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Federal Lands and Natural Resources: Overview and Selected Issues for the 114th Congress

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Summary

The Property Clause in the U.S. Constitution (Article IV, §3, Clause 2) grants Congress the authority to acquire, dispose of, and manage federal property. The 114th Congress is considering multiple federal land and natural resources policy and management issues. These issues are complex and often interrelated, and include how much and which land the government should own, and how lands and resources should be used and managed. These issues affect local communities, industries, ecosystems, and the nation.

There are approximately 640 million surface acres of federally owned land in the United States. Four agencies (referred to in this report as the federal land management agencies, or FLMAs) administer approximately 609 million surface acres (95%) of federal lands: the Forest Service (FS) in the Department of Agriculture (USDA), and the Bureau of Land Management (BLM), Fish and Wildlife Service (FWS), and National Park Service (NPS), all in the Department of the Interior (DOI). The federal estate also extends to the energy and mineral resources located below ground and offshore. These include about 700 million onshore acres of the federal subsurface mineral estate that are managed by BLM. In addition, the Bureau of Ocean Energy Management, also in DOI, manages access to approximately 1.7 billion offshore acres located in and below federal waters within and beyond the U.S. exclusive economic zone. However, not all of these onshore or offshore acres contain extractable mineral and energy resources.

This report introduces some of the broad themes and issues Congress considers when addressing federal land policy and resource management, including questions about the extent and location of the federal estate. For example, legislation has been introduced in the 114th Congress to continue funding laws that authorize the acquisition of additional lands, whereas other legislation has been introduced to restrict future acquisitions or to convey some land out of federal ownership or management. Other issues for Congress include whether certain lands or resources should have additional protections, for example, by designating certain lands as wilderness or national monuments, or protecting endangered species and their habitat. In addition, Congress faces questions about wildfire management on both federal and nonfederal lands, such as questions about funding suppression efforts.

Other policy questions involve how federal land should be used. Certain federal lands are considered primary- or dominant-use lands as specified in statute by Congress. For example, the dominant-use mission of the National Wildlife Refuge System is “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 within the United States for the benefit of present and future generations of Americans,” and the dual-use mission of the National Park System is to conserve unique resources and provide for their use and enjoyment by the public. BLM and FS lands, however, have a statutory mission to balance multiple uses: recreation, grazing, timber, habitat and watershed protection, and energy production, among others. Conflicts arise as users and land managers attempt to balance these uses both spatially and temporally. The 114th Congress is debating bills that would attempt to clarify and prioritize these uses. In addition to questions about balancing energy production against other uses, other questions include how to balance traditional and alternative energy production on federal lands.

Additional issues under debate are how or whether to charge for access and use of federal resources and lands, how to use those funds, and whether and how to compensate local governments for the presence of untaxed federal lands within their borders.

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Introduction

Federal land management decisions influence the U.S. economy, environment, and social welfare. These decisions determine how the nation's federal lands will be acquired or disposed of, developed, managed, and protected. Their impact may be local or regional, or may even rise to the national level. This report discusses selected federal land policy issues that the 114th Congress is considering through oversight, authorizations, or appropriations. The report also identifies CRS products that provide more detailed information.¹

The federal government manages roughly 640 million acres of surface land, approximately 28% of the 2.3 billion acres of land in the United States.² Four agencies (referred to in this report as the federal land management agencies, or FLMAs) administer a total of 609 million acres (95%) of federal lands:³ the Forest Service (FS) in the Department of Agriculture (USDA), and the Bureau of Land Management (BLM), Fish and Wildlife Service (FWS), and National Park Service (NPS), all in the Department of the Interior (DOI). Most of these lands are in the West and Alaska, where the percentage of federal ownership is significantly higher than elsewhere in the nation (see **Figure 1**). In addition, the Department of Defense administers approximately 14 million acres in military bases, training ranges, and more; and numerous other agencies administer the remaining federal acreage.⁴

The federal estate also extends to the energy and mineral resources located below ground and offshore. These include about 700 million onshore acres of the federal subsurface mineral estate and about 1.7 billion acres located beyond state coastal waters—referred to as U.S. offshore areas—although not all of these acres contain extractable mineral and energy resources. The U.S. offshore areas, which lie within and beyond the U.S. exclusive economic zone (EEZ), are also referred to as the outer continental shelf (OCS), and are managed by the Bureau of Ocean and Energy Management (BOEM).⁵ U.S. offshore areas represent approximately 4.5 million square miles, or an area about 23% larger than the total land area of the United States.

¹ For a listing of CRS products on federal land issues, see CRS Issues Before Congress, Energy, Environment, and Resources: Federal Lands at <http://www.crs.gov/pages/subissue.aspx?cliid=314&parentid=2522&preview=False>.

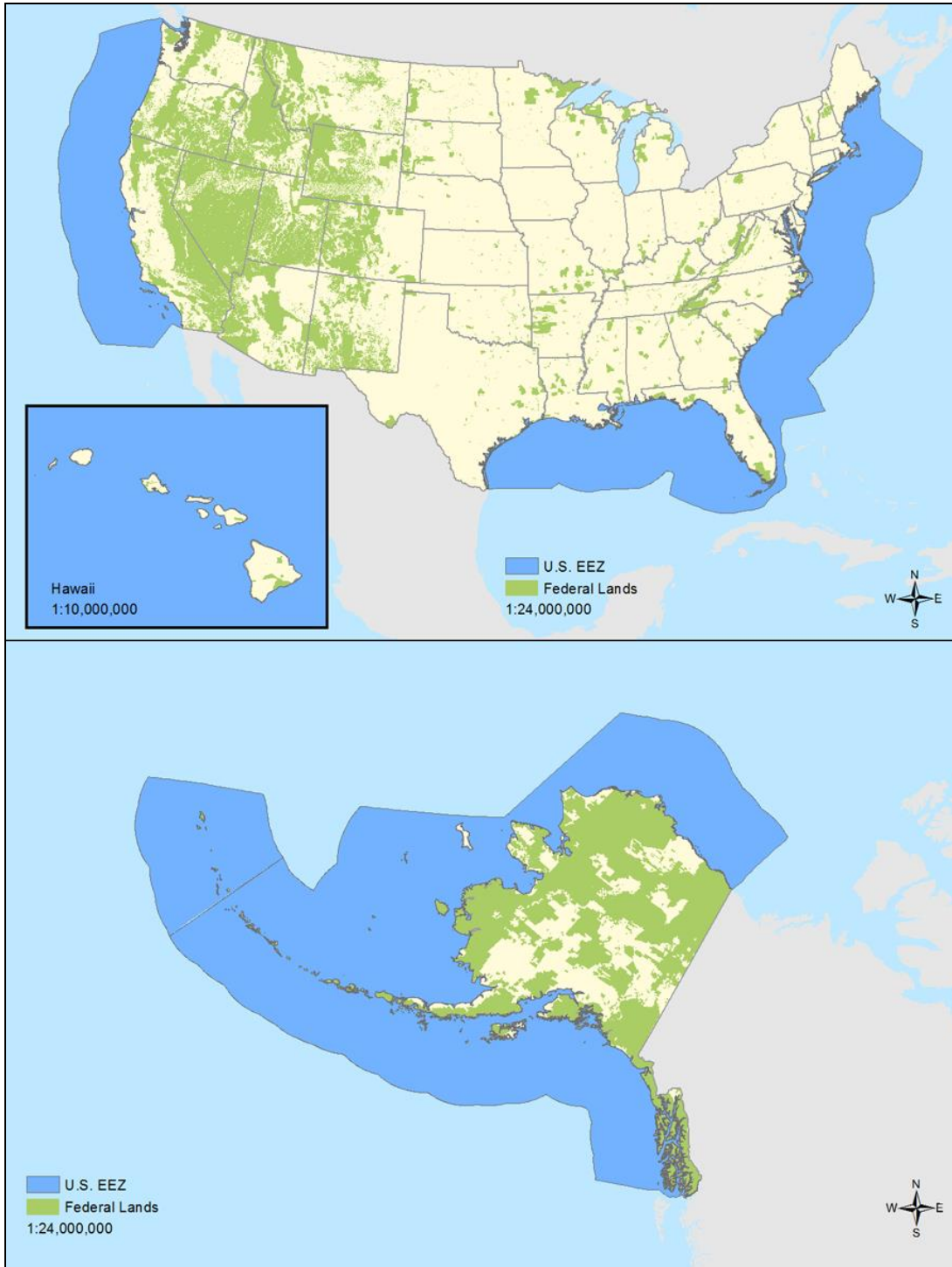
² Total federal land in the United States is not definitively known. In 2013, the four major federal land management agencies (FLMAs) managed a total of 608.9 million acres in the United States (611.0 million acres including territorial acreage). For 2013 and historical information on acres managed by the four FLMAs and the Department of Defense, by state, see CRS Report R42346, *Federal Land Ownership: Overview and Data*, by (name redacted), (name redacted), and (name redacted).

³ In this report, the term *federal land* is used to refer to any land owned (fee simple title) and managed by the federal government, regardless of its mode of acquisition or managing agency; it excludes lands administered by a federal agency under easements, leases, contracts, or other arrangements. Acreage totals also exclude federal lands for which the FLMA has secondary jurisdiction (another federal agency has primary jurisdiction and the lands are counted with that agency). Throughout the report, the term *federal land* may also include submerged federal lands where appropriate.

⁴ This report focuses on federal land managed by the four major FLMAs and the Bureau of Ocean and Energy Management (BOEM). Issues related to land management by other agencies, such as the Department of Defense, are covered in other CRS products.

⁵ It is not uncommon to see statutory references to “federal waters,” “U.S. exclusive economic zone (EEZ)” and “U.S. outer continental shelf (OCS).” These terms might be used interchangeably in some policy contexts; however, most experts caution that each term can refer to a distinct geographical area.

Figure I. Federal Onshore and Offshore Management Areas



Source: Congressional Research Service (CRS).

Notes: This figure reflects the approximately 623 million acres of surface federal lands managed by the federal land management agencies (FLMAs) as well as the Department of Defense (DOD) in the 50 states. This map shows a generalized image of federal lands and submerged lands without attempting to demonstrate with any specificity the geographical area of the U.S. exclusive economic zone (EEZ) as defined by state or federal courts, lawmakers, or agency officials. Due to scale considerations, all of the ocean area surrounding Hawaii in the figure is within the U.S. EEZ.

Federal land policy and management issues generally fall into several broad themes: Should federal land be managed to produce national or local benefits? How should current uses be balanced with future supplies and opportunities? Should current uses, management, and protection programs be replaced with alternatives? Who decides how federal land resources should be managed, and how are the decisions made? Some stakeholders seek to maintain or enhance the federal estate, while others seek to divest the federal estate to state or private ownership. Some issues, such as forest management and fire protection, involve both federal and nonfederal (state, local, or privately owned) land. In many cases, positions on federal land issues do not divide along clear party lines. Instead, they may be split along the lines of rural-urban, eastern-western, and coastal-interior interests.

Several committees in the House and Senate have jurisdiction over federal lands issues. For example, issues involving the management of the national forests cross multiple committee jurisdictions, including the Committees on Agriculture and Natural Resources in the House and the Committees on Agriculture, Nutrition and Forestry, and Energy and Natural Resources in the Senate. In addition, federal land issues are often addressed during consideration of annual appropriations for the FLMAs' programs and activities. Specifically, these agencies and programs typically receive appropriations through annual Interior, Environment, and Related Agencies appropriations laws.

This report introduces selected federal land issues, many of which are complex and interrelated. The discussions are broad and aim to introduce the reader to the range of issues regarding federal land management, while providing references to more detailed and specific CRS products available on the issue. After a brief overview of the FLMAs and BOEM, the issues are grouped into 10 broad categories:

- Federal Estate Ownership
- Funding for Federal Land Management
- Climate Management
- Energy and Minerals Resources and Development
- Forest Management
- Range Management
- Recreation on Federal Lands
- Supplemental Land Designations
- Species Management
- Wildfire Management

Agencies Managing Federal Lands (Onshore and Offshore)

Federal land ownership began when the original 13 states ceded title of some of their land to the newly formed central government. The early federal policy was to dispose of federal land to generate revenue and encourage western settlement and development. However, Congress began to withdraw, reserve, and protect federal land through the creation of national parks and forest reserves starting in the late 1800s. This “reservation era” laid the foundation for the current federal agencies, whose primary purpose is to manage natural resources on federal lands. The four FLMAs and BOEM were created at different times, with different missions and purposes, as discussed below.

