20, 2003, in which you asked whether EPA anticipated placing restrictions on activities the US Fish and Wildlife Service (Service) may wish to conduct at the future Rocky Flats National Wildlife Refuge. Specifically the Service asked about the following activities: prescribed fire, grazing, plowing, and ripping up old roads.

Once EPA certifies the remedy to be complete and jurisdiction of property has been transferred to the Service, does EPA foresee any restrictions on the use of prescribed fire? Similarly, does the EPA envision restrictions on ripping up roads?

As you are aware, the widespread contaminants of most concern at Rocky Flats are plutonium and americium. Consequently, areas at the site where these contaminants remain at closure would have the most use restrictions. In June 2003, CDPHE and EPA approved modifications to the Rocky Flats Cleanup Agreement, including revised contaminant soil action levels. EPA expects that at the completion of the remedy no significant contamination will be left in the surface soils at concentrations greater than outlined in the Attachment 5 of the modified agreement. For plutonium, the expectation is that surface soils contaminated at concentrations greater than 50 picocuries/gram (pCi/g) will have been removed. Surface soils are defined as those less than three feet in depth. EPA anticipates there will be restrictions on areas of the Site with residual contamination less than 50 pCi/g but greater than 9 pCi/g – a concentration representing lifetime excess cancer risk of one in 1,000,000 to a wildlife refuge worker. This is not to say that prescribed fire or ripping up roads would be precluded in areas with residual contamination in the 9-50 pCi/g range. Rather, the Service would need to take extra precautions in those areas to minimize soil disturbances. The primary concern being that major soil disturbances could result in elevated levels of contaminants to migrate to surface water.



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The use of prescribed fire at Rocky Flats is of special interest to citizens and public officials in the surrounding communities. EPA believes that the use of prescribed fire at the site will not pose significant risk to firefighters, Service personnel or the general public. This belief is based upon data gathered during and after the 2000 test burn and for accidental burns at the site, as well as risk assessment work documented in the Task 3 Report (Assessing Risks of Exposure to Plutonium, February 2000) on the effects of prescribed fire at Rocky Flats. However, relatively large areas of Rocky Flats have not been characterized to date. These areas are often referred to as "white spaces." EPA does not believe there is great potential to find contamination in these areas because they are removed from areas of known contamination and are not associated with past practices at the site that resulted in releases of contamination. Nevertheless, unexpected discoveries have occurred at Rocky Flats (e.g., the incinerator near the ash pits), and EPA believes that samples should be collected from white spaces before closure and analyzed prior to the application of prescribed fire in those areas.

Does EPA foresee any restrictions on the consumption of edible tissues from the grazing animals used for weed control at Rocky Flats?

Animal studies to date, and studies conducted by the actinide migration panel, indicate that there is no significant uptake of contaminants by grazing animals at Rocky Flats. Therefore, EPA does not anticipate restrictions on consumption of animals that graze at Rocky Flats. However, overgrazing in the areas in the 9 to 50 pCi/g range could result in water quality issues as discussed above. Therefore, EPA would expect to see measures put in place that would prevent overgrazing.

Do you foresee any restrictions on the plowing of areas in the southeast portion of the site for the purpose of reestablishing native vegetation?

Plowing will in all likelihood be prohibited in any areas of the site where contamination concentrations are greater than 9 pCi/g plutonium.

EPA looks forward to working with the Service in identifying and implementing the necessary restrictions for assuring that residual contamination at the future Rocky Flats National Wildlife Refuge poses a negligible risk to workers and members of the public. Please contact me at (303) 312-6246 if you have any questions regarding these matters.

Sincerely,



Gary Kleeman
Acting Rocky Flats Team Leader

cc: Dean Rundle, FWS
Steve Gunderson, CDPHE
Joe Legare, DOE
Dave Shelton, KH
Administrative Records, T130G

STATE OF COLORADO

Bill Owens, Governor
Douglas H. Benevento, Executive Director

Dedicated to protecting and improving the health and environment of the people of Colorado

4300 Cherry Creek Dr. S. Laboratory Services Division
Denver, Colorado 80246-1530 8100 Lowry Blvd.
Phone (303) 692-2000 Denver, Colorado 80230-6928
TDD Line (303) 691-7700 (303) 692-3090
Located in Glendale, Colorado
<http://www.cdphe.state.co.us>



Colorado Department
of Public Health
and Environment

September 23, 2003

Mr. Mark Sattclberg
Senior Contaminant Biologist
US Fish and Wildlife Service
Rocky Mountain Arsenal National Wildlife Refuge
Building 111
Commerce City, CO 80222-1748

Dear Mr. Sattclberg:

The Colorado Department of Public Health and Environment has received your letter dated August 20, 2003 in which you asked the department's position concerning potential activities being considered by the US Fish and Wildlife Service (Service) for use at the future Rocky Flats National Wildlife Refuge. The Department's responses to each potential activity follow:

1. *Does CDPHE foresee any restrictions on the use of prescribed fire?*

As you know, in June 2003 CDPHE and the Environmental Protection Agency approved modifications to the Rocky Flats Cleanup Agreement, which included substantially revised contaminant soil action levels. The surface soil action level for plutonium was established at a very conservative 50 picocuries per gram of soil. Most surface soil plutonium contamination at Rocky Flats is related to airborne releases of plutonium contamination in the late 1960s that were related to the 903 Pad. The highest concentrations of plutonium contamination in surface soils found to date are at the 903 Pad itself. An accelerated action at the Pad to remove this contaminated soil is nearing completion. Lower levels of plutonium contamination in surface soil are present east of the 903 Pad. Surface soils with levels greater than 50 picocuries per gram will be removed in accordance with RFCA. Surface soils with plutonium levels lower than 50 picocuries per gram will likely be left in place.

The modified RFCA includes a site map that shows an area of land that is anticipated to be retained by DOE after site closure. This area includes the Industrial Area, the Buffer Zone retention ponds, ground water treatment systems, the two existing landfills, and the area of surface plutonium contamination located east of the 903 Pad with contamination levels above approximately 7 picocuries per gram. CDPHE does not believe that the resulting smoke and dust from a prairie fire in the area of surface soil contamination between 7 and 50 picocuries per gram would pose a human health risk. Nonetheless, the department would likely place restrictions on burning in these areas in order to minimize soil disturbance and potentially adversely impact the plutonium surface water standard.

Current data indicate that most of the land that is anticipated to be turned over to the Service after site cleanup is completed has little or no plutonium contamination, and CDPHE does not anticipate placing restrictions on prescribed burning in these areas. Final delineation of areas of the site with restrictions, including those areas that will be retained by DOE and not transferred to the Service, will be determined after completion of the Comprehensive Risk Assessment (CRA). The CRA will not be completed until 2005 at the earliest. Additional soil sampling will likely be conducted in areas of the Buffer Zone where sampling data are limited.

2. *Assuming that the deer tissue results agree with the CSU data, do you foresee any restrictions on the use of grazing as a weed management tool? Do you foresee any restrictions on the consumption of edible tissues from the grazing animals used for weed control at Rocky Flats?*

Based on historical animal studies, the actinide migration panel results, and the low levels of residual contamination that will be present at Rocky Flats after cleanup, there is little evidence to indicate that grazing will present a risk to livestock or the consumer. CDPHE would not expect to place restrictions on grazing except to minimize surface soil disturbance in those areas with residual plutonium contamination levels between approximately 7 and 50 picocuries per gram.

3. *Do you foresee any restrictions on the plowing or ripping of these types of areas for the purposed or reestablishing native vegetation?*

The plowing or ripping of surface soils would likely be prohibited in those areas with contamination between approximately 7 and 50 picocuries per gram. As stated in the answer to question number 1 above, RFCA anticipates that DOE would retain the area of the site with those levels of contamination. Any roadways that cross this area could be disturbed for the purpose of revegetation and road removal, provided that adequate precautions are taken for dust and runoff control, and that any worker safety issues are addressed.

If you have any questions, please contact me at 303-692-3367.

Sincerely,



Steven H. Gunderson
Rocky Flats Project Coordinator

cc: Dean Rundle, FWS
Tim Rehder, EPA
Joe Logare, DOE
Dave Shelton, KH
Administrative Records, T130G

Cost Request Details
Rocky Flats National Wildlife Refuge

	<i>Alternative</i>			
	A	B	C	D
Refuge Operations Needs System (RONS)				
Staff*	\$ 111,202	\$ 415,488	\$ 488,310	\$ 683,082
Facility Lease*			210,000	
Maintenance (Weed Management)*	25,000	50,000	75,000	50,000
Utilities*	6,160	20,020	12,520	68,000
Restoration	16,859	92,729	113,534	53,434
Trails		78,041	41,501	110,352
Visitor Facilities		249,269	30,563	457,228
Interpretation		81,000	7,000	149,000
Storage/Maintenance Building	15,000	225,000	225,000	350,000
Cistern		8,000	8,000	18,000
Septic System		12,000	12,000	25,000
Burglar Alarm		2,000	2,000	3,000
Fencing		46,613	38,063	66,720
Signs	4,905	7,405	7,405	9,405
Utility Line Installation		15,000	15,000	25,000
Computers/Fax/Office Equipment	4,400	8,800	11,000	17,600
Mountain Bike (for Patrol)		1,600	800	1,600
All Terrain Vehicle (ATV)	13,000	13,000	13,000	13,000
Spray-Rig for ATV	3,000	3,000	3,000	3,000
Maintenance Truck	35,000	35,000	35,000	35,000
Pickup Truck		44,000	44,000	44,000
Slip-On Spray-Rig for Truck	12,000	12,000	12,000	12,000
Mower	9,500	9,500	9,500	9,500
Maintenance Tools	10,000	10,000	10,000	10,000
Generator	5,000			
Biological Monitoring/Restoration Tools		15,000	15,000	15,000
Water Storage - 50K Gallon Bladder	15,000	15,000	15,000	15,000
Water Storage - Pumpkin	7,000	7,000	7,000	7,000
500 Gallon Fuel Tank/Pump	20,000	20,000	20,000	20,000
Shared Equipment Budget	100,000	100,000	150,000	100,000
Planning and Design		71,933	38,504	420,571
Sub-Total - RONS	\$ 413,026	\$ 1,668,398	\$ 1,669,700	\$ 2,791,492
Maintenance Management System (MMS)				
Renovate 1/2 Shed for Office	\$ 15,000			
Both RONS and MMS				
Visitor Center				\$ 3,000,000
Maintenance Funds (Annual)				
Facility/Equipment Maintenance	\$ 21,283	\$ 52,661	\$ 36,517	\$ 227,420
Fire Funding:				
Fire Cache (One-Time)	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
Fire Engine (One-Time)	75,000	75,000	75,000	75,000
Staff (Ongoing)	133,007	133,007	133,007	83,724
Sub-Total - Fire Funding	\$ 258,007	\$ 258,007	\$ 258,007	\$ 208,724
Total Cost Requests	\$ 707,316	\$ 1,979,066	\$ 1,964,224	\$ 6,227,637

* Classified as RONS for the first year of Refuge operations, then as annual operating funds.

**Alternative A Draft Costs
Rocky Flats National Wildlife Refuge**

Operations (Ongoing)								
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal	
New Funding:								
Staff								
Refuge Operations Specialist (GS-9)	<i>Cost reflects cost/unit increased by 45% to reflect training, supplies and benefits.</i>	1.0	FTE	\$ 46,201	\$ 66,991	\$ 111,202	\$ 158,645	
Seasonal Range Technician (GS-6)		1.0	FTE	\$ 30,490	\$ 44,211			
Maintenance								
Weed Management	Staff Est. of Supplies				\$ 25,000	\$ 41,283		
Lindsay Barn	Staff Estimate				\$ 2,000			
Facility/Equipment Maintenance	5% of Equip. + .005% of Fence				\$ 14,283			
Utilities								
Electricity					\$ -	\$ 6,160		
Gas					\$ -			
Phone	Over 12 months	2	lines	\$ 50	\$ 1,200			
Cleaning/Trash Pickup	Clean 1x/week				\$ 4,960			
Existing Base Funding:								
Maintenance								
Shared Equipment Maintenance	5% of Shared Equip.				\$ 5,000	\$ 5,000	\$ 5,000	
Total: Operations						\$ 163,645		
Net Present Value of Operations over 15 Year Period						\$ 1,819,470		
Restoration and Implementation (One-Time)								
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal	
New Funding:								
Restoration								
Seed for Eliminating Roads	11.88 miles @ 20 feet	28.8	ac.	\$ 134	\$ 3,859	\$ 16,859	\$ 185,664	
Stream Crossing Restoration		13	ea.	\$ 1,000	\$ 13,000			
Facilities								
Administrative								
Renovate 1/2 Shed for Office	Pull Shed for Tractor	1	lump	\$ 15,000	\$ 15,000	\$ 34,905		
Storage/Maintenance Building		1	lump	\$ 15,000	\$ 15,000			
Signs								
Roadside	Every 1,000 Feet	6	ea.	\$ 650	\$ 3,900			
Boundary		67	ea.	\$ 15	\$ 1,005			
Equipment								
Computers/Fax/Office Equipment		2	emp.	\$ 2,200	\$ 4,400	\$ 133,900		
All Terrain Vehicle (ATV)		2	ea.	\$ 6,500	\$ 13,000			
Spray-Rig for ATV		2	ea.	\$ 1,500	\$ 3,000			
Maintenance Truck		1	ea.	\$ 35,000	\$ 35,000			
Slip-On Spray-Rig for Truck		1	ea.	\$ 12,000	\$ 12,000			
Mower		1	ea.	\$ 9,500	\$ 9,500			
Maintenance Tools		1	lump	\$ 10,000	\$ 10,000			
Generator		1	ea.	\$ 5,000	\$ 5,000			
Water Storage - 50K Gallon Bladder		1	ea.	\$ 15,000	\$ 15,000			
Water Storage - Pumpkin		2	ea.	\$ 3,500	\$ 7,000			
500 Gallon Fuel Tank/Pump		2	ea.	\$ 10,000	\$ 20,000			
Existing Base Funding:								
Shared Equipment Budget		1	lump	\$ 100,000	\$ 100,000		\$ 100,000	\$ 100,000
Total: Restoration and Implementation							\$ 285,664	
Net Present Value of Restoration and Implementation over 15 Year Period							\$ 274,677	
Fire Management								
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal	
New Funding:								
Equipment								
Fire Cache (One-Time)	Staff Est. of Supplies				\$ 50,000	\$ 125,000	\$ 258,007	
Fire Engine (One Time)								\$ 75,000
Staff (Ongoing)								
Fire Program Technician (GS-6/9)	<i>Cost reflects cost/unit increased by 45% to reflect training, supplies and benefits.</i>	1	FTE	\$ 49,283	\$ 49,283	\$ 133,007		
Fire Engine Foreman (GS-5/6)		1	FTE	\$ 44,211	\$ 44,211			
Fire Fighters (Seasonal) (GS-4/5)		1	FTE	\$ 39,514	\$ 39,514			
Total: Fire Management						\$ 258,007		
Net Present Value of Fire Management over 15 Year Period						\$ 1,599,016		

**Alternative B Draft Costs
Rocky Flats National Wildlife Refuge**

Operations (Ongoing)							
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:					(see notes)		\$ 412,088
Staff						\$ 289,407	
Refuge Manager (GS-12)	Cost reflects cost/	1.0	FTE	\$ 66,998	\$ 97,147		
Biologist (GS-11)	unit increased by 45%	1.0	FTE	\$ 55,902	\$ 81,058		
Public Use (GS-9)	to reflect training,	1.0	FTE	\$ 46,201	\$ 66,991		
Range Biotech (GS-5)	supplies and benefits.	1.0	FTE	\$ 30,490	\$ 44,211		
Maintenance						\$ 97,661	
Weed Management	Staff Est. of Supplies				\$ 50,000		
Lindsay Barn	Staff Estimate				\$ 2,000		
Facility/Equipment Maintenance	5% of Facilities/Equip.				\$ 45,661		
Utilities						\$ 20,020	
Electricity		12	months	\$ 250	\$ 3,000		
Gas		12	months	\$ 250	\$ 3,000		
Phone	Over 12 months	5	lines	\$ 50	\$ 3,000		
Burglar Alarm		12	months	\$ 100	\$ 1,200		
Cleaning/Trash Pickup	Clean 2x/week				\$ 9,820		
Interpretive Materials		1	lump	\$ 5,000	\$ 5,000	\$ 5,000	
Existing Base Funding:							\$ 131,081
Staff						\$ 126,081	
Public Use Assistance (GS-11)	Cost reflects cost/	0.25	FTE	\$ 55,902	\$ 20,264		
Public Use Assistance (GS-5)	unit increased by 45%	0.50	FTE	\$ 30,490	\$ 22,105		
Administrative Assistance (GS-9)	to reflect training,	0.15	FTE	\$ 46,201	\$ 10,049		
Maintenance (WG-7)	supplies and benefits.	0.25	FTE	\$ 41,829	\$ 15,163		
Law Enforcement (GS-9)		0.50	FTE	\$ 117,000	\$ 58,500		
Maintenance						\$ 5,000	
Shared Equipment Maintenance	5% of Shared Equip.				\$ 5,000		
Total: Operations						\$ 543,170	
Net Present Value of Operations over 15 Year Period						\$ 6,039,172	
Restoration and Implementation (One-Time)							
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							\$ 1,077,890
Restoration						\$ 92,729	
Seeding							
Restoration Seeding	Disturbed/Non-Native	417	ac.	\$ 134	\$ 55,878		
Seed for Eliminating Roads	24.7 miles @ 20 feet	60	ac.	\$ 134	\$ 8,024		
Seed for Road Narrowing		21	ac.	\$ 134	\$ 2,827		
Stream Crossing Restoration		26	ea.	\$ 1,000	\$ 26,000		
Facilities						\$ 403,310	
Public Use							
Trails							
New Trails - Natural Surface	1.73 Miles	9,135	l.f.	\$ 4	\$ 36,540		
ADA Accessible (Reused Road)	.6 Miles						
Prep		15,840	s.f.	\$ 0.12	\$ 1,901		
Surfacing		15,840	s.f.	\$ 2.50	\$ 39,600		
Visitor Facilities							
Restroom		1	ea.	\$ 26,000	\$ 26,000		
Viewing Blind		1	ea.	\$ 15,000	\$ 15,000		
Seasonal Contact Station		1,200	s.f.	\$ 150	\$ 180,000		
Benches		4	ea.	\$ 1,500	\$ 6,000		
Parking Lots	3 Lots/70 Cars/1 Bus						
Site Preparation		26,830	s.f.	\$ 0.38	\$ 10,195		
Surfacing		26,830	s.f.	\$ 0.45	\$ 12,074		
Interpretation							
Interpretive Sign Panels (Porcelain)		4	ea.	\$ 5,500	\$ 22,000		
Interpretive Signs (Porcelain)	Trails, Sm. Entrances	6	ea.	\$ 4,000	\$ 24,000		
Kiosk		1	ea.	\$ 10,000	\$ 10,000		
Interior Display		1	lump	\$ 20,000	\$ 20,000		

	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
Administrative						\$ 316,018	
Administrative Offices	Incl. in Contact Sta.				\$ -		
Storage/Maintenance Building	30'x75'	1	lump	\$ 225,000	\$ 225,000		
Cistern		1	ea.	\$ 8,000	\$ 8,000		
Septic System		1	lump	\$ 12,000	\$ 12,000		
Burglar Alarm		1	lump	\$ 2,000	\$ 2,000		
Fencing							
Remove Interior Stock Fence	Approx. 8 Miles	42,240	l.f.	\$ 0.50	\$ 21,120		
Weed Control Fencing	Approx. 3 Miles	15,840	l.f.	\$ 0.17	\$ 2,693		
Security Fencing around Facilities		400	l.f.	\$ 57	\$ 22,800		
Signs							
Roadside		6	ea.	\$ 650	\$ 3,900		
Boundary	Every 1,000 Feet	67	ea.	\$ 15	\$ 1,005		
Trail Directional		5	ea.	\$ 500	\$ 2,500		
Utilities							
Power		1	lump	\$ 15,000	\$ 15,000		
Equipment						\$ 193,900	
Computers/Fax/Office Equipment		4	emp.	\$ 2,200	\$ 8,800		
Mountain Bike (for Patrol)		2	ea.	\$ 800	\$ 1,600		
All Terrain Vehicle (ATV)		2	ea.	\$ 6,500	\$ 13,000		
Spray-Rig for ATV		2	ea.	\$ 1,500	\$ 3,000		
Maintenance Truck		1	ea.	\$ 35,000	\$ 35,000		
Pickup Truck		2	ea.	\$ 22,000	\$ 44,000		
Slip-On Spray-Rig for Truck		1	ea.	\$ 12,000	\$ 12,000		
Mower		1	ea.	\$ 9,500	\$ 9,500		
Maintenance Tools		1	lump	\$ 10,000	\$ 10,000		
Biological Monitoring/Restoration Tools		1	lump	\$ 15,000	\$ 15,000		
Water Storage - 50K Gallon Bladder		1	ea.	\$ 15,000	\$ 15,000		
Water Storage - Pumpkin		2	ea.	\$ 3,500	\$ 7,000		
500 Gallon Fuel Tank/Pump		2	ea.	\$ 10,000	\$ 20,000		
Planning and Design						\$ 71,933	
Site Layout and Design	10% of Construction	1	lump	\$ 71,933	\$ 71,933		
Existing Base Funding:							\$ 100,000
Shared Equipment Budget		1	lump	\$ 100,000	\$ 100,000	\$ 100,000	
Total: Restoration and Implementation						\$ 1,177,890	
Net Present Value of Restoration and Implementation over 15 Year Period						\$ 1,096,829	
Fire Management							
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							\$ 258,007
Equipment						\$ 125,000	
Fire Cache (One-Time)	Staff Est. of Supplies				\$ 50,000		
Fire Engine (One Time)					\$ 75,000		
Staff (Ongoing)	<i>Cost reflects cost/unit increased by 45% to reflect training, supplies and benefits.</i>					\$ 133,007	
Fire Program Technician (GS-6/9)		1	FTE	\$ 49,283	\$ 49,283		
Fire Engine Foreman (GS-5/6)		1	FTE	\$ 44,211	\$ 44,211		
Fire Fighters (Seasonal) (GS-4/5)		1	FTE	\$ 39,514	\$ 39,514		
Total: Fire Management						\$ 258,007	
Net Present Value of Fire Management over 15 Year Period						\$ 1,599,016	