Forest Service

The Forest Service (FS) is the oldest of the federal land management agencies. Although the first forest reserves—later renamed national forests—were created in 1891, FS was established later, in 1905 in the Department of Agriculture. The FS is charged with managing the National Forest System (NFS), as well as conducting forestry research and providing assistance to state and private forest owners. Today, FS administers 192.9 million acres of land—including 154 national forests and 20 national grasslands—predominately in the West (although FS manages more than half of all the eastern federal lands).⁶

The forest reserves were originally authorized to protect the lands, preserve water flows, and provide timber. These purposes were expanded in the Multiple-Use Sustained-Yield Act of 1960.⁷ This act added recreation, livestock grazing, and wildlife and fish habitat as purposes of the national forests, with wilderness added as a defined management objective in 1964.⁸ The act directed that these multiple uses be managed in a “harmonious and coordinated” manner and “in the combination that will best meet the needs of the American people.”⁹ The act also directed FS to manage the renewable resources under the principle of sustained yield, meaning to achieve a high level of resource outputs in perpetuity, without impairing the productivity of the lands. Congress reaffirmed and expanded the multiple-use sustained-yield management directive in subsequent legislation, including the Forest Rangeland Renewable Resources Planning Act of 1974 (RPA)¹⁰ and the National Forest Management Act of 1976 (NFMA).¹¹ The RPA and NFMA also direct FS to conduct long-range planning efforts to manage the national forests. Balancing the multiple uses across the national forest system has sometimes led to conflicts regarding management decisions and priorities.

Bureau of Land Management

The BLM was formed in 1946 by combining two existing agencies.¹² The BLM currently administers more onshore federal lands than any other agency—246 million acres. BLM lands are heavily concentrated (99.9%) in the 12 western states. Nearly half of the total acreage is in two states—Alaska (29%) and Nevada (19%).¹³ BLM lands, officially designated the National System of Public Lands, include grasslands, forests, high mountains, arctic tundra, and deserts. BLM lands often are intermingled with other federal or private lands, and the agency has authority to acquire, dispose of, and exchange lands under various statutes.

⁶ Forest Service (FS), *Land Areas Report, as of September 30, 2015*, Table 1, at <http://www.fs.fed.us/land/staff/lar/LAR2015/Table%2001%20-%20National%20and%20Regional%20Area%20Summary.pdf>.

⁷ P.L. 86-517; 16 U.S.C. §§528-531.

⁸ The Wilderness Act of 1964 (P.L. 88-577; 16 U.S.C. §§1131-1136) established wilderness as a management responsibility for all of the federal land management agencies.

⁹ 16 U.S.C. §531(a).

¹⁰ P.L. 93-378; 16 U.S.C. §§1600, et seq.

¹¹ P.L. 94-588, 16 U.S.C. §§1600, et seq.

¹² These two agencies were the Grazing Service, established in 1934 to administer grazing on public rangelands, and the General Land Office, established in 1812 to oversee the disposal of the federal lands. For more information, see Paul W. Gates, *History of Public Land Law Development*, written for the Public Land Law Review Commission (Washington, DC: GPO, November 1968), pp. 610-622.

¹³ Bureau of Land Management (BLM), *Public Land Statistics, 2014*, Table 1-4, at http://www.blm.gov/public_land_statistics/index.htm.

As defined in the Federal Land Policy and Management Act of 1976 (FLPMA),¹⁴ BLM management responsibilities are similar to those of FS—sustained yields of the multiple uses, including recreation, grazing, timber, watershed, wildlife and fish habitat, and conservation. For instance, about 155 million acres are available for livestock grazing, and about 30 million acres are in BLM’s National Landscape Conservation System. Some lands are withdrawn (restricted) from one or more uses, or managed for a predominant use. The agency inventories its lands and resources and develops land use plans for its land units. In addition, BLM administers onshore federal energy and mineral resources, covering nearly 700 million acres of federal subsurface mineral estate—including the subsurface of many national forests—although not all of these acres contain extractable mineral and energy resources. BLM also supervises the mineral operations on about 56 million acres of Indian trust lands. Conflicts sometimes arise among and between users and land managers as a result of the diversity of the lands and multiple use opportunities provided on BLM public lands.

Fish and Wildlife Service

The first national wildlife refuge was established by executive order in 1903.¹⁵ In 1966 the refuges were aggregated into the National Wildlife Refuge System, administered by the Fish and Wildlife Service (FWS). Today, FWS administers 91 million acres of federal land, of which 77 million acres (85%) are in Alaska.¹⁶ The FWS also administers several largely marine refuges around Hawaii and U.S. territories in the Pacific (53 million acres total). Several large marine national monuments¹⁷ are also administered by FWS, but are not part of the National Wildlife Refuge System.

In contrast to the multiple-use missions of FS and BLM, the FWS has a dominant-use mission—to conserve plants and animals for the benefit of present and future generations. Other uses (motorized recreation, timber cutting, grazing, etc.) are permitted, to the extent that they are compatible with the species’ needs, but wildlife-related activities (hunting, bird-watching, hiking, education, etc.) are considered “priority uses” and are given preference over consumptive uses such as timber, grazing, and minerals. Determining compatibility can be challenging, but the relative clarity of the mission generally has minimized conflicts over refuge management and use.

National Park Service

The National Park Service (NPS) was created in 1916¹⁸ to manage the growing number of park units established by Congress and monuments proclaimed by the President. The National Park System has grown to 410 units with diverse titles—national park, national preserve, national historic site, national recreation area, national battlefield, and many more.¹⁹ NPS administers 80

¹⁴ P.L. 94-579; 43 U.S.C. §§1701, et seq.

¹⁵ Executive Order 1014, “Enlarging Pelican Island Reservation, Florida,” March 13, 1903.

¹⁶ The national total includes national wildlife refuges, waterfowl production areas, and wildlife coordination areas under primary jurisdiction of the Fish and Wildlife Service (FWS). More than 98% of these lands are refuges. Lands in which FWS has secondary jurisdiction are not included.

¹⁷ FWS manages these areas in coordination with the National Oceanic and Atmospheric Administration (NOAA). See “National Marine” section in this report for more information on marine national monuments.

¹⁸ Act of August 25, 1916; 16 U.S.C. §§1-4.

¹⁹ For a discussion of the different park titles, see CRS Report R41816, *National Park System: What Do the Different Park Titles Signify?*, by (name redacted). Ten units were added to the system during the 113th Congress, including three units proclaimed by the President as national monuments and another seven units established by Congress in P.L. 113-291 of December 2014. (P.L. 113-291 also redesignated two of the presidentially proclaimed monuments as (continued...))

million acres of federal land in all 50 states, the District of Columbia, and U.S. territories. Roughly two-thirds of the system's lands are in Alaska.²⁰

The NPS has a dual mission—to preserve unique resources and to provide for their enjoyment by the public. Park units include spectacular natural areas (e.g., Yellowstone, Grand Canyon, and Arches National Parks), unique prehistoric sites (e.g., Mesa Verde National Park and Dinosaur National Monument), and special places in American history (e.g., Valley Forge National Historic Park, Gettysburg National Military Park, and the Statue of Liberty National Monument), as well as areas that focus on recreation (e.g., Cape Cod National Seashore and Glen Canyon National Recreation Area). NPS laws, regulations, and policies emphasize the conservation of park resources in conservation/use conflicts, and the system's lands and resources generally receive a higher level of protection than those of BLM and FS. The tension between providing recreation and preserving resources has produced many management challenges for NPS.

Bureau of Ocean Energy Management

The Bureau of Ocean Energy Management (BOEM) was established in 2010.²¹ BOEM was created as part of DOI structural reforms to replace the Minerals Management Service (MMS), which was previously responsible for managing offshore energy resources.²² BOEM's mission is to balance energy independence, environmental protection, and economic development through responsible, science-based management of offshore conventional and renewable energy resources in four regions: the Atlantic, the Pacific, the Gulf of Mexico, and the Arctic (see **Figure 1**).

BOEM manages energy resources in areas of the U.S. outer continental shelf (OCS) covering approximately 1.7 billion acres located beyond state waters. These areas are defined in the Outer Continental Shelf Lands Act, as amended in 1978 (OCSLA).²³ Most OCS acreage is concentrated in the Alaska region (more than 1 billion acres), but some OCS acreage exists off all coastal states.²⁴ OCS revenues have been allocated mainly to the General Treasury and to two federal programs—the Land and Water Conservation Fund and the Historic Preservation Fund.²⁵ Because

(...continued)

national historical parks and made other changes to the National Park System.)

²⁰ 52.4 million acres, 66% of the National Park Service (NPS) total.

²¹ Department of the Interior (DOI) Secretarial Order 3299, "Establishment of the Bureau of Ocean Energy Management, the Bureau of Safety and Environmental Enforcement, and the Office of Natural Resources Revenue," May 19, 2010, at <http://elips.doi.gov/ELIPS/0/doc/444/Page1.aspx>.

²² In June 2010, as part of the DOI response to the *Deepwater Horizon* oil spill in the Gulf of Mexico, former Interior secretary Ken Salazar changed the name of the agency to the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE). BOEMRE was subsequently split into three agencies: the Bureau of Ocean Energy Management (BOEM), the Bureau of Safety and Environmental Enforcement (BSEE) and the Office of Natural Resources Revenue (ONRR). See DOI Secretarial Order 3302, "Change of the Name of the Minerals Management Service to the Bureau of Ocean Energy Management, Regulation, and Enforcement," June 18, 2010, at <http://elips.doi.gov/elips/0/doc/165/Page1.aspx>.

²³ 43 U.S.C. §1331 et. seq. Generally, the outer continental shelf (OCS) begins 3-9 nautical miles from shore (depending on the state) and extends 200 nautical miles outward, or farther if the continental shelf extends beyond 200 miles; see 43 U.S.C. §1331(a). Federal jurisdiction can be subject to principles of international law. After 1978, the OCSLA statutory framework incorporated certain requirements of the National Environmental Policy Act (NEPA, 42 U.S.C. §4321). Separately, the United States declared its EEZ, extending no more than 200 nautical miles from the territorial sea baseline, in Presidential Proclamation No. 5030, 48 *Federal Register* 10605, March 14, 1983. For more information, see NOAA, "What Is the EEZ?" at <http://oceanservice.noaa.gov/facts/eez.html>.

²⁴ Not all of these acres contain energy resources.

²⁵ P.L. 90-401 and P.L. 94-422, respectively. The Land and Water Conservation Fund is authorized to receive \$900 million per year from OCS revenues. The Historic Preservation Fund was authorized to receive \$150 million per year, (continued...)

of the cross-cutting nature of its management responsibilities, BOEM shares some responsibilities with two other DOI agencies: the Bureau of Safety and Environmental Enforcement (BSEE) and the Office of Natural Resources Revenue (ONRR).²⁶

BOEM schedules and conducts oil and gas lease sales,²⁷ administers existing oil and gas leases, issues easements and leases for deploying renewable energy technologies,²⁸ and manages ownership records for offshore tracts leased for energy development, among other responsibilities. Furthermore, BOEM administers offshore sand and gravel resources to assist state beach-replenishment efforts.

CRS Products

CRS Report R42346, *Federal Land Ownership: Overview and Data*, by (name redacted), (name redacted), and (name redacted) .

CRS Report R42656, *Federal Land Management Agencies and Programs: CRS Experts*, by (name redacted)

Federal Estate Ownership

The ownership and use of federal lands has generated controversy for more than a century. One key area of debate is the extent of the federal estate; or, in other words, how much land the federal government should own (**Figure 1**). This debate includes questions about disposing of some federal land to state or private ownership, or if additional land should be acquired for recreation, conservation, open space, or other purposes. For lands retained in federal ownership, questions have centered around whether to curtail or expand certain land designations (e.g., national monuments proclaimed by the President or wilderness areas designated by Congress) or if current management procedures should be changed (e.g., to allow a greater role for state and local governments or to expand economic considerations in decisionmaking). A separate issue is how to ensure the security of international borders while protecting the federal lands and resources along the border, which are managed by multiple agencies.