Alternative C Draft Costs
Rocky Flats National Wildlife Refuge

Operations (Ongoing)							
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:					(see notes)		\$ 682,766
Staff						\$ 354,729	
Refuge Manager (GS-12)	Cost reflects cost/	1.0	FTE	\$ 66,998	\$ 97,147		
Biologist (GS-11)	unit increased by 45%	1.0	FTE	\$ 55,902	\$ 81,058		
Biologist (GS-9)	to reflect training,	1.0	FTE	\$ 46,201	\$ 66,991		
Range Biotech (GS-7) (2)	supplies and benefits.	2.0	FTE	\$ 37,770	\$ 109,533		
Maintenance							
Weed Management	Staff Est. of Supplies				\$ 75,000	\$ 104,017	
Facility/Equipment Maintenance	5% of Facilities/Equip.				\$ 29,017		
Facilities						\$ 210,000	
Office Lease	Over 12 months	1,000	s.f.	\$ 17.50	\$ 210,000		
	*Based on Average May, 2003 Office Lease Rate for Westminster						
Utilities						\$ 12,520	
Phone	Over 12 months	5	lines	\$ 50	\$ 3,000		
Burglar Alarm (Maintenance Building)		12	months	\$ 100	\$ 1,200		
Cleaning	Clean 2x/week				\$ 8,320		
Interpretive Materials		1	lump	\$ 1,500	\$ 1,500	\$ 1,500	
Existing Base Funding:							\$ 141,081
Staff						\$ 133,581	
Public Use Assistance (GS-11)	Cost reflects cost/	0.25	FTE	\$ 55,902	\$ 20,264		
Public Use Assistance (GS-5)	unit increased by 45%	0.50	FTE	\$ 30,490	\$ 22,105		
Administrative Assistance (GS-9)	to reflect training,	0.15	FTE	\$ 46,201	\$ 10,049		
Maintenance (WG-7)	supplies and benefits.	0.25	FTE	\$ 41,829	\$ 15,163		
Law Enforcement (GS-9)		0.50	FTE	\$ 117,000	\$ 58,500		
Maintenance						\$ 7,500	
Shared Equipment Maintenance	5% of Shared Equip.				\$ 7,500		
Total: Operations						\$ 823,847	
Net Present Value of Operations over 15 Year Period						\$ 9,159,855	
Restoration and Implementation (One-Time)							
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							\$ 732,369
Restoration						\$ 113,534	
Seeding							
Restoration Seeding	Disturbed/Non-Native	419	ac.	\$ 134	\$ 56,146		
Seed for Eliminating Roads	28.9 miles @ 20 feet	70	ac.	\$ 134	\$ 9,388		
Remove Lindsay Ranch Buildings		1	lump	\$ 30,000	\$ 30,000		
Stream Crossing Restoration		18	ea.	\$ 1,000	\$ 18,000		
Facilities						\$ 77,564	
Public Use							
Trails							
ADA Accessible (Reused Road)	.6 Miles						
Prep		15,840	s.f.	\$ 0.12	\$ 1,901		
Surfacing		15,840	s.f.	\$ 2.50	\$ 39,600		
Visitor Facilities							
Restroom		1	ea.	\$ 26,000	\$ 26,000		
Benches	Overlook	1	ea.	\$ 1,500	\$ 1,500		
Parking Lots	1 Lot/10 Cars						
Site Preparation		3,690	s.f.	\$ 0.38	\$ 1,402		
Surfacing		3,690	s.f.	\$ 0.45	\$ 1,661		
Interpretation							
Interpretive Sign Panels (Porcelain)	Overlook	1	ea.	\$ 5,500	\$ 5,500		
Administrative						\$ 307,468	
Storage/Maintenance Building	30'x75'	1	lump	\$ 225,000	\$ 225,000		
Cistern		1	ea.	\$ 8,000	\$ 8,000		
Septic System		1	lump	\$ 12,000	\$ 12,000		
Burglar Alarm		1	lump	\$ 2,000	\$ 2,000		
Fencing							
Remove Interior Stock Fence	Approx. 8 Miles	42,240	l.f.	\$ 0.50	\$ 21,120		
Weed Control Fencing	Approx. 3 Miles	15,840	l.f.	\$ 0.17	\$ 2,693		
Security Fencing around Facilities		250	l.f.	\$ 57	\$ 14,250		

	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
Signs							
Roadside		6	ea.	\$ 650	\$ 3,900		
Boundary	Every 1,000 Feet	67	ea.	\$ 15	\$ 1,005		
Trail Directional		5	ea.	\$ 500	\$ 2,500		
Utilities							
Power		1	lump	\$ 15,000	\$ 15,000		
Equipment						\$ 195,300	
Computers/Fax/Office Equipment		5	emp.	\$ 2,200	\$ 11,000		
Mountain Bike (for Patrol)		1	ea.	\$ 800	\$ 800		
All Terrain Vehicle (ATV)		2	ea.	\$ 6,500	\$ 13,000		
Spray-Rig for ATV		2	ea.	\$ 1,500	\$ 3,000		
Maintenance Truck		1	ea.	\$ 35,000	\$ 35,000		
Pickup Truck		2	ea.	\$ 22,000	\$ 44,000		
Slip-On Spray-Rig for Truck		1	ea.	\$ 12,000	\$ 12,000		
Mower		1	ea.	\$ 9,500	\$ 9,500		
Maintenance Tools		1	lump	\$ 10,000	\$ 10,000		
Biological Monitoring/Restoration Tools		1	lump	\$ 15,000	\$ 15,000		
Water Storage - 50K Gallon Bladder		1	ea.	\$ 15,000	\$ 15,000		
Water Storage - Pumpkin		2	ea.	\$ 3,500	\$ 7,000		
500 Gallon Fuel Tank/Pump		2	ea.	\$ 10,000	\$ 20,000		
Planning and Design							
Site Layout and Design	10% of Construction	1	lump	\$ 38,504	\$ 38,504	\$ 38,504	
Existing Base Funding:							
Shared Equipment Budget		1	lump	\$ 150,000	\$ 150,000	\$ 150,000	\$ 150,000
Total: Restoration and Implementation						\$ 882,369	
Net Present Value of Restoration and Implementation over 15 Year Period						\$ 834,657	
Fire Management							
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							\$ 258,007
Equipment						\$ 125,000	
Fire Cache (One-Time)	Staff Est. of Supplies				\$ 50,000		
Fire Engine (One Time)					\$ 75,000		
Staff (Ongoing)	<i>Cost reflects cost/unit increased by 45% to reflect training, supplies and benefits.</i>					\$ 133,007	
Fire Program Technician (GS-6/9)		1	FTE	\$ 49,283	\$ 49,283		
Fire Engine Foreman (GS-5/6)		1	FTE	\$ 44,211	\$ 44,211		
Fire Fighters (Seasonal) (GS-4/5)		1	FTE	\$ 39,514	\$ 39,514		
Total: Fire Management						\$ 258,007	
Net Present Value of Fire Managment over 15 Year Period						\$ 1,599,016	

Alternative D Draft Costs
Rocky Flats National Wildlife Refuge

Operations (Ongoing)							
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
<i>(see notes)</i>							\$ 974,085
New Funding:							
Staff							
Refuge Manager (GS-12)	<i>Cost reflects cost/unit increased by 45% to reflect training, supplies and benefits.</i>	1.0	FTE	\$ 66,998	\$ 97,147	\$ 625,664	
Biologist (GS-11)		1.0	FTE	\$ 55,902	\$ 81,058		
Refuge Operations Specialist (GS-9)		1.0	FTE	\$ 46,201	\$ 66,991		
Public Use (GS-11)		1.0	FTE	\$ 55,902	\$ 81,058		
Public Use (GS-9)		1.0	FTE	\$ 46,201	\$ 66,991		
Public Use (GS-7)		1.0	FTE	\$ 37,770	\$ 54,767		
Maintenance/Biotech (WG-7)		1.0	FTE	\$ 41,829	\$ 60,652		
Law Enforcement (GS-9)		1.0	FTE	\$ 117,000	\$ 117,000		
Maintenance							
Weed Management	Staff Est. of Supplies				\$ 50,000	\$ 272,420	
Lindsay Barn	Staff Estimate				\$ 2,000		
Facility/Equipment Maintenance	5% of Facilities/Equip.				\$ 220,420		
Utilities							
Electricity		12	months	\$ 1,200	\$ 14,400	\$ 68,000	
Gas		12	months	\$ 1,000	\$ 12,000		
Phone	Over 12 months	10	lines	\$ 50	\$ 6,000		
Burglar Alarm		12	months	\$ 200	\$ 2,400		
Cleaning/Trash Pickup	Clean 3x/week				\$ 33,200		
Interpretive Materials		1	lump	\$ 8,000	\$ 8,000		
Existing Base Funding:							
Staff							
Public Use Assistance (GS-11)	<i>Cost reflects cost/unit increased by 45% to reflect training, supplies and benefits.</i>	0.25	FTE	\$ 55,902	\$ 20,264	\$ 57,418	
Public Use Assistance (GS-5)		0.50	FTE	\$ 30,490	\$ 22,105		
Administrative Assistance (GS-9)		0.15	FTE	\$ 46,201	\$ 10,049		
Maintenance							
Shared Equipment Maintenance	5% of Shared Equip.				\$ 5,000	\$ 5,000	
Total: Operations							\$ 1,036,503
Net Present Value of Operations over 15 Year Period							\$ 11,524,242
Restoration and Implementation (One-Time)							
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal
New Funding:							
Restoration							
Seeding	Disturbed/Non-Native 25.3 miles @ 20 feet	119	ac.	\$ 134	\$ 15,946	\$ 53,434	
Restoration Seeding		61	ac.	\$ 134	\$ 8,219		
Seed for Eliminating Roads		24	ac.	\$ 134	\$ 3,270		
Seed for Road Narrowing		26	ea.	\$ 1,000	\$ 26,000		
Stream Crossing Restoration							
Facilities							
Public Use							
Trails							
New Trails - Natural Surface	3.26 Miles	17,213	l.f.	\$ 4	\$ 68,851	\$ 3,708,580	
ADA Accessible (Reused Road)	.6 Miles	15,840	s.f.	\$ 0.12	\$ 1,901		
Prep		15,840	s.f.	\$ 2.50	\$ 39,600		
Visitor Facilities							
Restroom		2	ea.	\$ 26,000	\$ 52,000		
Viewing Blind		2	ea.	\$ 15,000	\$ 30,000		
Visitor Center	Staff Estimate	1	lump	\$ 3,000,000	\$ 3,000,000		
Outdoor Education Center	Arsenal Estimate	1	ea.	\$ 321,753	\$ 321,753		
Benches		8	ea.	\$ 1,500	\$ 12,000		
Parking Lots	6 Lots/140 Cars/2 Bus	49,970	s.f.	\$ 0.38	\$ 18,989		
Site Preparation		49,970	s.f.	\$ 0.45	\$ 22,487		
Surfacing							
Interpretation							
Interpretive Sign Panels (Porcelain)		6	ea.	\$ 5,500	\$ 33,000		
Interpretive Signs (Porcelain)	Trails, Sm. Entrances	12	ea.	\$ 4,000	\$ 48,000		
Kiosk		1	ea.	\$ 10,000	\$ 10,000		
Interior Display		1	lump	\$ 50,000	\$ 50,000		

	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal	
Administrative								
Administrative Offices	Incl. In Visitor Ctr.					\$ 497,125		
Storage/Maintenance Building	30'x100'	1	lump	\$ 350,000	\$ 350,000			
Cistern		1	ea.	\$ 18,000	\$ 18,000			
Septic System		1	lump	\$ 25,000	\$ 25,000			
Burglar Alarm		1	lump	\$ 3,000	\$ 3,000			
Fencing								
Remove Interior Stock Fence	Approx. 8 Miles	42,240	l.f.	\$ 0.50	\$ 21,120			
Security Fencing around Facilities		800	l.f.	\$ 57	\$ 45,600			
Signs								
Roadside		6	ea.	\$ 650	\$ 3,900			
Boundary	Every 1,000 Feet	67	ea.	\$ 15	\$ 1,005			
Trail Directional		9	ea.	\$ 500	\$ 4,500			
Utilities								
Power		1	lump	\$ 25,000	\$ 25,000			
Equipment							\$ 202,700	
Computers/Fax/Office Equipment		8	emp.	\$ 2,200	\$ 17,600			
Mountain Bike (for Patrol)		2	ea.	\$ 800	\$ 1,600			
All Terrain Vehicle (ATV)		2	ea.	\$ 6,500	\$ 13,000			
Spray-Rig for ATV		2	ea.	\$ 1,500	\$ 3,000			
Maintenance Truck		1	ea.	\$ 35,000	\$ 35,000			
Pickup Truck		2	ea.	\$ 22,000	\$ 44,000			
Slip-On Spray-Rig for Truck		1	ea.	\$ 12,000	\$ 12,000			
Mower		1	ea.	\$ 9,500	\$ 9,500			
Maintenance Tools		1	lump	\$ 10,000	\$ 10,000			
Biological Monitoring/Restoration Tools		1	lump	\$ 15,000	\$ 15,000			
Water Storage - 50K Gallon Bladder		1	ea.	\$ 15,000	\$ 15,000			
Water Storage - Pumpkin		2	ea.	\$ 3,500	\$ 7,000			
500 Gallon Fuel Tank/Pump		2	ea.	\$ 10,000	\$ 20,000			
Planning and Design							\$ 420,571	
Site Layout and Design	10% of Construction			\$ 420,571	\$ 420,571			
Existing Base Funding:								
Shared Equipment Budget		1	lump	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	
Total: Restoration and Implementation							\$ 4,982,410	
Net Present Value of Restoration and Implementation over 15 Year Period							\$ 4,519,590	
Fire Management								
	Notes	Quantity	Units	Cost/Unit	Cost	Subtotal	Area Subtotal	
New Funding:								\$ 208,724
Equipment							\$ 125,000	
Fire Cache (One-Time)	Staff Est. of Supplies				\$ 50,000			
Fire Engine (One Time)					\$ 75,000			
Staff (Ongoing)							\$ 83,724	
Fire Engine Foreman (GS-5/6)	Cost reflects cost/ to reflect training, supplies and benefits.	1	FTE	\$ 44,211	\$ 44,211			
Fire Fighters (Seasonal) (GS-4/5)		1	FTE	\$ 39,514	\$ 39,514			
Total: Fire Management							\$ 208,724	
Net Present Value of Fire Management over 15 Year Period							\$ 1,051,073	

ROCKY FLATS NWR WILDLIFE SPECIES LIST

MAMMALS

Elk (Wapiti)	<i>Cervus elaphus</i>
Mule deer	<i>Odocoileus hemionus</i>
Mule X White-tailed deer	<i>Odocoileus hemionus x virginianus</i>
White-tailed deer	<i>Odocoileus virginianus</i>
American black bear	<i>Ursus americanus</i>
Bobcat	<i>Lynx rufus</i>
Common gray fox	<i>Urocyon cinereoargenteus</i>
Coyote	<i>Canis latrans</i>
Mountain lion	<i>Felis concolor</i>
Raccoon	<i>Procyon lotor</i>
Striped skunk	<i>Mephitis mephitis</i>
Big Brown Bat	<i>Eptesicus fuscus</i>
Black-tailed prairie dog	<i>Cynomys ludovicianus</i>
Common porcupine	<i>Erethizon dorsatum</i>
Desert cottontail	<i>Sylvilagus audubonii</i>
Eastern fox squirrel	<i>Sciurus niger</i>
Muskrat	<i>Ondatra zibethicus</i>
unidentified jackrabbit	<i>Lepus</i>
White-tailed jackrabbit	<i>Lepus townsendii</i>
Meadow Vole	<i>Microtus pennsylvanicus</i>
Northern Pocket Gopher	<i>Thomomys talpoides</i>
Preble's Meadow	<i>Zapus hudsonius preblei</i>
Jumping Mouse	
Thirteen-lined	<i>Spermophilus</i>
Ground Squirrel	<i>tridecemlineatus</i>
Deer mouse	<i>Peromyscus maniculatus</i>
Hispid Pocket mouse	<i>Chaetodipus hispidus</i>
House mouse	<i>Mus musculus</i>
Meadow vole	<i>Microtus pennsylvanicus</i>
Plains harvest mouse	<i>Reithrodontomys montanus</i>
Prairie vole	<i>Microtus ochrogaster</i>
Western harvest mouse	<i>Reithrodontomys megalotis</i>

RAPTORS

American Kestrel	<i>Falco sparverius</i>
Bald Eagle	<i>Haliaeetus leucocephalus</i>
Barn Owl	<i>Tyto alba</i>
Burrowing Owl	<i>Athene cunicularia</i>
Cooper's Hawk	<i>Accipiter cooperii</i>
Ferruginous Hawk	<i>Buteo regalis</i>
Golden Eagle	<i>Aquila chrysaetos</i>
Great Horned Owl	<i>Bubo virginianus</i>
Long-eared Owl	<i>Asio otus</i>
Merlin	<i>Falco columbarius</i>
Northern Goshawk	<i>Accipiter gentilis</i>
Northern Harrier	<i>Circus cyaneus</i>
Osprey	<i>Pandion haliaetus</i>
Peregrine Falcon	<i>Falco peregrinus</i>
Prairie Falcon	<i>Falco mexicanus</i>
Red-tailed Hawk	<i>Buteo jamaicensis</i>
Rough-legged Hawk	<i>Buteo lagopus</i>

Sharp-shinned Hawk
Short-eared Owl
Swainson's Hawk
Turkey Vulture
Black Vulture

BIRDS

American Crow	<i>Corvus brachyrhynchos</i>
American Goldfinch	<i>Carduelis tristis</i>
American Pipit	<i>Anthus rubescens</i>
American redstart	<i>Setophaga ruticilla</i>
American Robin	<i>Turdus migratorius</i>
American Tree Sparrow	<i>Spizella arborea</i>
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>
Barn Swallow	<i>Hirundo rustica</i>
Belted Kingfisher	<i>Ceryle alcyon</i>
Black swift	<i>Cypseloides niger</i>
Black-billed Magpie	<i>Pica hudsonia</i>
Black-capped Chickadee	<i>Poecile atricapilla</i>
Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>
Blue Grosbeak	<i>Guiraca caerulea</i>
Blue Jay	<i>Cyanocitta cristata</i>
Blue-gray Gnatcatcher	<i>Poliophtila caerulea</i>
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>
Brewer's Sparrow	<i>Spizella breweri</i>
Broad-tailed Hummingbird	<i>Selasphorus platycercus</i>
Brown-headed Cowbird	<i>Molothrus ater</i>
Bullock's Oriole	<i>Icterus bullockii</i>
Chestnut-collared longspur	<i>Calcarius ornatus</i>
Chestnut-sided warbler	<i>Dendroica pensylvanica</i>
Chipping Sparrow	<i>Spizella passerina</i>
Clay-colored Sparrow	<i>Spizella pallida</i>
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
Common Grackle	<i>Quiscalus quiscula</i>
Common Nighthawk	<i>Chordeiles minor</i>
Common Poorwill	<i>Phalaenoptilus nuttallii</i>
Common Raven	<i>Corvus corax</i>
Common Yellowthroat	<i>Geothlypis trichas</i>
Dark-eyed Junco	<i>Junco hyemalis canice</i>
Downy Woodpecker	<i>Picoides pubescens</i>
Eastern Kingbird	<i>Tyrannus tyrannus</i>
Eastern Phoebe	<i>Sayornis phoebe</i>
European Starling	<i>Sturnus vulgaris</i>
Golden-crowned Kinglet	<i>Regulus satrapa</i>
Grasshopper Sparrow	<i>Ammodramus savannarum</i>
Gray Catbird	<i>Dumetella carolinensis</i>
Green-tailed Towhee	<i>Pipilo chlorurus</i>
Hairy Woodpecker	<i>Picoides villosus</i>
Hermit Thrush	<i>Catharus guttatus</i>
Horned Lark	<i>Eremophila alpestris</i>
House Finch	<i>Carpodacus mexicanus</i>
House Wren	<i>Troglodytes aedon</i>
Lapland Longspur	<i>Calcarius lapponicus</i>
Lark Bunting	<i>Calamospiza melanocorys</i>
Lark Sparrow	<i>Chondestes grammacus</i>
Lazuli Bunting	<i>Passerina amoena</i>