Debates about federal land ownership—including efforts to divest federal lands—often hinge upon constitutional principles such as the Property Clause and the Supremacy Clause.²⁹ The

(...continued)

but this authorization expired on September 30, 2015. Other OCS revenues are deposited in various accounts designated for states, other programs, and the General Treasury.

²⁶ Each agency emphasizes a different mission. The Bureau of Safety and Environmental Enforcement is responsible for safety permitting and environmental enforcement, and the Office of Natural Resources and Revenue is responsible for collecting, auditing, and disbursing public revenues from offshore projects.

²⁷ 43 U.S.C. §1344. The current Five Year Program went into effect August 27, 2012, and is expected to remain in effect until 2017. DOI, BOAEM, “Final Programmatic Environmental Impact Statement (PEIS) for the Proposed Final Five-Year Outer Continental Shelf (OCS) Oil and Gas Leasing Program for 2012-2017,” 77 *Federal Register* 40080, July 6, 2012.

²⁸ P.L. 109-58, §388(a).

²⁹ Others have argued that the *equal footing doctrine* relates to federal land ownership, although no court has supported that theory. The term *equal footing* comes from the Northwest Ordinance of 1787, and state enabling acts included the phrase that the state was admitted “into the Union on an equal Footing with the original States (See, e.g., Nevada Enabling Act, 13 Stat. 30). The U.S. Supreme Court has further clarified that equal footing does not mean, however, that physical or economic situations among states must be the same.

Property Clause³⁰ grants Congress authority over the lands, territories, or other property of the United States: “the Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States.” Thus, Congress has broad and exclusive authority to govern the lands of the federal government. The Supremacy Clause³¹ establishes federal preemption over state law, meaning where a state law conflicts with federal law, the federal law will prevail. Through these constitutional principles, the U.S. Supreme Court has described Congress’s power over federal lands as “without limitations.”³²

Echoing efforts of the “Sagebrush Rebellion” during the 1980s, several states have initiated efforts to assume title to the federal lands within their borders in recent years. These efforts generally are in response to concerns about the amount of federal land within their state, as well as concerns about how the land is managed, fiscally and otherwise.³³ Efforts by a state to claim federal lands absent parallel federal legislation seem unlikely to succeed because of the Supremacy Clause of the Constitution. That clause gives federal laws—such as the laws establishing the states in which the states forever waived their rights to federal lands³⁴—supremacy over state laws. Further, each state constitution recognizes the U.S. Constitution as the supreme law of the land, reaffirming federal supremacy. Accordingly, state or local laws attempting to impose requirements on federal lands would be preempted by federal law.

CRS Products

CRS Report R42346, *Federal Land Ownership: Overview and Data*, by (name redacted), (name redacted), and (name redacted)

CRS Report R44267, *State Management of Federal Lands: Frequently Asked Questions*, by (name redacted) and (name redacted)

CRS Report R41770, *Leasing and Selling Federal Lands and Resources: Receipts and Their Disposition*, by (name redacted) and (name redacted)

Agency Acquisition and Disposal Authorities

Congress has granted the FLMAs varying authorities to acquire and dispose of land. The extent of this authority differs considerably among the FLMAs. The BLM has relatively broad authority for both acquisitions and disposals under FLPMA. By contrast, NPS has almost no general authority to acquire land to create new park units or to dispose of park lands without congressional action. The FS authority to acquire lands is limited mostly to lands within or contiguous to the boundaries of a national forest, including the authority to acquire access corridors to national forests across nonfederal lands.³⁵ The agency has various authorities to dispose of land, but they

³⁰ U.S. Const. Article IV, Section 3, cl. 2.

³¹ U.S. Const. Article VI, cl. 2.

³² See *United States v. San Francisco*, 310 U.S. 16, 29 (1940) and *Kleppe v. New Mexico*, 426 U.S. 529, 542-43.

³³ In January 2016, these concerns were raised by private citizens and citizen groups who took over a visitor center at the Malheur National Wildlife Refuge. Resulting charges against 25 individuals involved in the occupation and the death of one protester may provide a new focus for debate on federal land management and ownership. See CRS Insight IN10427, *Conflict and History at Malheur National Wildlife Refuge*, by (name redacted)

³⁴ For example, Utah’s enabling act (Act of July 16, 1984, §3, 28 Stat. 107) and Arizona’s enabling act (Act of June 20, 1910, §20, 36 Stat. 568) respectively, provided that “the people inhabiting proposed State do agree and declare that they forever disclaim all right and title to the unappropriated public lands lying within the boundaries thereof.”

³⁵ 43 U.S.C. §1715(a).

are relatively constrained and infrequently used. FWS has various authorities to acquire lands, but no general authority to dispose of its lands. For example, the Migratory Bird Conservation Act of 1929 grants FWS authority to acquire land for the National Wildlife Refuge System—using funds from sources that include the sale of hunting and conservation stamps—after state consultation and agreement.³⁶

The current acquisition and disposal authorities form the backdrop for consideration of measures to establish, modify, or eliminate authorities, or to provide for the acquisition or disposal of particular lands. Congress also addresses acquisition and disposal policy in the context of debates on the role and goals of the federal government in owning and managing land generally.

CRS Product

CRS Report RL34273, *Federal Land Ownership: Acquisition and Disposal Authorities*, by (name redacted) et al.

Funding Issues

Funding for federal land and natural resource programs presents an array of issues for Congress. The FLMAs receive their discretionary appropriations through Interior, Environment, and Related Agencies appropriations laws. In addition to questions related directly to appropriations, other funding questions relate to the compensation of states or counties for the presence of federal lands and resources, including whether to revise or maintain existing payment programs. A second set of questions relates to the Land and Water Conservation Fund, from which Congress appropriates funds for land acquisition by federal agencies, outdoor recreation needs of states, and other purposes. Under debate are the levels, sources, and uses of funding and whether the funding should be reauthorized and continued as discretionary. A third set of issues relates to the maintenance of assets by the agencies, particularly how to address their backlog of maintenance projects while achieving other government priorities.

CRS Products

CRS Report R44061, *Interior, Environment, and Related Agencies: FY2016 Appropriations*, by (name redacted)

CRS Report R43822, *Federal Land Management Agencies: Appropriations and Revenues*, coordinated by (name redacted)

Federal Payment and Revenue-Sharing Programs

As a condition of statehood, most states forever waived the right to tax federal lands within their borders. However, some assert that federal lands may create demand for services such as fire protection, police cooperation, or longer roads to skirt the federal property. Under federal law, local governments are compensated through various programs due to the presence of federally owned land. Some of these programs are run by specific agencies and apply only to that agency's land. In addition, portions of the rents and royalties charged for energy development and production on both onshore and offshore federal lands may be shared with the states or local

³⁶ 16 U.S.C. §§715 et seq. The Migratory Bird Conservation Act permanently authorized and appropriated a fund supported through the sale of hunting and conservation stamps, import duties on arms and ammunition, and a portion of certain refuge entrance fees.

governments where the land or mineral deposit is located. The adequacy, coverage, and equity of the payment formulas for all of these programs are recurring issues for Congress.

The most widely applicable onshore program, administered by DOI, applies to many types of federally owned land and is called Payments in Lieu of Taxes (PILT). Counties with NPS lands primarily receive payments under PILT. FS and BLM have additional payment programs based primarily on receipts from revenue-producing activities on their lands; FWS has a smaller payment program for certain refuge lands. One program (Secure Rural Schools, or SRS) compensates counties with NFS lands or certain BLM lands in Oregon for declining timber harvests. The authorization for this program expired at the end of FY2014, but the 114th Congress enacted a two-year reauthorization (P.L. 114-10), extending the payments through FY2016. The adequacy, coverage, and equity of the payment formulas for all of these programs are recurring issues for Congress, particularly in the cases of SRS and PILT payments.³⁷

The federal government also shares the revenue from mineral and energy development, both onshore and offshore. Revenue collected (rents, bonus, and royalties) from onshore mineral and energy development is shared 50% with the states, under the Mineral Leasing Act of 1920³⁸ (less administrative costs). Alaska, however, receives 90% of all revenues collected on federal onshore leases (less administrative costs).

Revenue collected from offshore mineral and energy development in the outer continental shelf (OCS) is shared with the coastal states, albeit at a lower rate. The Outer Continental Shelf Lands Act of 1953 (OCSLA),³⁹ as amended, allocates 27% of the total revenue generated from federal offshore leases to the coastal states (and the remaining to the Land and Water Conservation Fund, discussed below, the National Historic Preservation Fund, and the U.S. Treasury). However, the Gulf of Mexico Energy Security Act (GOMESA)⁴⁰ increased the rate to 37.5% for four coastal states⁴¹ starting in 2006 for specific OCS leases, and expanding to more OCS leases in 2017. States have advocated for a greater share of the OCS revenues based on the impacts oil and gas projects have on infrastructure and the environment, while others have contended that more of the revenue should go to the general fund of the Treasury.

CRS Products

CRS Report R42439, *Compensating State and Local Governments for the Tax-Exempt Status of Federal Lands: What Is Fair and Consistent?*, by (name redacted)

CRS Report RL31392, *PILT (Payments in Lieu of Taxes): Somewhat Simplified*, by (name redacted)

CRS Report R41303, *Reauthorizing the Secure Rural Schools and Community Self-Determination Act of 2000*, by (name redacted)

³⁷ A program commonly referred to as Impact Aid supports local schools based on the presence of children of federal employees, including military dependents. It provides some support to local governments, however, and to some extent it compensates for lost property tax revenue when military families live on federally owned land. For more information, see CRS Report RL33960, *The Elementary and Secondary Education Act, as Amended by the No Child Left Behind Act: A Primer*, by (name redacted).

³⁸ 30 U.S.C. §181.

³⁹ The Outer Continental Shelf Lands Act (OCSLA, 43 U.S.C. §§1331 et. seq.).

⁴⁰ P.L. 109-432.

⁴¹ The four states are Alabama, Louisiana, Mississippi, and Texas.

CRS Report R42404, *Fish and Wildlife Service: Compensation to Local Governments*, by (name redacted)

CRS Report R42951, *The Oregon and California Railroad Lands (O&C Lands): Issues for Congress*, by (name redacted)

CRS Report R40645, *U.S. Offshore Oil and Gas Resources: Prospects and Processes*, by (name redacted) and (name redacted)

Land and Water Conservation Fund

The Land and Water Conservation Fund Act of 1965⁴² was enacted to help preserve, develop, and assure access to outdoor recreation facilities to strengthen the health of U.S. citizens. The law created the Land and Water Conservation Fund (LWCF) in the U.S. Treasury as a funding source to implement its outdoor recreation purposes. The LWCF has been the principal source of monies for land acquisition for outdoor recreation by the four FLMAAs. The LWCF also has funded a matching grant program to assist states in recreational planning, acquiring recreational lands and waters, and developing outdoor recreational facilities. Further, LWCF has been used to fund other federal programs with purposes related to lands and resources.

The LWCF is authorized at \$900 million annually through September 30, 2018. While the fund accrues revenues and collections from multiple sources, nearly all of the revenues are derived from oil and gas leasing in the OCS. Congress determines the level of discretionary appropriations each year, and yearly appropriations have fluctuated widely since the origin of the program.⁴³ In addition to any discretionary appropriations, the state grant program receives (mandatory) permanent appropriations. Of the total revenues that have accrued throughout the history of the program (\$38.0 billion), less than half have been appropriated (\$17.5 billion).⁴⁴ Thus, the unappropriated balance in the fund is currently estimated at approximately \$20.5 billion.