Lesser Goldfinch	<i>Carduelis psaltria</i>	WATERFOWL	<i>Fulica americana</i>
Lincoln's Sparrow	<i>Melospiza lincolnii</i>	American Coot	<i>Pelecanus erythrorhynchos</i>
Loggerhead Shrike	<i>Lanius ludovicianus</i>	American White Pelican	<i>Anas americana</i>
MacGillivray's Warbler	<i>Opornis tolmiei</i>	American Wigeon	<i>Nycticorax nycticorax</i>
Marsh Wren	<i>Cistothorus palustris</i>	Black-crowned Night-heron	<i>Anas discors</i>
Mountain Bluebird	<i>Sialia currucoides</i>	Blue-winged Teal	<i>Bucephala albeola</i>
Mourning Dove	<i>Zenaida macroura</i>	Bufflehead	<i>Branta canadensis</i>
Northern Flicker	<i>Colaptes auratus</i>	Canada Goose	<i>Aythya valisineria</i>
Northern mockingbird	<i>Mimus polyglottus</i>	Canvasback	<i>Anas cyanoptera</i>
Northern Shrike	<i>Lanius excubitor</i>	Cinnamon Teal	<i>Bucephala clangula</i>
Orange-crowned warbler	<i>Vermivora celata</i>	Common Goldeneye	<i>Mergus merganser</i>
Ovenbird	<i>Seiurus aurocapillus</i>	Common Merganser	<i>Gallinago gallinago</i>
Pine Siskin	<i>Carduelis pinus</i>	Common Snipe	<i>Phalacrocorax auritus</i>
Red-breasted Nuthatch	<i>Sitta canadensis</i>	Double-crested Cormorant	<i>Podiceps nigricollis</i>
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	Eared grebe	<i>Larus pipixcan</i>
Rock Dove	<i>Columba livia</i>	Franklin's Gull	<i>Anas strepera</i>
Rock Wren	<i>Salpinctes obsoletus</i>	Gadwall	<i>Ardea herodias</i>
Ruby-crowned Kinglet	<i>Regulus calendula</i>	Great Blue Heron	<i>Ardea alba</i>
Rufous Hummingbird	<i>Selasphorus rufus</i>	Great egret	<i>Aythya marila</i>
Sage Thrasher	<i>Oreoscoptes montanus</i>	Greater Scaup	<i>Tringa melanoleuca</i>
Savannah Sparrow	<i>Passerculus sandwichensis</i>	Greater Yellowlegs	<i>Anas crecca</i>
Say's Phoebe	<i>Sayornis saya</i>	Green-winged Teal	<i>Lophodytes cucullatus</i>
Snow bunting	<i>Plectrophenax nivalis</i>	Hooded Merganser	<i>Podiceps auritus</i>
Song Sparrow	<i>Melospiza melodia</i>	Horned Grebe	<i>Charadrius vociferus</i>
Spotted Towhee	<i>Pipilo maculatus</i>	Killdeer	<i>Aythya affinis</i>
Swainson's Thrush	<i>Catharus ustulatus</i>	Lesser Scaup	<i>Tringa flavipes</i>
Townsend's Solitaire	<i>Myadestes townsendi</i>	Lesser Yellowlegs	<i>Anas platyrhynchos</i>
Tree Swallow	<i>Tachycineta bicolor</i>	Mallard	<i>Anas acuta</i>
Vesper Sparrow	<i>Poocetes gramineus</i>	Northern Pintail	<i>Anas clypeata</i>
Violet-green Swallow	<i>Tachycineta thalassina</i>	Northern Shoveler	<i>Podilymbus podiceps</i>
Virginia's Warbler	<i>Vermivora virginiae</i>	Pied-billed Grebe	<i>Aythya americana</i>
Warbling Vireo	<i>Vireo gilvus</i>	Redhead	<i>Larus delawarensis</i>
Western Bluebird	<i>Sialia mexicana</i>	Ring-billed Gull	<i>Aythya collaris</i>
Western Kingbird	<i>Tyrannus verticalis</i>	Ring-necked Duck	<i>Oxyura jamaicensis</i>
Western Meadowlark	<i>Sturnella neglecta</i>	Ruddy Duck	<i>Charadrius semipalmatus</i>
Western Tanager	<i>Piranga ludoviciana</i>	Semipalmated Plover	<i>Egretta thula</i>
Western Wood-Pewee	<i>Contopus sordidulus</i>	Snowy Egret	<i>Tringa solitaria</i>
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	Solitary Sandpiper	<i>Porzana carolina</i>
Wilson's Warbler	<i>Wilsonia pusilla</i>	Sora	<i>Actitis macularia</i>
Yellow Warbler	<i>Dendroica petechia</i>	Spotted Sandpiper	<i>Rallus limicola</i>
Yellow-breasted Chat	<i>Icteria virens</i>	Virginia Rail	<i>Aechmophorus occidentalis</i>
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>	Western grebe	<i>Plegadis chihii</i>
Yellow-rumped Warbler	<i>Dendroica coronata</i>	White-faced Ibis	<i>Catoptrophorus semipalmatus</i>
Ring-necked Pheasant	<i>Phasianus colchicus</i>	Willet	<i>Phalaropus tricolor</i>
Sharp-tailed Grouse	<i>Tympanuchus phasianellus</i>	Wilson's Phalarope	<i>Aix sponsa</i>
American Bittern	<i>Botaurus lentiginosus</i>	Wood duck	

REPTILES & AMPHIBIANS

Boreal Chorus Frog	<i>Pseudacris triseriatus maculata</i>
Bullfrog	<i>Rana catesbeiana</i>
Bullsnake	<i>Pituophis melanoleucus</i>
Great Plains toad	<i>Bufo cognatus</i>
Northern Leopard Frog	<i>Rana pipiens</i>
Prairie rattlesnake	<i>Crotalus viridis</i>
Red-sided garter snake	<i>Thamnophis sirtalis</i>
Short-horned lizard	<i>Phrynosoma douglassi</i>
Snapping Turtle	<i>Chelydra serpentina</i>
Tiger salamander	<i>Ambystoma tigrinum</i>
Western Painted Turtle	<i>Chrysemys picta</i>
Western Plains Garter Snake	<i>Thamnophis radix</i>

FISH

Stoneroller	<i>Campostoma anomalum</i>
Largemouth Bass	<i>Micropterus salmoides</i>

ROCKY FLATS NWR VASCULAR PLANT SPECIES LIST

(State listed noxious weeds are marked with an *)

FORBS

American Water Plantain	<i>Alisma trivale</i>	Golden Aster	<i>Chrysopsis fulcrata</i>
Common Arrowhead	<i>Sagittaria latifolia</i>	Blazing Star	<i>Liatris punctata</i>
Prostrate Pigweed	<i>Amaranthus graecizans</i>	Beggar-ticks	<i>Bidens frondosa</i>
Rough Pigweed	<i>Amaranthus retroflexus</i>	Canada Goldenrod	<i>Solidago canadensis</i>
Whiskbroom Parsley	<i>Harbouria trachypleura</i>	Cocklebur	<i>Xanthium strumarium</i>
Porter's Lovage	<i>Ligusticum porteri</i>	*Common Chicory	<i>Cichorium intybus</i>
Wild Parsley	<i>Lomatium orientale</i>	Common Ragweed	<i>Ambrosia artemisiifolia</i>
*Sweet Cicely	<i>Osmorhiza chiliensis</i>	Common Sunflower	<i>Helianthus annuus</i>
Poison Hemlock	<i>Conium maculatum</i>	False Boneset	<i>Kuhnia eupatorioides</i>
Wild Carrot	<i>Daucus carota</i>	False Salsify	<i>Scorzonera laciniata</i>
Hemp Dogbane	<i>Apocynum cannabinum</i>	Giant Ragweed	<i>Ambrosia trifida</i>
Plains Milkweed	<i>Asclepias pumila</i>	Ox-eye Daisy	<i>Chrysanthemum leucanthemum</i>
Narrow-leaved Milkweed	<i>Asclepias stenophylla</i>	Prickly Lettuce	<i>Lactuca serriola</i>
Swamp Milkweed	<i>Asclepias incarnata</i>	Rigid Goldenrod	<i>Solidago rigida</i>
Green Milkweed	<i>Asclepias viridiflora</i>	*Russian Knapweed	<i>Centaurea repens</i>
Showy Milkweed	<i>Asclepias speciosa</i>	Salsify	<i>Tragopogon porrifolius</i>
Hawksbeard	<i>Crepis runcinata</i>	*Scotch Thistle	<i>Onopordum acanthium</i>
*Canada Thistle	<i>Cirsium arvense</i>	Silky Wormwood	<i>Artemisia dracunculus</i>
Horseweed	<i>Cirsium arvense</i>	White Aster	<i>Aster ericoides</i>
Prickly Sow Thistle	<i>Conyza canadensis</i>	*Diffuse Knapweed	<i>Centaurea diffusa</i>
Aster	<i>Sonchus asper</i>	Aster	<i>Aster falcatus</i>
Easter Daisy	<i>Aster occidentalis</i>	Daisy Fleabane	<i>Erigeron strigosus</i>
Picradeniopsis	<i>Townsendia grandiflora</i>	Goldenglow	<i>Rudbeckia ampla</i>
	<i>Picradeniopsis oppositifolia</i>	Blue Lettuce	<i>Lactuca oblongifolia</i>
	<i>Ratibida columnifera</i>	Fleabane	<i>Erigeron pumilus</i>
Prairie Coneflower	<i>Cirsium undulatum</i>	Groundsel	<i>Senecio integerrimus</i>
Wavyleaf Thistle	<i>Happlopappus spinulosus</i>	Hawksbeard	<i>Crepis occidentalis</i>
Cutleaf Ironplant	<i>Machaeranthera canescens</i>	Low Goldenrod	<i>Solidago nana</i>
Hoary Aster	<i>Grindelia squarrosa</i>	Meadow Aster	<i>Aster campestris</i>
Curly-top Gumweed	<i>Microseris cuspidata</i>	Plains Sunflower	<i>Helianthus petiolaris</i>
False Dandelion	<i>Lygodesmia juncea</i>	Prairie Goldenrod	<i>Solidago missouriensis</i>
Skeleton-weed	<i>Gutierrezia sarothrae</i>	Prairie Ragwort	<i>Senecio plattensis</i>
Snakeweed	<i>Cirsium vulgare</i>	Pussytoes	<i>Antennaria parvifolia</i>
*Bull Thistle	<i>Thelesperma megapotanicum</i>	Sunflower	<i>Helianthus pumilus</i>
Greenthread	<i>Leucelene ericoides</i>	Showy Goldeneye	<i>Helimeris multiflora</i>
	<i>Stephanomeria pauciflora</i>	Arnica	<i>Arnica fulgens</i>
White Aster	<i>Dyssodia papposa</i>	Blanket Flower	<i>Gaillardia aristata</i>
Wire Lettuce	<i>Taraxacum laevigatum</i>	Golden Aster	<i>Chrysopsis villosa</i>
Fetid Marigold	<i>Aster fendleri</i>	Poverty Weed	<i>Iva axillaris</i>
Red Seeded Dandelion	<i>Erigeron canus</i>	Groundsel	<i>Senecio tridenticulatus</i>
Fendler's Aster	<i>Erigeron flagellaris</i>	LaVeta Fleabane	<i>Erigeron vetensis</i>
Fleabane	<i>Cirsium ochrocentrum</i>	Pink Pussytoes	<i>Antennaria microphylla</i>
Fleabane	<i>Solidago nemoralis</i>	Maximilian Sunflower	<i>Helianthus maximiliani</i>
Yellow Spine Thistle	<i>Solidago gigantea</i>	Goat's Beard	<i>Tragopogon dubius</i>
Gray Goldenrod	<i>Solidago mollis</i>	Cotton-batting	<i>Gnaphalium chilense</i>
Late Goldenrod	<i>Townsendia hookeri</i>	Fleabane	<i>Erigeron divergens</i>
Soft Goldenrod	<i>Arctium minus</i>	Groundsel	<i>Senecio spartioides</i>
Easter Daisy	<i>Ambrosia psilostachya</i>	Nuttall's Sunflower	<i>Helianthus nuttallii</i>
*Burdock	<i>Aster porteri</i>	Dandelion	<i>Taraxacum officinale</i>
Western Ragweed	<i>Senecio fendleri</i>	False Boneset	<i>Kuhnia chlorolepis</i>
Aster		Popcorn Flower	<i>Plagiobothrys scouleri</i>
Groundsel		Stickseed	<i>Lappula redowskii</i>
		Large-flowered Stickseed	<i>Hackelia floribunda</i>
		Miners Candle	<i>Cryptantha virgata</i>
		Bluebells	<i>Mertensia lanceolata</i>