There is a difference of opinion as to the appropriate level of funds for LWCF and how those funds should be used. Current congressional issues include deciding the amount to appropriate for land acquisition, the state grant program, and other purposes. Several other issues have been under debate, including whether to authorize the LWCF to accrue \$900 million annually beyond 2018; provide the fund with permanent appropriations at the authorized level; direct revenues from additional activities to the LWCF; and limit the use of funds for particular purposes, such as federal land acquisition, and require some of the funds to be used for certain purposes, such as facility maintenance. Another area of focus is the state grant program, with issues including its priority relative to federal land acquisition, the impact of anticipated increases in mandatory funding, and the way in which funds are apportioned among the states.

CRS Products

CRS Report RL33531, *Land and Water Conservation Fund: Overview, Funding History, and Issues*, by (name redacted)

⁴² Land and Water Conservation Fund Act of September 3, 1964; P.L. 88-578, 78 Stat. 897. 54 U.S.C. §§200301, et seq.

⁴³ Mandatory appropriations are provided to the state grant program under §105, Division C, P.L. 109-432.

⁴⁴ These figures are estimated through FY2016.

CRS Report R44121, *Land and Water Conservation Fund: Appropriations for “Other Purposes”*, by (name redacted)

CRS In Focus IF10323, *Land and Water Conservation Fund (LWCF): Questions and Answers Related to Expired Provisions*, by (name redacted) and (name redacted)

Deferred Maintenance

The FLMAs have maintenance responsibility for their buildings, roads and trails, recreation sites, and other infrastructure. Congress continues to focus on the agencies’ deferred maintenance, often called the maintenance backlog, defined as maintenance that “was not performed when it should have been or was scheduled to be and which, therefore, is put off or delayed for a future period.”⁴⁵ The agencies assert that continuing to defer maintenance of facilities accelerates their rate of deterioration, increases their repair costs, and decreases their value.

Congressional and administrative attention has centered on the NPS backlog, which has continued to increase from an FY1999 estimate of \$4.25 billion in nominal dollars. Currently, DOI estimates deferred maintenance for NPS for FY2015 at \$11.7 billion.⁴⁶ Roughly half of the backlogged maintenance is for roads, parking areas, bridges, and tunnels. The other FLMAs also have maintenance backlogs. DOI estimates that deferred maintenance for FY2015 for FWS is at \$1.3 billion and the BLM backlog is at \$0.7 billion. FS estimated its backlog for FY2015 at \$5.2 billion.⁴⁷ Thus, the four agencies together had a combined FY2015 backlog estimated at \$19.0 billion.

The backlogs have been attributed to decades of funding shortfalls to address capital improvement projects. However, it is not always clear how much total funding has been provided for deferred maintenance each year because some annual presidential budget requests and appropriations documents did not identify and aggregate all funds for deferred maintenance. Currently, there is debate over the appropriate level of funds to maintain infrastructure, whether to use funds from other discretionary or mandatory programs or sources, how to balance maintenance of the existing infrastructure with the acquisition of new assets, and the priority of maintaining infrastructure relative to other government functions.

CRS Product

CRS Report R43997, *Deferred Maintenance of Federal Land Management Agencies: FY2005-FY2014 Estimates*, by (name redacted)

Climate Change and Federal Land Management

Scientific evidence shows that the United States’ climate has been changing in recent decades.⁴⁸ This poses several interrelated and complex issues for the management of federal lands and

⁴⁵ This definition is taken from the *Statement of Federal Financial Accounting Standards No. 6*, p. 31, available on the website of the Federal Accounting Standards Advisory Board at <http://www.fasab.gov/pdf/files/sffas-6.pdf>.

⁴⁶ The NPS estimate is \$11.9 billion including assets which the NPS does not own.

⁴⁷ The estimates of deferred maintenance of DOI agencies were provided to CRS by DOI on February 16, 2016. The FS estimate is contained in FS, *Fiscal Year 2017 Budget Justification*, p. 411, at <http://www.fs.fed.us/about-agency/budget-performance>.

⁴⁸ This report does not address the causes of multi-decadal climate change. For more discussion of climate change science, see National Research Council, *Advancing the Science of Climate Change*, 2010. See also CRS Report (continued...)

resources, in terms of mitigation, adaptation, and resiliency. Overall, climate change is introducing uncertainty about conditions previously considered relatively stable and predictable. Given the diversity of federal land and resources, concerns are wide-ranging and include invasive species, sea-level rise, wildlife habitat changes, and vulnerability to extreme weather events, as well as concerns about the effects of these changes on tourism and recreation. More specific observed impacts include a fire season that begins earlier and lasts longer, warmer winter temperatures that allow various insect and disease infestations to persist, thinner snowpacks that melt earlier and contribute to drought conditions, and habitat shifts that may or may not exacerbate the status of sensitive species. Another concern is how climate change may affect some iconic federal lands, such as the diminishing size of the glaciers that cover Glacier National Park and several parks in Alaska,⁴⁹ or the flooding of some wildlife refuges.

The role of the federal government in responding to climate change is currently under debate. Some stakeholders see future climate conditions as representing an increased risk to the effective performance of the FLMAs' missions and roles. Others are concerned that a focus on climate change adaptation may divert resources and attention from other agency activities and near-term challenges. The debate largely hinges on how to make investments that will be cost-effective in assisting the agencies to perform their activities successfully in the near term and in future decades.

A related debate is the role of federal agencies—particularly BLM and BOEM—in energy production on federal lands. Specifically in question is the extent to which the agencies should provide access to and promote the different sources of energy production. Both traditional sources of energy (non-renewable fossil fuels such as oil, gas, and coal) and alternative sources of energy (renewable fuels such as solar, wind, and geothermal) are available on federal lands. However, since fossil fuel emissions contribute to climate change, some assert that the agencies should prioritize renewable energy production on federal lands over traditional energy sources.

GAO Reports on Climate Change and Federal Land Management

Various Adaptation Efforts Are Underway at Key Natural Resource Management Agencies, GAO-13-253, May 31, 2013, <http://www.gao.gov/products/gao-13-253>.

Climate Change: Future Federal Adaptation Efforts Could Better Support Local Infrastructure Decision Makers, GAO-13-242, April 12, 2013, <http://www.gao.gov/products/gao-13-242>.

High Risk Series: An Update. GAO-15-290, February 11, 2015, <http://www.gao.gov/highrisk>.

Climate Change: Agencies Should Develop Guidance for Addressing the Effects on Federal Land and Water Resources, GAO-07-863, August 7, 2007, <http://www.gao.gov/products/GAO-07-863>.

Adaptation: Strategic Federal Planning Could Help Government Officials Make More Informed Decisions, GAO-10-113, October 7, 2009, <http://www.gao.gov/products/GAO-10-113>.

Congress is addressing agency climate change efforts through appropriations, oversight, and legislation. Issues for Congress include whether additional guidance, statutes, or regulations for climate change are needed. More specific legislative issues for Congress may be the extent to which federal resources support a strategy to achieve long-term climate change policy goals, the demands of climate change programming for the FLMAs and the resources they manage,

(...continued)

R43229, *Climate Change Science: Key Points*, by (name redacted)

⁴⁹ Gregory T. Pederson, Stephen T. Gray, and Daniel B. Fagre, *Long-Duration Drought Variability and Impacts on Ecosystem Services: A Case Study from Glacier National Park, Montana*, U.S. Geologic Survey, Earth Interactions, volume 10, paper 4, January 2006, at <http://www.ncdc.noaa.gov/paleo/pubs/pederson2006/pederson2006.html>.

proposals to restructure or improve collaboration among the FLMAs regarding climate change activities, and possible reporting requirements to support congressional decisionmaking and oversight.

CRS Products

CRS Report R43915, *Climate Change Adaptation by Federal Agencies: An Analysis of Plans and Issues for Congress*, coordinated by (name redacted)

CRS Report R42613, *Climate Change and Existing Law: A Survey of Legal Issues Past, Present, and Future*, by (name redacted)

CRS Report R43227, *Federal Climate Change Funding from FY2008 to FY2014*, by (name redacted), (name redacted), and (name redacted)

CRS Report R43229, *Climate Change Science: Key Points*, by (name redacted)

CRS Report R43120, *President Obama's Climate Action Plan*, coordinated by (name redacted)

CRS Report R41144, *Deforestation and Climate Change*, by (name redacted)

CRS Report R41691, *Forest Management for Resilience and Adaptation*, by (name redacted)

Energy and Mineral Resources

Much of the onshore federal estate is open to energy and mineral exploration and development, including most BLM and many FS lands. However, many NPS lands and areas within the National Wilderness Preservation System, as well as certain other federal lands, have been specifically withdrawn from exploration and development.⁵⁰ Offshore federal resources, within and beyond the U.S. EEZ, are also open for exploration and development.

Energy production on federal lands accounts for a significant amount of total U.S. energy production. For example, in FY2015, approximately 21% of crude oil, 12% of natural gas, and 44% of coal production came from federal lands.⁵¹ This includes approximately 23,700 federal onshore oil and gas leases in production on 12.5 million acres of surface federal lands and 1,025 federal OCS leases in production on about 5 million acres offshore.⁵² There are 309 federal coal leases on about 474,000 acres and about 400,000 active mining claims on federal public domain lands.⁵³ Federal lands also are available for renewable energy projects. BLM manages the solar and wind energy programs on about 20 million acres for each program and about 800 geothermal leases on federal lands.⁵⁴ Geothermal capacity on federal lands represents 40% of U.S. total geothermal electric generating capacity. Solar and wind energy potential on federal lands is

⁵⁰ The Mining in the Parks Act of 1976 (16 U.S.C. §§1901 et seq.) closed all NPS units to the location of new mining claims, although existing claims must still be honored (see 36 C.F.R. Part 9B). P.L. 95-495 §11(a) is an example of a wilderness designation that withdrew the area from mining and mineral exploration.

⁵¹ Onshore data from the BLM Budget Justifications, FY2017. Offshore data from BOEM's Combined Leasing Status Report, February 2, 2015, at <http://www.boem.gov>.

⁵² In FY2014, there were 46,123 onshore federal oil and gas active leases and 6,056 in the OCS. BOEM reports that as of March 2016, there were 4,902 active leases in the OCS. Comparable onshore data was not available at the time of this writing.

⁵³ BLM, "Coal Operations" and "Federal Coal Leasing," at http://www.blm.gov/wo/st/en/prog/energy/coal_and_non-energy.html.

⁵⁴ BLM, "New Energy for America," at http://www.blm.gov/wo/st/en/prog/energy/renewable_energy.html.

growing and, based on BLM-approved projects, there is potential for 5,000 megawatts (MW) of wind and nearly 8,800 MW of solar energy on federal lands.⁵⁵

The 114th Congress is debating issues related to access to and availability of onshore and offshore federal lands for energy and mineral development, as well as to how to balance energy and mineral development, environmental protection, and other uses for those federal lands. Some would like to open more federal lands for energy development, whereas others have sought to retain or increase restrictions and withdrawals for certain areas they consider too sensitive or inappropriate for energy development (including some areas for renewable energy projects). Congress also has focused on the energy and mineral permitting processes, the timeline for energy and mineral development, and debates over royalty collections. These issues are described in more detail in the following sections.

CRS Products

CRS Report R42756, *Energy Policy: 114th Congress Issues*, by (name redacted)

CRS Report R41770, *Leasing and Selling Federal Lands and Resources: Receipts and Their Disposition*, by (name redacted) and (name redacted)

CRS Report R43891, *Mineral Royalties on Federal Lands: Issues for Congress*, by (name redacted)

Onshore Resources

Oil and Natural Gas

Onshore oil and natural gas produced on federal lands account for 5% and 8% of total U.S. oil and gas production, respectively.⁵⁶ Development of oil, gas, and coal on federal lands is governed primarily by the Mineral Leasing Act of 1920 (MLA).⁵⁷ The MLA authorizes the Secretary of the Interior—through BLM—to lease the subsurface rights to virtually all BLM and FS lands that contain fossil fuel deposits, with the federal government retaining title to the lands.⁵⁸ The MLA authorizes both competitive bidding and noncompetitive application processes for oil, gas, and coal exploration and production leases. Leases include an annual rental fee and a royalty payment generally determined by a percentage of the value or amount of the resource removed or sold from the federal land. In addition, the Energy Policy Act of 2005 (EPA05),⁵⁹ which amended the MLA, also includes provisions governing access, leasing, and management of energy development on BLM and FS lands.⁶⁰

⁵⁵ The general statutory framework for solar and wind energy development on federal lands is contained within Title V of the Federal Land Policy and Management Act of 1976, under its provisions for rights-of-way (ROW) grants (43 U.S.C. 1761).

⁵⁶ BLM, Budget Justifications, FY2017, p. VII-98.

⁵⁷ 30 U.S.C. §181.

⁵⁸ Exceptions include most BLM and FS lands classified as wilderness, lands incorporated in cities and towns, and lands that have otherwise been administratively or statutorily withdrawn from entry.

⁵⁹ P.L. 109-58.

⁶⁰ For further information, see CRS Report R40806, *Energy Projects on Federal Lands: Leasing and Authorization*, by (name redacted)

Access to federal lands and permitting projects for energy and mineral development have been controversial issues. (See also “Arctic National Wildlife Refuge: Energy Development or Wilderness?”) According to a 2008 report, out of 279 million acres of federal land or federal mineral estate with oil and gas potential, 113 million acres are open and accessible for oil and gas development and about 166 million acres were off limits or inaccessible.⁶¹ The oil and gas industry contends that entry into the currently unavailable areas is necessary to ensure future domestic oil and gas supplies. Opponents maintain that the restricted lands are unique or environmentally sensitive and that the United States could realize equivalent energy gains through conservation and increased exploration on current leases or elsewhere. A related access issue is the extent to which BLM or FS may regulate the approximately 3,400 oil and gas wells on federal lands that are hydraulically fractured annually. BLM proposed two different draft rules—one in 2012 and then a revision in 2013⁶²—before releasing final regulations for hydraulic fracturing on federal lands on March 20, 2015.⁶³ The regulations also would extend to national forests, although FS is debating this issue during the forest planning process at the individual unit level.

Another controversial issue is the permitting process and timeline, which EPA05 revised for oil and gas permits. Although the time it takes BLM to process applications has decreased since FY2006, the time it takes applicants to respond and resolve issues with the applications has increased over that time period.⁶⁴ EPA05 also authorized a pilot project to improve efficiency of processing oil and gas permits through FY2015.⁶⁵ After three years of implementation, a 2008 BLM report described improved interagency communication and a reduction in the time needed for BLM to review and process permit applications in the pilot locations. EPA05 requires that the Secretary of the Interior “makes a recommendation to the President regarding whether the pilot project should be implemented throughout the United States.” Funding for the pilot program was made permanent under the FY2015 National Defense Authorization Act, P.L. 113-291.

Congress is debating increasing royalty rates on onshore federal oil and gas leases. According to the MLA, if a lease produces oil or gas, a royalty is paid to the landowner on the value of extracted production. The onshore royalty rate for federal oil and gas leases has remained at the statutory minimum of 12.5% since the enactment of the MLA in 1920. However, royalty rates for offshore leases currently range from 12.5% to 18.75%. A proposed rule that would update BLM regulations on reducing waste from flaring, leaks, and venting of natural gas on federal lands would also give the Secretary of the Interior discretion to raise the federal onshore oil and gas royalty rate above its 12.5% statutory minimum for competitive leases.⁶⁶

⁶¹ U.S. Departments of the Interior, of Agriculture, and of Energy, *Inventory of Onshore Federal Oil and Natural Gas Resources and Restrictions to Their Development (Phase III)*, May 2008, available on the BLM website at http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/EPCA_III.html. The availability of public lands for oil and gas leasing can be divided into three categories: lands open under standard lease terms, open to leasing with restrictions, and closed to leasing.

⁶² DOI, BLM, “Oil and Gas; Well Stimulation, Including Hydraulic Fracturing, on Federal and Indian Lands,” 77 *Federal Register* 27691, May 11, 2012, and DOI, BLM, “Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands,” 78 *Federal Register* 31636, May 24, 2013.

⁶³ DOI, BLM, “Final Agency Draft, 4310-84P, Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands,” 43 C.F.R. §Part 3160.

⁶⁴ BLM, “Average Application for Permit to Drill (APD) Approval Timeframes: FY2005-FY2012,” http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/statistics/apd_chart.html.

⁶⁵ DOI, BLM, *Year Two Report: Section 365 of the Energy Policy Act of 2005—Pilot Project to Improve Federal Permit Coordination*, February 2008.

⁶⁶ DOI, BLM, “Water Prevention, Production Subject to Royalties, and Resource Conservation,” 81 *Federal Register* (continued...)

Coal

Congress debates several issues regarding coal production on federal lands, including how to balance coal production against other resource values. Other concerns include how to assess the value of the coal resource, what is the fair market value (e.g., minimum bids) for the coal, and what should be the government's royalty. In response to these congressional concerns, a 2013 GAO analysis found inconsistencies in how BLM evaluated and documented federal coal leases.⁶⁷ In addition, a 2013 DOI Inspector General report found BLM may have violated provisions in the MLA by accepting below-cost bids for federal coal leases.⁶⁸ The Secretary of the Interior announced the initiation of a new rule for the valuation of coal. A proposed rule was published on January 6, 2015.⁶⁹ In the proposal, the Office of Natural Resources Revenue reaffirms that the value for royalty purposes is at or near the lease and that gross proceeds from arm's-length contracts are the best indication of market value.

On January 16, 2016, President Obama announced a moratorium on federal coal leasing. The purpose of the current moratorium is to examine the federal coal leasing program and to determine whether it needs to be "modernized." The Secretary directed BLM to prepare a programmatic environmental impact statement of the coal leasing program to serve as the basis for a comprehensive review. There has been both support and opposition in Congress to the moratorium.

CRS Products

CRS Report R43011, *U.S. and World Coal Production, Federal Taxes, and Incentives*, coordinated by (name redacted) .

CRS Report R40806, *Energy Projects on Federal Lands: Leasing and Authorization*, by (name redacted)

CRS Report R42432, *U.S. Crude Oil and Natural Gas Production in Federal and Nonfederal Areas*, by (name redacted) .

Renewable Energy Sources

Both BLM and FS manage land that is considered suitable for renewable energy generation and as such have authorized projects for geothermal, wind, solar, and biomass energy projects. Interest in renewable energy projects comes in part from concern over the impact of emissions from fossil fuel-fired power plants but also is driven by the increasing adoption of statewide renewable portfolio standards that require electricity producers to supply a certain minimum share (which varies by state) of electricity from renewable sources.⁷⁰ Congressional interest in

(...continued)

6616, February 8, 2016.

⁶⁷ U.S. Government Accountability Office, *Coal Leasing: BLM Could Enhance Appraisal Process, More Explicitly Consider Coal Exports, and Provide More Public Information*, GAO-14-140, December 2013, at <http://www.gao.gov/assets/660/659801.pdf>.

⁶⁸ DOI, Office of Inspector General, *Coal Management Program*, CR-EV-BLM-0001-2012, June 11, 2013, at <http://www.doi.gov/oig/reports/upload/CR-EV-BLM-0001-2012Public.pdf>.

⁶⁹ DOI, Natural Resources Revenue Office, "Consolidated Federal Oil and Gas and Federal and Indian Coal Valuation Reform," 80 *Federal Register* 2014-30033, January 6, 2015.

⁷⁰ As of April 1, 2015, 29 states and the District of Columbia have enforceable renewable portfolio standards and 8 states have voluntary goals for renewable generation. See <http://www.dsireusa.org/resources/detailed-summary-maps/>.

renewable energy resources on onshore federal lands has focused on whether to expand the leasing program for wind and solar projects versus maintaining the current right-of-way authorization process, and how to balance environmental concerns with the development and production of these resources. For example, some of these environmental concerns include the potential wildlife impacts from wind turbines and water supply requirements for solar energy.

CRS Product

CRS Report R40806, *Energy Projects on Federal Lands: Leasing and Authorization*, by (name redacted)

Geothermal Energy

Geothermal energy is a renewable energy source produced from heat stored under the surface of the earth. Geothermal leasing on federal lands is conducted under the authority of the Geothermal Steam Act of 1970, as amended.⁷¹ BLM manages geothermal permitting and leasing requirements for federal lands, in consultation with FS. In 2008, BLM and FS made 110 million acres of BLM public lands and 79 million acres of NFS lands available for leasing and potential development, pending site-specific analysis of future leasing applications.⁷² The BLM currently manages 818 geothermal leases (59 in producing status), with a total capacity of 1,500 megawatts (about 40% of U.S. geothermal energy capacity).⁷³ Under EPAct05, states receive 50% of the revenue generated from rental and royalty payments from geothermal leases within their states, counties receive 25%, and the remaining 25% goes to the Treasury. The Obama Administration has proposed returning to the pre-EPAct05 formula, which shared revenues equally among the states and the federal treasury, while counties did not receive a payment.⁷⁴

Wind and Solar Energy

Development of solar and wind energy sources on BLM and FS lands is governed primarily by right-of-way authorities under Title V of FLPMA.⁷⁵ These projects could require large tracts of land to replace or add significant electric generating capacity, in addition to new transmission capacity. The extent of some of the environmental impacts of renewable energy production, such as impacts on wildlife and on environmentally sensitive areas, remains controversial. For example, in 2013 FWS revised regulations to monitor and address the potential long-term impacts of these projects on federally protected eagles.⁷⁶ Also at issue for Congress is how to balance solar and wind project applications against other land uses. For example, in 2013, BLM finalized a rule allowing temporary withdrawal of subsurface mineral claims in areas with pending wind and solar project applications.⁷⁷ Another issue for Congress is how to manage the leasing process for wind and solar energy projects. In September 2014, BLM proposed to amend the regulations

⁷¹ 30 U.S.C. §§1001-1028.

⁷² BLM and Forest Service, *Record of Decision and Resource Management Plan Amendments for Geothermal Leasing in the Western United States*, BLM-WO-GI-09-003-1800, December 2008, http://www.blm.gov/Geothermal_EIS.

⁷³ BLM, "Geothermal Energy," accessed March 2015, at <http://www.blm.gov/wo/st/en/prog/energy/geothermal.html>

⁷⁴ BLM, Budget Justification, FY2013.

⁷⁵ 43 U.S.C. §§1761-1771.

⁷⁶ FWS, "Eagle Permits; Changes in the Regulations Governing Eagle Permitting," 50 C.F.R. Parts 13 and 22.

⁷⁷ BLM, "Segregation of Lands-Renewable Energy," 78 *Federal Register* 25204, April 30, 2013.

governing the process by establishing preferred areas for solar and wind energy development and establishing specific right-of-way conditions for those leases, among other provisions.⁷⁸

In October 2012, BLM finalized the plan for solar energy development on federal lands in six western states.⁷⁹ The Western Solar Plan established 17 Solar Energy Zones (SEZs) covering over 285,000 acres of federal lands that are designated as a priority area for commercial-scale solar projects. An October 2013 competitive auction to develop these projects received zero bids.⁸⁰ However, according to BLM, the agency approved 34 utility-scale solar projects from 2010 to 2012 and has 69 applications pending.⁸¹ For wind, as of May 2015, BLM had authorized 40 wind energy development projects and more than 100 wind energy testing sites, and it had 61 wind energy development applications pending on its public lands.⁸²

FS has not approved any special use authorizations for solar projects to date, but in 2012 FS approved the first utility-scale wind power facility special use authorization. Implementation of the project to construct and operate a 15-turbine facility in the Green Mountain National Forest is pending the outcome of ongoing litigation.⁸³

Woody Biomass

Removing woody biomass⁸⁴ from federal lands for energy production has received special attention because of its potential widespread availability. Biomass may serve as a renewable feedstock for energy production, and in addition, proponents assert that removing or reducing the amount of biomass density on NFS and BLM lands also provides landscape benefits such as improved forest resiliency and reduced risk of catastrophic wildfires. Opponents, however, are concerned that incentives to use wood and wood waste might increase land disturbances on federal lands (e.g., some of the biomass may be located in areas that are not easily accessible), and they are concerned about related wildlife, landscape, and ecosystem impacts. Other issues include the role of the federal government in developing and supporting emerging markets for woody biomass energy production, and whether to include biomass removed from federal lands in the Renewable Fuel Standard.⁸⁵

Administration efforts to promote and implement woody biomass energy production have focused on developing policy principles, research and development, infrastructure needs, and capacity building.⁸⁶ FS and BLM both award woody biomass utilization research grants through

⁷⁸ BLM, “Competitive processes, terms, and conditions for leasing public lands for solar and wind energy development and technical changes and corrections; proposed rule,” 79 *Federal Register* 59022, September 29, 2014.