Hound's Tongue	<i>Cynoglossum officinale</i>	Overi's Goosefoot	<i>Chenopodium overi</i>
Madwort	<i>Asperugo procumbens</i>	Lamb's Quarters	<i>Chenopodium album</i>
Puccoon	<i>Lithospermum incisum</i>	Pitseed Goosefoot	<i>Chenopodium berlandieri</i>
Southwestern Stoneseed	<i>Lithospermum multiflorum</i>	Dark Goosefoot	<i>Chenopodium atrovirens</i>
Bladderpod	<i>Lesquerella montana</i>	Goosefoot	<i>Chenopodium leptophyllum</i>
Field Peppergrass	<i>Lepidium campestre</i>	Fremont Goosefoot	<i>Chenopodium fremontii</i>
Flixweed	<i>Descurainia sophia</i>	Russian-Thistle	<i>Salsola iberica</i>
Hare's-ear Mustard	<i>Conringia orientalis</i>	Greater St. John's-wort	<i>Hypericum majus</i>
Lens-padded Hoary Cress	<i>Cardaria chalepensis</i>	Common St. John's-wort	<i>Hypericum perforatum</i>
Pale Alyssum	<i>Alyssum alyssoides</i>	Spiderwort	<i>Tradescantia occidentalis</i>
Shepherd's Purse	<i>Capsella bursa-pastoris</i>	Stonecrop	<i>Sedum lanceolatum</i>
Tower Mustard	<i>Arabis glabra</i>	Spurge	<i>Euphorbia robusta</i>
White Whitlowort	<i>Draba reptans</i>	Spurge	<i>Euphorbia spathulata</i>
Spreading Yellow Cress	<i>Rorippa sinuata</i>	Toothed Spurge	<i>Euphorbia dentata</i>
Western Wallflower	<i>Erysimum capitatum</i>	Noseburn	<i>Tragia ramosa</i>
Western Wallflower	<i>Erysimum capitatum</i>	Thyme-leaved Spurge	<i>Euphorbia serpyllifolia</i>
Tansy Mustard	<i>Descurainia richardsonii</i>	Snow-on-the-Mountain	<i>Euphorbia marginata</i>
Tansy Mustard	<i>Descurainia pinnata</i>	Fendler's Euphorbia	<i>Euphorbia fendleri</i>
Small-seeded False Flax	<i>Camelina microcarpa</i>	Pliant Milkvetch	<i>Astragalus flexuosus</i>
Bushy Wallflower	<i>Erysimum repandum</i>	Yellow Sweetclover	<i>Melilotus officinalis</i>
*Dame's Rocket	<i>Hesperis matronalis</i>	Purple Peavine	<i>Lathyrus eucosmus</i>
Field Penny Cress	<i>Thlaspi arvense</i>	Drummond Milkvetch	<i>Astragalus drummondii</i>
Tumbling Mustard	<i>Sisymbrium altissimum</i>	Field Milkvetch	<i>Astragalus agrestis</i>
Yellow Whitlowort	<i>Draba nemorosa</i>	Foothill Milkvetch	<i>Astragalus tridactylicus</i>
Northern Winter Cress	<i>Barbarea vulgaris</i>	Parry's Milkvetch	<i>Astragalus parryi</i>
Watercress	<i>Nasturtium officinale</i>	Three-fingered Milkvetch	<i>Astragalus tridactylicus</i>
Yellowrocket Wintercress	<i>Barbarea vulgaris</i>	Lotus Milk-Vetch	<i>Astragalus lotiflorus</i>
Double Bladder-pod	<i>Physaria vitulifera</i>	Birdfoot Trefoil	<i>Lotus corniculatus</i>
Peppergrass	<i>Lepidium densiflorum</i>	Black Locust	<i>Robinia pseudo-acacia</i>
Nipple Cactus	<i>Pediocactus simpsonii</i>	Black Medick	<i>Medicago lupulina</i>
Little Prickly Pear	<i>Opuntia fragilis</i>	Canada Milk-vetch	<i>Astragalus canadensis</i>
Nipple Cactus	<i>Coryphantha missouriensis</i>	False Indigo	<i>Amorpha fruticosa</i>
Eastern Prickly Pear	<i>Opuntia macrorhiza</i>	Red Clover	<i>Trifolium pratense</i>
Hedgehog Cactus	<i>Echinocereus viridiflorus</i>	White Sweetclover	<i>Melilotus alba</i>
Twistspine Prickly Pear	<i>Opuntia macrorhiza</i>	American Vetch	<i>Vicia americana</i>
Plains Prickly Pear	<i>Opuntia polyacantha</i>	Ground-plum	<i>Astragalus crassicaarpus</i>
Venus Looking Glass	<i>Triodanis perfoliata</i>	Missouri Milkvetch	<i>Astragalus missouriensis</i>
Venus' Looking Glass	<i>Triodanis leptocarpa</i>	Short's Milkvetch	<i>Astragalus shortianus</i>
Harebell	<i>Campanula rotundifolia</i>	Purple Locoweed	<i>Oxytropis lambertii</i>
Rocky Mountain Beeplant	<i>Cleome serrulata</i>	Wild Alfalfa	<i>Psoralea tenuiflora</i>
Snowberry	<i>Symphoricarpos oreophilus</i>	Wild Licorice	<i>Glycyrrhiza lepidota</i>
Western Snowberry	<i>Symphoricarpos occidentalis</i>	Draba Milk-Vetch	<i>Astragalus spathulatus</i>
Sand Spurry	<i>Spergularia rubra</i>	Purple Prairie Clover	<i>Dalea purpurea</i>
White Champion	<i>Silene pratensis</i>	Green Gentian	<i>Swertia radiata</i>
Fendler's Sandwort	<i>Arenaria fendleri</i>	Northern Gentian	<i>Gentiana affinis</i>
Champion	<i>Silene drummondii</i>	Filaria	<i>Erodium cicutarium</i>
Bouncing Bet	<i>Saponaria officinalis</i>	American Milfoil	<i>Myriophyllum exalbescens</i>
Common Mouse-Ear	<i>Cerastium vulgatum</i>	Waterleaf	<i>Hydrophyllum fendleri</i>
Prairie Chickweed	<i>Cerastium arvense</i>	Scorpionweed	<i>Phacelia heterophylla</i>
Sleepy Catchfly	<i>Silene antirrhina</i>	Blue-eyed Grass	<i>Sisyrinchium montanum</i>
Cow Cockle	<i>Vaccaria pyramidata</i>	Western Blue Flag	<i>Iris missouriensis</i>
Long-leaved Stitchwort	<i>Stellaria longifolia</i>	Rough Bugleweed	<i>Lycopus asper</i>
James' Nailwort	<i>Paronychia jamesii</i>	Catnip	<i>Nepeta cataria</i>
Coontail	<i>Ceratophyllum demersum</i>	Common Horehound	<i>Marrubium vulgare</i>
Kochia	<i>Kochia scoparia</i>	Field Mint	<i>Mentha arvensis</i>
		Selfheal	<i>Prunella vulgaris</i>