⁷⁹ These six states are Arizona, California, Colorado, Nevada, New Mexico, and Utah. BLM, “BLM Fact Sheet, Renewable Energy and the BLM: Solar,” Updated September 2013.

⁸⁰ Scott Streater, “First-ever auction of solar-zone parcels draw zero industry interest,” *E&E News PM*, October 24, 2013, at <http://www.eenews.net/eenewspm/stories/1059989375/>.

⁸¹ BLM, “BLM Fact Sheet, Renewable Energy: Solar,” updated May 2015.

⁸² BLM, “BLM Fact Sheet, Renewable Energy and the BLM: Wind,” updated May 2015.

⁸³ For more information, see the FS Deerfield Wind Energy Development Special Use Permit EIS webpage: <http://data.ecosystem-management.org/nepaweb/fs-usda-pop.php?project=7838>.

⁸⁴ Woody biomass is defined by FS and BLM as the trees and woody plants, including limbs, tops, needles, leaves, and other woody parts, grown in a forest, woodland, or rangeland environment that are the byproducts of forest management.

⁸⁵ For more information on the renewable fuel standard, see CRS Report R43325, *The Renewable Fuel Standard (RFS): In Brief*, by (name redacted) and CRS Report R40155, *Renewable Fuel Standard (RFS): Overview and Issues*, by (name redacted) and (name redacted).

⁸⁶ See for example, *Memorandum of Understanding on Policy Principles for Woody Biomass Utilization for* (continued...)

EPAAct05.⁸⁷ Programs such as stewardship contracting and the collaborative forest landscape restoration program authorize both agencies to implement woody biomass utilization projects.

CRS Product

CRS Report R40529, *Biomass: Comparison of Definitions in Legislation*, by (name redacted)

Locatable Minerals

Locatable minerals include both metallic minerals (e.g., gold, silver, copper), nonmetallic minerals (e.g., mica, gypsum), and other minerals generally found in the subsurface.⁸⁸ Developing these minerals on federal lands is guided by the General Mining Law of 1872. The law, largely unchanged since enactment, grants free access to individuals and corporations to prospect for minerals in open public domain lands, and allows them, upon making a discovery, to stake (or “locate”) a claim on the deposit. A claim gives the holder the right to develop the minerals and apply for a patent to obtain full title of the land and minerals. Congress is considering whether and how to reform the law, including how to capture the value of the federal resources and how to balance mineral development with competing resource values. Another issue is the lack of direct authority for environmental protection under the statute and how to address cleaning up abandoned hardrock mines. Congress has imposed a moratorium on mining claim patents in the annual Interior appropriations laws since FY1995, but has not restricted the right to stake claims or extract minerals.

The mining industry supports the claim-patent system, which offers the right to enter federal lands and prospect for and develop minerals. Critics consider the claim-patent system a giveaway of publicly owned resources because royalty payments are not required and the amounts paid to maintain a claim and to obtain a patent are small. New mining claim location and annual claim maintenance fees are currently \$37 and \$155 per claim, respectively.⁸⁹

The Obama Administration has proposed to place most hardrock minerals produced on public lands into a leasing system, including a 5% “gross proceeds” royalty on the value of production.⁹⁰ The proposal also includes a fee on the volume of material extracted by hardrock mining on all U.S. lands to raise revenues for abandoned hardrock mine reclamation efforts.⁹¹

CRS Product

CRS Report RL33908, *Mining on Federal Lands: Hardrock Minerals*, by (name redacted) .

(...continued)

Restoration and Fuel Treatments in Forests, Woodlands, and Rangelands, June 2003, at http://www.fs.fed.us/woodybiomass/documents/BiomassMOU_060303_final_web.pdf and Forest Service, *Woody Biomass Utilization Desk Guide*, September 2007, at http://www.forestsandrangelands.gov/Woody_Biomass/documents/biomass_deskguide.pdf.

⁸⁷ See for example, Forests and Rangelands, “Woody Biomass Utilization Opportunities,” at http://www.forestsandrangelands.gov/Woody_Biomass/opportunities.shtml.

⁸⁸ Management of non-locatable minerals (e.g., sand, gravel, and stone) on federal lands is governed by the Materials Act of 1947.

⁸⁹ The fees are to be adjusted every five years based on the Consumer Price Index (30 U.S.C. 28 j (c)).

⁹⁰ Department of the Interior, Bureau of Land Management, “Required Fees for Mining Claims or Sites,” 79 *Federal Register* 36662, June 30, 2014.

⁹¹ Budget Justifications, BLM, FY2015.

Offshore Resources

The federal government is responsible for managing energy resources in approximately 1.7 billion acres of waters belonging to the United States (see **Figure 1**). These offshore resources are governed by the Outer Continental Shelf Lands Act of 1953 (OCSLA), as amended, and management involves balancing domestic energy demands with protection of the environment.⁹² Policymakers have debated access to ocean areas for offshore drilling, as regional economic needs and public concerns about U.S. dependence on foreign fuels have competed with concerns about vulnerability of oceans and shoreline communities to oil-spill risks and about the contribution of oil and gas drilling to climate change.⁹³ Some support banning drilling through moratoriums, nondevelopment zones, and other measures.⁹⁴ Others claim that increasing offshore oil and gas development will strengthen and diversify the nation's domestic energy portfolio and that drilling can be done in a safe manner that protects marine and coastal areas.

Offshore Oil and Gas Leases

The Bureau of Ocean Energy Management (BOEM) administers approximately 5,000 active oil and gas leases on over 27 million acres in the OCS.⁹⁵ Under the OCSLA, BOEM prepares forward-looking, five-year leasing programs to govern oil and gas lease sales. BOEM has conducted 10 oil and gas lease sales in the Gulf of Mexico as part of the current five-year program and has additional sales scheduled in 2016 and 2017. BOEM has one lease sale scheduled for Alaska, in the Cook Inlet planning area, in 2017; two additional Alaska sales originally included in the program, for the Beaufort and Chukchi Sea planning areas, were canceled.⁹⁶ The process for establishing the next five-year leasing program (2017-2022) has begun.⁹⁷

Under the OCSLA,⁹⁸ the President may withdraw unleased lands on the OCS from leasing disposition. For example, in late 2014 and early 2015, the President indefinitely withdrew from leasing disposition certain areas offshore of Alaska, including the North Aleutian Basin Planning Area, the Hanna Shoal region of the Chukchi Sea, and certain other parts of the Beaufort and Chukchi Seas.⁹⁹ Congress also has established leasing moratoria; for example, the GOMESA

⁹² The Outer Continental Shelf Lands Act (OCSLA, 43 U.S.C. §§1331 et. seq.) and the National Environmental Policy Act (NEPA, 42 U.S.C. §4321).

⁹³ Congress addresses multiple issues related to access, including revenue sharing with states, adequacy of environmental reviews, timetables for drilling permitting, operational safety, receipts and disbursements, and research needs.

⁹⁴ For example, President Obama has issued several presidential memoranda that prohibit energy development in certain ocean areas, mostly in Alaska.

⁹⁵ Bureau of Ocean Energy Management, *Budget Justifications and Performance Information, Fiscal Year 2016*, p. 60, at <http://www.boem.gov/BOEM-FY-2016-Budget-Justification/>.

⁹⁶ BOEM stated in an October 2015 press release that it had canceled the sales “in light of current market conditions and low industry interest.” See DOI, “Interior Department Cancels Arctic Offshore Lease Sales,” October 16, 2015, at <https://www.doi.gov/pressreleases/interior-department-cancels-arctic-offshore-lease-sales>.

⁹⁷ See BOEM, “2017-2022 Oil and Gas Leasing Program,” at <http://www.boem.gov/Five-Year-Program-2017-2022/>.

⁹⁸ 43 U.S.C. §1341.

⁹⁹ Presidential Memorandum, “Withdrawal of Certain Areas of the United States Outer Continental Shelf from Leasing Disposition,” December 16, 2014, at <http://www.whitehouse.gov/the-press-office/2014/12/16/presidential-memorandum-withdrawal-certain-areas-united-states-outer-con>; and Presidential Memorandum, “Withdrawal of Certain Areas of the United States Outer Continental Shelf Offshore Alaska from Leasing Disposition,” January 27, 2015, at <http://www.whitehouse.gov/the-press-office/2015/01/27/presidential-memorandum-withdrawal-certain-areas-united-states-outer-con>.

established a moratorium on preleasing, leasing, and related activity in the eastern Gulf of Mexico through June 2022.

Congress considers multiple issues related to offshore oil and gas exploration, including questions about allowing or deferring access to ocean areas and how increasing or restricting access may impact domestic energy markets and affect the risk of oil spills. Other issues concern the use of OCS revenues and the extent to which they should be shared with coastal states (see “Federal Payment and Revenue-Sharing Programs” section).

Offshore Renewable Energy Sources

BOEM also is responsible for managing renewable ocean energy resources. BOEM has been in the process of estimating renewable ocean energy resources to facilitate leases for electricity generation from offshore wind, thermal power, and kinetic forces from ocean tides and waves.¹⁰⁰ As of February 2016, BOEM had issued 11 offshore wind energy leases in areas off the coasts of Massachusetts, Rhode Island, Delaware, Maryland, Virginia, and New Jersey.¹⁰¹ No leases are yet producing within the Offshore Renewable Energy Program, although one project off the coast of Rhode Island has begun construction. Issues for Congress include whether to take steps to facilitate the development of offshore wind and other renewables, such as through grants for research and development project loan guarantees, extension of federal tax credits for renewable energy production, or oversight of regulatory issues for these emerging industries.

CRS Products

CRS Report R40175, *Wind Energy: Offshore Permitting*, by (name redacted)

CRS Report RL33404, *Offshore Oil and Gas Development: Legal Framework*, by (name redacted)

CRS Report R40645, *U.S. Offshore Oil and Gas Resources: Prospects and Processes*, by (name redacted) and (name redacted)

Forest Management

Management of federal forests presents several policy questions for Congress. For instance, there is debate about the appropriate level of timber harvesting on federal forest lands, particularly FS and BLM lands. A related debate is how to balance timber harvesting against the other uses and values for these federal lands. Further, Congress may debate how the agencies use timber harvesting or other active forest management techniques to achieve other resource-management objectives, such as improving wildlife habitat or improving a forest’s resistance and resilience to disturbance events (e.g., wildfire, ice storm).

¹⁰⁰ P.L. 109-58. For more information about deployment of renewable energy projects, see <http://www.boem.gov/Renewable-Energy-Program/Smart-from-the-Start/Index.aspx>. Estimates of OCS energy resources are available from a variety of sources, including BOEM, the Energy Information Administration, and industry sources. For a general analysis of OCS resources, see CRS Report R40645, *U.S. Offshore Oil and Gas Resources: Prospects and Processes*, by (name redacted) and (name redacted)

¹⁰¹ See BOEM, “Renewable Energy Programs: Lease and grant Information,” at <http://www.boem.gov/Lease-and-Grant-Information/>. The 11 leases include 9 individual lease sales and 2 noncompetitive leases. In addition, BOEM issued several “interim policy” leases for resource data collection and testing, prior to development of its renewable energy leasing regulations (see BOEM, “Interim Policy,” at <http://www.boem.gov/Renewable-Energy-Interim-Policy/>).

FS manages the most federal forest land: approximately 188 million acres of the 193 million acre National Forest System (NFS) are national forests (98%).¹⁰² The national forests are managed under the principles of multiple use and sustained yield, meaning the production of timber is one of several statutorily defined uses for the national forests and the amount of timber removed from NFS should not exceed the amount of annual growth. In FY2015, FS harvested approximately 2.5 billion board feet of timber and other forest products, at a value of \$162.7 million.¹⁰³ BLM manages approximately 60 million acres of forest and woodlands. The vast majority—58 million acres—is public domain forests, managed under the principles of multiple use and sustained yield as established by FLPMA for generating forest products and forest restoration activities. The 2.6 million acres of O&C forests in western Oregon, however, are managed under a statutory direction for permanent forest production.¹⁰⁴ In FY2015, BLM harvested approximately 242.1 million board feet of timber and other forest products, at a value of \$50.4 million.¹⁰⁵ The NPS and FWS have limited authorities to cut, sell, or dispose of timber from their lands and established policies to do so generally only in certain cases, such as controlling for insect and disease outbreaks.

In the past few years, the ecological condition of the federal forests has been one focus of discussion and legislative proposals, including the forests' susceptibility to insect and disease outbreaks and the risk of catastrophic wildfires. Many believe that federal forests are ecologically degraded, contending that decades of wildfire suppression and other forest-management decisions have created forests overgrown and overstocked with biomass (fuels) that can serve to increase the spread or intensity of wildfires. These observers advocate rapid action to improve forest conditions, including prescribed burning, thinning, and salvaging dead and dying trees. Critics counter that authorities to reduce fuel levels are adequate, treatments that remove commercial timber degrade other ecosystem conditions and waste taxpayer dollars, and expedited processes for treatments are a device to reduce public oversight of commercial timber harvesting.

CRS Products

CRS Report R43872, *National Forest System Management: Overview, Appropriations, and Issues for Congress*, by (name redacted)

CRS Report R42951, *The Oregon and California Railroad Lands (O&C Lands): Issues for Congress*, by (name redacted)

Range Management

Livestock Grazing

Management of federal rangelands, particularly by BLM and FS, presents an array of policy matters for Congress. Several issues pertain to livestock grazing. For instance, there is debate

¹⁰² The remaining 4.6 million acres contain of national grasslands, land utilization projects, purchase units, and research and experimental areas. Table 1, Forest Service, *Land Areas Report, as of September 30, 2015*, <http://www.fs.fed.us/land/staff/lar/LAR2015/Table 01 – National and Regional Summary.pdf>.

¹⁰³ Forest Service, *Cut and Sold Reports*, available at <http://www.fs.fed.us/forestmanagement/products/sold-harvest/cut-sold.shtml>.

¹⁰⁴ The Oregon & California Railroad Lands Act of 1937, also known as the Act of August 28, 1937, ch. 876, 16 U.S.C. §§1181a et seq.

¹⁰⁵ Email from BLM Legislative Affairs staff, March 2016.

about the appropriate fee that should be charged for grazing private livestock on BLM and FS lands, including what criteria should prevail in setting the fee. Today, fees are charged under a formula established by law in 1978, then continued indefinitely through an executive order issued by President Reagan in 1986.¹⁰⁶ The BLM and FS are generally charging a grazing fee of \$2.11 per animal unit month (AUM)¹⁰⁷ for grazing on their lands. Conservation groups, among others, generally seek increased fees to recover program costs or approximate market value, whereas livestock producers who use federal lands want to keep fees low to sustain ranching and rural economies.

The BLM and FS issue permits and/or leases to ranchers that specify the terms and conditions for grazing on agency lands. Permits and leases generally cover a 10-year period and may be renewed. Congress has considered whether to extend the permit/lease length (e.g., to 20 years) to strengthen the predictability and continuity of operations. Longer permit terms have been opposed as potentially reducing the opportunities to analyze the impact of grazing on lands and resources.

The effect of livestock grazing on rangelands has been part of a debate on the health and productivity of rangelands. Due to environmental concerns, some recent measures would restrict or eliminate grazing, for instance, through voluntary retirement of permits and leases and subsequent closure of the allotments to grazing. These efforts are opposed by those who support ranching on the affected lands for not only environmental but lifestyle and economic reasons. Another focus of the discussion on range health and productivity is the spread of invasive and noxious weeds. (See “Invasive Species” section below.)

Wild Horses and Burros

There is continued congressional interest in management of wild horses and burros, which are protected on BLM and FS lands under the Wild Free-Roaming Horses and Burros Act of 1971.¹⁰⁸ Under the act, the agencies inventory horse and burro populations on their lands to determine appropriate management levels (AMLs). While the agencies are authorized to remove animals exceeding the range’s carrying capacity, both BLM and FS have populations exceeding their national AMLs. Most of the animals are on BLM lands. BLM estimates AML at 26,715 wild horses and burros, and it estimates population at 58,150. Off the range, BLM provides funds to care for 47,628 additional wild horses and burros in short-term corrals and long-term (pasture) holding facilities.

The agencies use a variety of methods to meet AML, including programs to adopt and sell animals; care for animals off-range; administer fertility control; and establish ecosanctuaries. Questions for Congress include the sufficiency of these authorities for managing wild horses and burros. Another controversial question is whether the agencies should humanely destroy excess animals, as required under the 1971 law, or whether Congress should continue to prohibit funds from being used to slaughter healthy animals. Additional issues center on the costs of management, particularly the relatively high cost of caring for animals off-range. Also, some

¹⁰⁶ P.L. 95-514, 92 Stat. 1803; 43 U.S.C. §§1901, 1905. Executive Order 12548, 51 *Fed. Reg.* 5985 (February 19, 1986).

¹⁰⁷ BLM defines an AUM, for fee purposes, as a month’s use and occupancy of the range by one animal unit, which includes one yearling, one cow and her calf, one horse, or five sheep or goats. The FS uses head-month (HD-MO) as its measurement for use and occupancy of FS lands. AUM is used in this report to cover both HD-MO and AUM.

¹⁰⁸ 16 U.S.C. §§1331 et seq.

recent proposals have focused on options for keeping animals on the range, such as by expanding areas for herds and changing the method for determining AML.

CRS Products

CRS Report RS21232, *Grazing Fees: Overview and Issues*, by (name redacted) .

CRS Report RL34690, *Wild Horses and Burros: Issues and Proposals*, by (name redacted) .

Recreation

The abundance and diversity of recreational uses of federal lands and waters has increased the challenge of balancing different types of recreation with each other and with other land uses. At issue are questions of access to recreational opportunities: regulation of activities, for example, through zoning or usage fees, impacts on natural and cultural resources, and the extent of motorized versus nonmotorized use.

One issue is how—or whether—fees should be collected for recreational activities on federal lands. The Federal Lands Recreation Enhancement Act (FLREA)¹⁰⁹ established a recreation fee program for the four FLMAs and the Bureau of Reclamation. The program is set to expire on September 30, 2017.¹¹⁰ It authorizes the agencies to charge, collect, and keep fees for recreation on their lands. It provides for various kinds of fees, specifies criteria for determining these fees, and establishes a national recreation pass. Agencies can use collections without further appropriation for varied purposes, with most of the money remaining at the collecting site. The 114th Congress faces issues including whether to extend, make permanent, or amend the program. Supporters of the program contend that it allows fees to be charged in appropriate circumstances, sets fair and similar fees among agencies, keeps most fees on-site for improvements that visitors desire, and provides for public involvement. Some support new or increased fees or extension of the program to other agencies, especially the U.S. Army Corps of Engineers. Among critics, some oppose recreation fees in general. Others assert that fees are appropriate for fewer agencies or types of lands, the fee structure should be simplified, funds should be obligated more quickly, or more of the fees should be used to reduce agency maintenance backlogs.

Another contentious issue is the use of off-highway vehicles (OHVs)—all-terrain vehicles, snowmobiles, personal watercraft, and others—on federal lands and waters. OHVs are a popular recreational use on BLM and FS land, while NPS and FWS have fewer lands allowing them. OHV supporters contend that the vehicles facilitate visitor access to hard-to-reach natural areas and bring economic benefits to communities serving riders. Critics raise concerns about disturbance of nonmotorized recreation and potential damage to wildlife habitat and ecosystems. Issues for Congress include broad questions of OHV access to federal lands and agency management of motorized recreation as well as OHV use at individual parks, forests, conservation areas, and other federal sites.

Access to opportunities on federal lands for hunting, fishing, and recreational shooting (e.g., at shooting ranges) is also under debate. Hunting and fishing are allowed on the majority of federal lands, but some contend they are unnecessarily restricted by protective designations, barriers to physical access, and agency planning processes. Others question whether opening more lands to hunting, fishing, and recreational shooting is fully consistent with good game management,

¹⁰⁹ P.L. 108-447, 16 U.S.C. §§6801-6814.

¹¹⁰ FLREA has been extended by a series of laws, most recently P.L. 114-53.

public safety, other recreational uses, resource management, and the statutory purposes of the lands. The extent, location, impact, and funding for recreation access are issues for the 114th Congress.

CRS Products

CRS In Focus IF10151, *Federal Lands Recreation Enhancement Act: Overview and Issues*, by (name redacted)

CRS Report RL33730, *Recreation Fees Under the Federal Lands Recreation Enhancement Act*, by (name redacted)

CRS Report R42920, *Motorized Recreation on Bureau of Land Management and Forest Service Lands*, by (name redacted) and (name redacted)

CRS Report R42955, *Motorized Recreation on National Park Service Lands*, by (name redacted), (name redacted), and (name redacted)

CRS Report R44102, *Hunting and Fishing: Analysis of S. 556 and S. 659*, by (name redacted)

Supplemental Land Designations

In addition to the land protection systems administered by the individual agencies, Congress has created three additional cross-cutting systems of federal land designations to preserve or emphasize particular values or resources, or to protect the natural conditions for biological, recreation, or scenic purposes. These systems are the congressionally designated National Wilderness Preservation System, National Wild and Scenic Rivers System, and the National Trails System. The units of these systems can be on one or more agency's lands, and the agencies manage them within parameters set in statute.

In addition, Congress and the Administration establish individual designations on federal lands, such as individual special management areas within the National Forest System. Although many of the designations are unique, some have been more commonly applied, such as national recreation area, national scenic area, or national monument. Congress has conferred designations on some nonfederal lands, such as national heritage areas, to commemorate, conserve, and promote important natural, scenic, historical, cultural, and recreational resources. Congress and the Administration have also designated certain offshore areas as marine national monuments or sanctuaries. The extent to which Congress and the Administration should expand these systems and establish other designations on federal lands and the types, locations, and management of such designations continues to be controversial.

CRS Products

CRS Report RL33462, *Heritage Areas: Background, Proposals, and Current Issues*, by (name redacted) and (name redacted)

CRS Report R41285, *Congressionally Designated Special Management Areas in the National Forest System*, by (name redacted)

Wilderness and Roadless Areas

In 1964, the Wilderness Act created the National Wilderness Preservation System, with statutory protections that emphasize preserving areas in their natural state. Units of the system only can be

designated by Congress. Many bills to designate wilderness areas have been introduced in each Congress. As of January 2016, there were 765 wilderness areas, totaling nearly 110 million acres in 44 states (and Puerto Rico) and managed by all four of the FLMAs. A wilderness designation generally prohibits commercial activities, motorized access, and human infrastructure from wilderness areas, subject to valid existing rights. Advocates propose wilderness designations to preserve the generally undeveloped conditions of the areas. Opponents see such designations as preventing certain uses and potential economic development in rural areas where such opportunities are relatively limited.

Designation of new wilderness areas can be controversial, and questions persist over the management of areas being considered for wilderness designation. FS reviews the wilderness potential of NFS lands during the forest planning process. The lands FS recommends to Congress for wilderness designation may be part of the “inventoried roadless areas.” Management of these lands has been controversial. The Clinton Administration promulgated nationwide rules to limit almost all road development in those areas, regulations that also would limit resource development severely. More than a decade of litigation followed, with the Clinton Administration rule being enjoined twice, and the Bush Administration promulgating a rule that also was enjoined. The courts deciding the cases upheld the Clinton Administration rule, and in October 2012, the Supreme Court refused to review the issue.

Questions also persist over BLM wilderness study areas (WSAs). WSAs are the areas BLM studied as potential wilderness, and BLM is required by FLPMA to protect their wilderness characteristics “until Congress determines otherwise.” This has raised legal questions, including whether release language is needed to allow multiple use management of WSAs not designated as wilderness. Congress has designated some WSAs as wilderness, and generally in the same statutes, Congress has released BLM from the requirement to protect the wilderness characteristics of certain other areas. However, release language in BLM wilderness statutes has generally been more controversial than for national forest areas.