American Bugleweed	<i>Lycopus americanus</i>	Common Purslane	<i>Portulaca oleracea</i>
Spotted Bee-Balm	<i>Monarda pectinata</i>	Prairie Fameflower	<i>Talinum parviflorum</i>
Britton's Skullcap	<i>Scutellaria brittonii</i>	Spring Beauty	<i>Claytonia rosea</i>
Rough False Pennyroyal	<i>Hedeoma hispidum</i>	Floatingleaf Pondweed	<i>Potamogeton natans</i>
Spikenard	<i>Smilacina stellata</i>	Leafy Pondweed	<i>Potamogeton foliosus</i>
Wild White Onion	<i>Allium textile</i>	Fringed Loostripe	<i>Lysimachia ciliata</i>
Asparagus	<i>Asparagus officinalis</i>	Western Rock Jasmine	<i>Androsace occidentalis</i>
Mountain Lily	<i>Leucocrinum montanum</i>	Candle Anemone	<i>Anemone cylindrica</i>
Wild Onion	<i>Allium cernuum</i>	Macoun's Buttercup	<i>Ranunculus macounii</i>
Geyer's Onion	<i>Allium geyeri</i>	Hairy Leaf Buttercup	<i>Ranunculus trichophyllus</i>
Sego Lily	<i>Calochortus gunnisonii</i>	Purple Meadow Rue	<i>Thalictrum dasycarpum</i>
Norton's Flax	<i>Linum pratense</i>	Cursed Crowfoot	<i>Ranunculus scleratus</i>
Winged Loosestrife	<i>Lythrum alatum</i>	Mousetail	<i>Myosurus minimus</i>
Red False Mallow	<i>Sphaeralcea coccinea</i>	Pasque-flower	<i>Anemone patens</i>
White Checkermallow	<i>Sidalcea candida</i>	Blue Larkspur	<i>Delphinium nuttalianum</i>
Common Mallow	<i>Malva neglecta</i>	Yellow Avens	<i>Geum aleppicum</i>
Wild Four-O'Clock	<i>Mirabilis nyctaginea</i>	Apple	<i>Pyrus malus</i>
Hairy Four-O'Clock	<i>Mirabilis hirsuta</i>	Cinquefoil	<i>Potentilla pensylvanica</i>
Narrowleaf Four O'Clock	<i>Mirabilis linearis</i>	Norwegian Cinquefoil	<i>Potentilla norvegica</i>
Evening Primrose	<i>Oenothera howardii</i>	Wooly Cinquefoil	<i>Potentilla hippiana</i>
Yellow Stemless	<i>Oenothera howardii</i>	Striate Agrimony	<i>Agrimonia striata</i>
Evening Primrose	<i>Oenothera macrocarpa</i>	Bushy Cinquefoil	<i>Potentilla paradoxa</i>
Plains Yellow Primrose	<i>Calylophus serrulatus</i>	Cinquefoil	<i>Potentilla fissa</i>
Velvety Gaura	<i>Gaura parviflora</i>	Tall Cinquefoil	<i>Potentilla arguta</i>
Willow Herb	<i>Epilobium paniculatum</i>	Burnet	<i>Sanguisorba minor</i>
Scarlet Gaura	<i>Gaura coccinea</i>	Large-leaved Avens	<i>Geum macrophyllum</i>
Willow Herb	<i>Epilobium hornemanii</i>	Hybrid Cinquefoil	<i>Potentilla pulcherrima</i>
Combleaf Evening	<i>Oenothera coronopifolia</i>	Catchweed Bedstraw	<i>Galium aparine</i>
Primrose		Small Bedstraw	<i>Galium trifidum</i>
Northern Green Orchid	<i>Habenaria hyperborea</i>	Northern Bedstraw	<i>Galium septentrionale</i>
Broomrape	<i>Orobanche fasciculata</i>	Bastard Toadflax	<i>Comandra umbellata</i>
Gray-Green Wood Sorrel	<i>Oxalis dillenii</i>	Diamondleaf Saxifrage	<i>Saxifraga rhomoidea</i>
Prickly Poppy	<i>Argemone polyanthemus</i>	Alumroot	<i>Heuchera parvifolia</i>
Patagonian Plantain	<i>Plantago patagonica</i>	Toadflax	<i>Linaria dalmatica</i>
Common Plantain	<i>Plantago major</i>	Brooklime Speedwell	<i>Veronica americana</i>
English Plantain	<i>Plantago lanceolata</i>	Orange Paintbrush	<i>Castilleja integra</i>
Slender Phlox	<i>Microsteris gracilis</i>	Penstemon	<i>Penstemon secundiflorus</i>
Collomia	<i>Collomia linearis</i>	Rocky Mtn. Penstemon	<i>Penstemon strictus</i>
James' Wild Buckwheat	<i>Eriogonum jamesii</i>	Blue Lips	<i>Collinsia parviflora</i>
Knotweed	<i>Polygonum douglasii</i>	Butter-and-eggs	<i>Linaria vulgaris</i>
Knotweed	<i>Polygonum arenastrum</i>	Common Mullein	<i>Verbascum thapsus</i>
Bitter Dock	<i>Rumex obtusifolius</i>	Moth Mullein	<i>Verbascum blattaria</i>
Curly Dock	<i>Rumex crispus</i>	Water Speedwell	<i>Veronica anagallis-aquatica</i>
Knotweed	<i>Polygonum aviculare</i>	Slender Penstemon	<i>Penstemon virens</i>
Lady's Thumb	<i>Polygonum persicaria</i>	Downy Paintbrush	<i>Castilleja sessiliflora</i>
Pale Smartweed	<i>Polygonum lapathifolium</i>	Figwort	<i>Scrophularia lanceolata</i>
Pennsylvania Smartweed	<i>Polygonum pennsylvanicum</i>	Spikemoss	<i>Selaginella densa</i>
Sheep Sorrel	<i>Rumex acetosella</i>	Purple Ground Cherry	<i>Quincula lobata</i>
Water Pepper	<i>Polygonum hydropiper</i>	Buffalo Bur	<i>Solanum rostratum</i>
Wild Buckwheat	<i>Polygonum convolvulus</i>	Clammy Ground cherry	<i>Physalis heterophylla</i>
Knotweed	<i>Polygonum ramosissimum</i>	Cut-leaved Nightshade	<i>Solanum triflorum</i>
Spreading Wild Buckwheat	<i>Eriogonum effusum</i>	Virginia Ground Cherry	<i>Physalis virginiana</i>
Knotweed	<i>Polygonum sawatchense</i>	Pennsylvania Pellitory	<i>Parietaria pensylvanica</i>
Sulphur Flower	<i>Eriogonum umbellatum</i>	Fog-fruit	<i>Lippia cuneifolia</i>
Winged Eriogonum	<i>Eriogonum alatum</i>	Blue Vervain	<i>Verbena hastata</i>
Yellow Wild Buckwheat	<i>Eriogonum umbellatum</i>	Prostrate Vervain	<i>Verbena bracteata</i>

Canada Violet	<i>Viola scopulorum</i>	Alfalfa	<i>Medicago sativa ssp. sativa</i>
Colorado Violet	<i>Viola scopulorum</i>	Golden Banner	<i>Thermopsis rhombifolia</i> var. <i>divaricarpa</i>
Nodding Green Violet	<i>Hybanthus verticillatus</i>	Hoary Vetchling	<i>Lathyrus polymorphus</i> ssp. <i>incanus</i>
Rydberg's Violet	<i>Viola rydbergii</i>	Silvery Lupine	<i>Lupinus argenteus</i> var. <i>argenteus</i>
Yellow Prairie Violet	<i>Viola nuttallii</i>	Standing Milkvetch	<i>Astragalus adsurgens</i> var. <i>robustior</i>
Northern Bog Violet	<i>Viola sororia</i>	White Prairie Clover	<i>Dalea candida</i> var. <i>oligophylla</i>
Northern Bog Violet	<i>Viola sororia</i>	Common Wild Geranium	<i>Geranium caespitosum</i> ssp. <i>caespitosum</i>
Marsh Skullcap	<i>Scutellaria galericulata</i>	Hedge Nettle	<i>Stachys palustris ssp. pilosa</i>
Tansy Aster	<i>Machaeranthera</i> <i>tanacetifolia</i>	Wild Bergamot	<i>Monarda fistulosa</i> var. <i>menthifolia</i>
White Locoweed	<i>Oxytropis sericea</i>	Death Camass	<i>Zigadenus venenosus</i> var. <i>gramineus</i>
Anise Root	<i>Osmorhiza longistylis</i> var. <i>longistylis</i>	Blue Flax	<i>Linum perenne</i> var. <i>lewisii</i>
Cow Parsnip	<i>Heracleum sphondylium</i> ssp. <i>montanum</i>	Common Evening Primrose	<i>Oenothera villosa ssp. strigosa</i>
Musineon	<i>Musineon divaricatum</i> var. <i>hookeri</i>	Willow Herb	<i>Epilobium ciliatum</i> ssp. <i>glandulosum</i>
Water Hemlock	<i>Cicuta maculata</i> var. <i>angustifolia</i>	Gilia	<i>Gilia ophthalmoides</i> ssp. <i>clokeyi</i>
Water Parsnip	<i>Berula erecta</i> var. <i>incisum</i>	Navarretia	<i>Navarretia minima</i>
Trifid Mountain Fleabane	<i>Erigeron compositus</i> var. <i>dicoideus</i>	Spike Gilia	<i>Ipomopsis spicata</i> V. Grant
Field Sow Thistle	<i>Sonchus arvensis ssp.</i> <i>arvensis</i>	Willow Dock	<i>Rumex salicifolius ssp. tri</i> <i>angulivalvis</i>
Field Sow Thistle	<i>Sonchus arvensis ssp.</i> <i>uglinosus</i>	Willow-leaved Dock	<i>Rumex salicifolius ssp. tri</i> <i>angulivalvis</i>
Hymenopappus	<i>Hymenopappus filifolius</i> var. <i>cinereus</i>	Prairie Larkspur	<i>Delphinium virescens ssp.</i> <i>penardii</i>
Musk Thistle	<i>Carduus nutans ssp.</i> <i>macrolepis</i>	Cinquefoil	<i>Potentilla gracilis</i> var. <i>glabrata</i>
Oregon Fleabane	<i>Erigeron speciosa</i> var. <i>macranthus</i>	Penstemon	<i>Penstemon virgatus ssp.</i> <i>asa-grayi</i>
Panicled Aster	<i>Aster hesperius</i> var. <i>hesperius</i>	Purslane Speedwell	<i>Veronica peregrina</i> var. <i>xalapensis</i>
Smooth Blue Aster	<i>Aster laevis</i> var. <i>geyeri</i>	Roundleaf Monkey-flower	<i>Mimulus glabratus</i> var. <i>fremontii</i>
Stiff Sunflower	<i>Helianthus rigidus ssp.</i> <i>subrhomboideus</i>	Carrion Flower	<i>Smilax herbacea</i> var. <i>lasioneura</i>
Western Sagewort	<i>Artemisia campestris</i> ssp. <i>caudata</i>	Prairie Ground Cherry	<i>Physalis pumila ssp. hispida</i>
White Sage	<i>Artemisia ludoviciana</i> var. <i>ludoviciana</i>	Stinging Nettle	<i>Urtica dioica ssp. gracilis</i>
Yarrow	<i>Achillea millefolium ssp.</i> <i>lanulosa</i>	GRASSES	
Alder	<i>Alnus incana ssp. tenuifolia</i>	Bulrush	<i>Scirpus pallidus</i>
False Gromwell	<i>Onosmodium molle</i> var. <i>occidentale</i>	Sedge	<i>Carex brevior</i>
Alyssum	<i>Alyssum minus Rothmaler</i> var. <i>micranthus</i>	Spikerush	<i>Eleocharis acicularis</i>
Bog Yellow Cress	<i>Rorippa palustris ssp. hispida</i>	Sedge	<i>Carex eleocharis</i>
Rock Cress	<i>Arabis fendleri</i> var. <i>fendleri</i>	Sedge	<i>Carex interior</i>
Rock Cress	<i>Arabis hirsuta</i> var. <i>pynocarpa</i>	Spikerush	<i>Eleocharis macrostachya</i>
Great Lobelia	<i>Lobelia siphilitica</i> var. <i>ludoviciana</i>	Sedge	<i>Carex emoryi</i>
Silvery Lupine	<i>Lupinus argenteus ssp.</i> <i>ingratus</i>	Sedge	<i>Carex nebrascensis</i>
		Sedge	<i>Carex douglasii</i>

Sedge	<i>Carex oreocharis</i>	Slimleaf Dichanthelium	<i>Dichanthelium linearifolium</i>
Sedge	<i>Carex heliophila</i>	Muttongrass	<i>Poa fendleriana</i>
Sedge	<i>Carex simulata</i>	New Mexico Feather Grass	<i>Stipa neomexicana</i>
Fox Sedge	<i>Carex vulpinoidea</i>	Muhly	<i>Muhlenbergia filiformis</i>
Sedge	<i>Carex lanuginosa</i>	Northern Reedgrass	<i>Calamagrostis stricta</i>
Sedge	<i>Carex hystericina</i>	Sand Dropseed	<i>Sporobolus cryptandrus</i>
Sedge	<i>Carex stipata</i>	Sleepy Grass	<i>Stipa robusta</i>
Sedge	<i>Carex aurea</i>	Rattlesnake Grass	<i>Bromus briziformis</i>
Sedge	<i>Carex filifolia</i>	Russian Wild Rye	<i>Elymus juncea</i>
Sedge	<i>Carex athrostachya</i>	Wolftail	<i>Lycurus phleoides</i>
Sedge	<i>Carex scoparia</i>	*Jointed Goatgrass	<i>Aegilops cylindrica</i>
Sedge	<i>Carex rostrata</i>	Meadow Fescue	<i>Festuca pratensis</i>
Spikerush	<i>Eleocharis compressa</i>	Annual Bluegrass	<i>Poa annua</i>
Bulrush	<i>Scirpus pungens</i>	Bulbous Bluegrass	<i>Poa bulbosa</i>
Pungent Bulrush	<i>Scirpus pungens</i>	Canada Bluegrass	<i>Poa compressa</i>
Bulrush	<i>Scirpus validus</i>	Canada Wild Rye	<i>Elymus canadensis</i>
Sedge	<i>Carex praegracilis</i>	*Downy Brome	<i>Bromus tectorum</i>
Smooth Horsetail	<i>Equisetum laevigatum</i>	Fowl Bluegrass	<i>Poa palustris</i>
Field Horsetail	<i>Equisetum arvense</i>	Foxtail Barley	<i>Hordeum jubatum</i>
Torrey's Rush	<i>Juncus torreyi</i>	Kentucky Bluegrass	<i>Poa pratensis</i>
Articulate Rush	<i>Juncus articulatus</i>	Marsh Foxtail	<i>Alopecurus geniculatus</i>
Knotted Rush	<i>Juncus nodosus</i>	Meadow Foxtail	<i>Alopecurus pratensis</i>
Tracy Rush	<i>Juncus tracyi</i>	Orchardgrass	<i>Dactylis glomerata</i>
Rush	<i>Juncus longistylis</i>	Redtop	<i>Agrostis stolonifera</i>
Dudley Rush	<i>Juncus dudleyi</i>	Reed Canarygrass	<i>Phalaris arundinacea</i>
Inland Rush	<i>Juncus interior</i>	Rye	<i>Secale cereale</i>
Baltic Rush	<i>Juncus balticus</i>	Timothy	<i>Phleum pratense</i>
Prairie Dropseed	<i>Sporobolus heterolepis</i>	Wheat	<i>Triticum aestivum</i>
Crested Wheatgrass	<i>Agropyron desertorum</i>	Witchgrass	<i>Panicum capillare</i>
Blue Grama	<i>Bouteloua gracilis</i>	Hairy Grama	<i>Bouteloua hirsuta</i>
Thick-spike Wheatgrass	<i>Agropyron dasystachyum</i>	Prairie Cordgrass	<i>Spartina pectinata</i>
Intermediate Wheatgrass	<i>Agropyron intermedium</i>	Little Bluestem	<i>Andropogon scoparius</i>
Tall Wheatgrass	<i>Agropyron elongatum</i>	Poverty Grass	<i>Sporobolus neglectus</i>
Ring-grass Muhly	<i>Muhlenbergia torreyi</i>	Meadow Barley	<i>Hordeum brachyantherum</i>
Barnyard Grass	<i>Echinochloa crusgallii</i>	Western Wheatgrass	<i>Agropyron smithii</i>
Crested Wheatgrass	<i>Agropyron cristatum</i>	Tall Mannagrass	<i>Glyceria grandis</i>
Green Foxtail	<i>Setaria viridis</i>	Alkali Bluegrass	<i>Poa juncifolia</i>
Indian-grass	<i>Sorghastrum nutans</i>	Griffith wheatgrass	<i>Agropyron griffithsii</i>
Poverty Oatgrass	<i>Danthonia spicata</i>	Japanese Brome	<i>Bromus japonicus</i>
*Quackgrass	<i>Agropyron repens</i>	Green Needlegrass	<i>Stipa viridula</i>
Rabbitfoot Grass	<i>Polypogon monspeliensis</i>	Needle-and-thread	<i>Stipa comata</i>
Rice Cutgrass	<i>Leersia oryzoides</i>	Porcupine-grass	<i>Stipa spartea</i>
Fowl Mannagrass	<i>Glyceria striata</i>	Spike Muhly	<i>Muhlenbergia wrightii</i>
Junegrass	<i>Koeleria pyramidata</i>	Big Bluestem	<i>Andropogon gerardii</i>
Marsh Muhly	<i>Muhlenbergia racemosa</i>	Six-weeks Fescue	<i>Festuca octoflora</i>
Prairie Wedgegrass	<i>Sphenopholis obtusata</i>	Ticklegrass	<i>Agrostis scabra</i>
Rough Dropseed	<i>Sporobolus asper</i>	Switchgrass	<i>Panicum virgatum</i>
Side-oats Grama	<i>Bouteloua curtipendula</i>	Macoun's Wildrye	<i>Agrohordeum macounii</i>
Rescuegrass	<i>Ceratochloa marginata</i>	Common Cattail	<i>Typha latifolia</i>
Scratchgrass	<i>Muhlenbergia asperifolia</i>	Narrow-leaved Cattail	<i>Typha angustifolia</i>
Buffalo-grass	<i>Buchloe dactyloides</i>	Alkali Sacaton	<i>Sporobolus airoides</i>
Mountain Muhly	<i>Muhlenbergia montana</i>	Spikerush	<i>Eleocharis parvula</i>
Tumblegrass	<i>Schedonnardus paniculatus</i>		var. <i>anachaeta</i>
Bluebunch Wheatgrass	<i>Agropyron spicatum</i>	Scouring Rush	<i>Equisetum hyemale</i> var. <i>affine</i>
Indian Ricegrass	<i>Oryzopsis hymenoides</i>	Rush	<i>Juncus ensifolius</i> var. <i>montanus</i>
Canby's Bluegrass	<i>Poa canbyi</i>		

Fendler Threeawn
 Forktip Threeawn
 Inland Salt Grass
 Italian Ryegrass
 Red Threeawn
 Scribner Dichanthelium
 Sheep's Fescue
 Slender Wheatgrass
 Smooth Brome
 Squirreltail
brevifolium

SHRUBS

Yucca
 Silver Sage
 Oregon Grape
 Four-winged Saltbush
 Common Juniper
 Western Red Currant
 Buffalo Currant
 Golden Currant
 Common Gooseberry
 Ninebark
 Mountain Ninebark
 Hawthorne
 Mountain Ash
 Prickly Wild Rose
 Western Wild Rose
 Wild Plum
 Saskatoon Service-berry
 Prairie Wild Rose
 Boulder Raspberry
 New Mexico Sanbar Willow
 Yellow Willow
 White Coralberry
 Greenplume Rabbitbrush
 Rubber Rabbitbrush
 Highbush Cranberry
 New Jersey Tea
 Chokecherry
 Hawthorn
 Raspberry
 Sand Cherry
 Sandbar Willow

Aristida purpurea longiseta
Aristida basiramea var.
basiramea
Distichlis spicata var. *stricta*
Lolium perenne var. *aristatum*
Aristida purpurea var. *robusta*
Dichanthelium oligosanthes
 var. *scribnerianum*
Festuca ovina var. *rydbergii*
Agropyron caninum ssp. *majus*
Bromus inermis ssp. *inermis*
Sitanion hystrix var.

Yucca glauca
Artemisia frigida
Berberis repens
Atriplex canescens
Juniperus communis
Ribes cereum
Ribes aureum
Ribes aureum
Ribes inerme
Physocarpus opulifolius
Physocarpus monogynus
Crataegus erythropoda
Sorbus scopulina
Rosa acicularis
Rosa woodsii
Prunus americana
Amelanchier alnifolia
Rosa arkansana
Rubus deliciosus
Salix irrorata
Salix lutea
Symphoricarpos albus
Chrysothamnus nauseosus
 ssp. *graveolens*
Chrysothamnus nauseosus
 ssp. *nauseosus*
Viburnum opulus var.
americanum
Ceanothus herbaceus var.
pubescens
Prunus virginiana var.
melanocarpa
Crataegus succulenta var.
occidentalis
Rubus idaeus ssp.
sachalinensis
Prunus pumila var. *besseyi*
Salix exigua ssp. *interior*

TREES

Mountain Maple
 Water Birch
 Rocky Mountain Juniper
 *Russian Olive
 Douglas-Fir
 Ponderosa Pine
 Lanceleaf Cottonwood
 Peach-leaf Willow
 Narrow-leaved Cottonwood
 Crack Willow
 Silver Poplar
 Siberian Elm
 Box-elder
 Fragrant Sumac
 Plains Cottonwood

VINES

Poison Ivy
 Hedge Bindweed
 *Field Bindweed
 Evolvulus
 Western Clematis
 River-bank Grape
 Common Hops
 Hedge Bindweed
 Narrow Beardtongue

SOURCES

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Acer glabrum
Betula occidentalis
Juniperus scopulorum
Elaeagnus angustifolia
Pseudotsuga menziesii
Pinus ponderosa
Populus x
Salix amygdaloides
Populus angustifolia
Salix fragilis
Populus alba
Ulmus pumila
Acer negundo var. *interius*
Rhus aromatica var. *trilobata*
Populus deltoides ssp.
monilifera

Toxicodendron rydbergii
Calystegia macouni
Convolvulus arvensis
Evolvulus nuttallianus
Clematis ligusticifolia
Vitis riparia
Humulus lupulus lupuloides
Calystegia sepium ssp.
angulata
Penstemon angustifolius

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