CRS Products

CRS Report RL31447, *Wilderness: Overview and Statistics*, by (name redacted)

CRS Report R41610, *Wilderness: Legislation and Issues in the 114th Congress*, by (name redacted) and (name redacted)

Arctic National Wildlife Refuge: Energy Development or Wilderness?

In the ongoing energy debate in Congress, one issue has been whether to approve energy development in the Arctic National Wildlife Refuge (ANWR) in northeastern Alaska—and if so, under what conditions—or whether to continue prohibiting development to protect the area’s biological, recreational, and subsistence values.¹¹¹ ANWR is rich in fauna, flora, and oil and natural gas potential, but energy development is currently prohibited by law.¹¹² Its development has been debated for more than 50 years, and sharp periodic increases in energy prices have intensified the debate at times. Low energy prices, such as those currently being experienced, negate the short-term incentives for developing ANWR because Alaskan production is relatively costly. According to the American Petroleum Institute, in 2009 Alaskan drilling costs were nearly

¹¹¹ For more information, see CRS Report RL33872, *Arctic National Wildlife Refuge (ANWR): A Primer for the 114th Congress*, by (name redacted) and (name redacted)

¹¹² Alaska National Interest Lands Conservation Act (ANILCA), P.L. 96-487, §1003; 16 U.S.C. 3143).

18 times higher than drilling costs in the lower 48 states. This debate was given new impetus in 2015 by a presidential proposal to designate the area as wilderness. If approved by Congress, this designation would reinforce the existing prohibition on energy development, and it would be an additional law requiring repeal if energy development were to be allowed.

CRS Product

CRS Report RL33872, *Arctic National Wildlife Refuge (ANWR): A Primer for the 114th Congress*, by (name redacted) and (name redacted)

The National Wild and Scenic Rivers System and the National Trails System

The Wild and Scenic Rivers Act of 1968¹¹³ created the National Wild and Scenic Rivers System. The act established a policy of preserving designated free-flowing rivers for the benefit and enjoyment of present and future generations. River units designated as part of the system are classified and administered as wild, scenic, or recreational rivers, based on the condition of the river, the amount of development in the river or on the shorelines, and the degree of accessibility by road or trail at the time of designation. The system contains both federal and nonfederal river segments. Typically, rivers are added to the system by an act of Congress, but they may also be added by state nomination with the approval of the Secretary of the Interior. Congress initially designated 789 miles of eight rivers as part of the system in 1968. As of February 2016, there are 208 river units with 12,709 miles in 40 states and Puerto Rico, administered by all four FLMAs, or by state, local, or tribal governments.

Designation and management of lands within river corridors has been controversial in some cases. Issues include concerns about private property rights and water rights within designated river corridors. Controversies have arisen over state or federal projects prohibited within a corridor, such as construction of major highway crossings, bridges, or other activities that might affect the flow or character of the designated river segment. The extent of local input in developing river management plans is another recurring issue.

The National Trails System Act of 1968¹¹⁴ authorized a national system of trails, across federal and nonfederal lands, to provide additional outdoor recreation opportunities and to promote the preservation of access to the outdoor areas and historic resources of the nation. The 1968 act established the Appalachian National Scenic Trail, stretching almost 2,200 miles from Maine to Georgia, and the Pacific Crest National Scenic Trail, covering roughly 2,650 miles from Canada to Mexico through Washington, Oregon, and California. The system today includes 30 national trails (11 national scenic trails and 19 national historic trails), more than 1,200 national recreation trails, and 6 connecting-and-side trails. The system covers almost 55,000 miles and can be found in all 50 states, the District of Columbia, and Puerto Rico. National trails are administered by FS, NPS, and BLM, in cooperation with appropriate state and local authorities. Most recreation uses are permitted, as are other uses or facilities that do not substantially interfere with the nature and purposes of the trail. However, motorized vehicles are prohibited on many trails.

Ongoing issues for Congress include whether to designate additional trails, how to balance trail designation with other potential land uses, whether trail designation should be accompanied by

¹¹³ P.L. 90-542, 16 U.S.C. §1271 et seq.

¹¹⁴ P.L. 90-543; 16 U.S.C. §1241 et seq.

federal land acquisition, what activities should be permitted on trails, and how to appropriately balance federal and nonfederal funding for trails, among other concerns. Some Members have expressed interest in new types of trails for the system, such as “national discovery trails,” which would be interstate trails connecting representative examples of metropolitan, urban, rural, and backcountry regions.

CRS Products

CRS Report R42614, *The National Wild and Scenic Rivers System: A Brief Overview*, by (name redacted) and (name redacted).

CRS Report R43868, *The National Trails System: A Brief Overview*, by (name redacted) and (name redacted).

CRS Report R41081, *The Wild and Scenic Rivers Act (WSRA): Protections, Federal Water Rights, and Development Restrictions*, by (name redacted)

National Monuments and the Antiquities Act

The Antiquities Act of 1906¹¹⁵ authorizes the President to proclaim national monuments on federal lands that contain historic landmarks, historic and prehistoric structures, or other objects of natural, historic, or scientific interest. The President is to reserve “the smallest area compatible with the proper care and management of the objects to be protected.”¹¹⁶ Sixteen of the 19 Presidents since 1906, including President Obama, have used this authority to proclaim national monuments. Congress has modified many of these proclamations, abolished some monuments, and created monuments under its own authority.

Presidential establishment of monuments sometimes has been contentious. For instance, Congress limited the President’s authority by requiring congressional authorization for extensions or establishment of monuments in Wyoming,¹¹⁷ and by making withdrawals in Alaska exceeding 5,000 acres subject to congressional approval.¹¹⁸

Opponents seek to revoke or impose restrictions on the President’s authority to proclaim monuments. For instance, among the bills considered in recent Congresses are those to block monuments from being declared in particular states; limit the size or duration of withdrawals; require the approval of Congress, the pertinent state legislature, or the pertinent governor before a monument could be proclaimed; or promote presidential creation of monuments in accordance with certain federal land management and environmental laws. Measures also have been introduced to change land uses within monuments and to alter monument boundaries.

Monument supporters defend the President’s authority to act promptly to protect valuable resources on federal lands that may be vulnerable to looting, vandalism, commercial development, and other permanent changes, and they note that Presidents of both parties have used the authority for over a century. They favor the Antiquities Act in its present form, asserting that the courts have upheld monument designations and that many past designations that initially were controversial have come to be supported. They further contend that large segments of the

¹¹⁵ 54 U.S.C. §320301.

¹¹⁶ 54 U.S.C. §320301(b).

¹¹⁷ 54 U.S.C. §320301(d).

¹¹⁸ 16 U.S.C. §3213.

public support land protection, such as through monument designations, for the recreational, preservation, and economic benefits that such designations can bring.

CRS Product

CRS Report R41330, *National Monuments and the Antiquities Act*, by (name redacted)

National Marine Sanctuaries and Marine National Monuments

The National Marine Sanctuaries Act (NMSA) authorizes the National Oceanic and Atmospheric Administration (NOAA) to designate specific areas for protection of their ecological, aesthetic, historical, cultural, scientific, or educational qualities.¹¹⁹ The NOAA Office of National Marine Sanctuaries serves as the trustee for 13 sanctuaries designated under the NMSA and the Papahānaumokuākea Marine National Monument.¹²⁰ Sanctuaries and monuments are located in U.S. coastal and offshore waters including the Great Lakes and sometimes include state or territorial as well as federal waters.¹²¹ Each site was designated for specific reasons such as protecting cultural artifacts, specific species such as humpback whales, or entire ecosystems. The NMSA requires the development and implementation of management plans for each sanctuary. The management plan provides the basis for managing or limiting incompatible activities.

At most of these sites, questions related to developing or amending management plans have focused on which activities are incompatible with the purposes of the designation and how incompatible activities will be limited. Some observers question whether the overriding purpose of the NMSA is to preserve and protect marine areas or to create multiple use management areas.¹²² Although this remains an open question, most agree that the designation and management of sanctuaries will continue to inspire debate over the role of marine protected areas.

In 2006, Papahānaumokuākea National Monument (362,075 square kilometers [sq. km]) became the first of four large marine national monuments to be designated in the Pacific under the Antiquities Act (see “National Monuments and the Antiquities Act” section, above). In 2009, President Bush designated three more national marine national monuments, including Rose Atoll (34,800 sq. km), Marianas Trench (250,487 sq. km), and the Pacific Remote Islands (1,057,761 sq. km). In 2014, the Remote Pacific Islands National Monument was expanded to include waters out to 200 nautical miles from the shore of Jarvis and Wake Islands and Johnston Atoll.¹²³ All four marine national monuments are managed cooperatively by the Department of Commerce (NOAA) and the Department of the Interior (FWS). Other management partners include the State of Hawaii for Papahānaumokuākea; Department of Defense (DOD), Department of State, and the government of American Samoa for Rose Island Atoll; the government of the Commonwealth of the Northern Mariana Islands and DOD for the Marianas Trench; and DOD for the Remote Pacific Islands.

¹¹⁹ National Marine Sanctuaries Act, 16 U.S.C. §1431 et seq.

¹²⁰ Thunder Bay National Marine Sanctuary is located in the Great Lakes.

¹²¹ There are no national marine sanctuaries or monuments in federal or state waters adjacent to Alaska.

¹²² William L. Chandler and Hannah Gillelan, “The History and Evolution of the National Marine Sanctuaries Act,” *Environmental Law Reporter*, vol. 34 (2004), pp. 10506-10565.

¹²³ For Baker and Howland Islands, Kingman Reef, and Palmyra Atoll the seaward boundary has not been changed from 50 nautical miles.

CRS Product

CRS Report RL32154, *Marine Protected Areas: An Overview*, by (name redacted).

Species Management

Each federal land agency has a responsibility to manage the plant and animal resources under its purview. An agency's authority or duty may be based on widely applicable statutes or authorities, including the Endangered Species Act, the Migratory Bird Treaty Act, the Fish and Wildlife Coordination Act, executive orders, and others. But the agencies considered in this report also have more specific authorities in their own organic acts or in site-specific legislation.

In the case of the National Wildlife Refuge System, the conservation of plants and animals is the mission of the system, and other uses are allowed to the extent they are compatible with that mission.¹²⁴ While most refuges are open for public enjoyment, in some cases (such as island seabird colonies), the result may be a refuge that is closed to visitors. For the National Park System, resource conservation (including wildlife resources) is half of the Park Service's dual mission, shared with the other goal of public enjoyment. The missions of FS and BLM are multiple use, with species management being one of several agency responsibilities.

The federal land management agencies do not exercise their wildlife authorities alone. Federal agencies share management of their wildlife resources with state agencies. For example, where game species are found on federal land and hunting is not expressly forbidden on that land, federal agencies work with states on wildlife censuses, and require appropriate state licenses to hunt on the federal lands. In addition, the agencies often cooperate with states to enhance wildlife habitat to the benefit of both jurisdictions.

The four land-management agencies do not maintain data on how many acres of land are currently open to hunting, fishing, and/or recreational shooting.¹²⁵ However, both BLM and FS estimate that the vast majority of their lands are currently open to these activities. FS estimates that more than 95% of its lands are open to those activities; BLM estimates that 99% of its lands are open to hunting, 97% are open to recreational shooting, and virtually all are open to fishing.¹²⁶ Among the FWS's 594 wildlife refuges and waterfowl production areas, more than 360 are open to some form of hunting and more than 300 units offer fishing opportunities.¹²⁷ As of February 2014, hunting was permitted in 61 of the 401 NPS units and fishing was permitted in 200 units.¹²⁸

¹²⁴ National Wildlife Refuge System Administration Act of 1966, 16 U.S.C. §668dd et seq.

¹²⁵ Personal communication between Laura Comay of CRS and NPS (Chris Powell, Senior Congressional Affairs Specialist) and BLM (Division of Legislative Affairs), February 2014; Personal communication between (name redacted) of CRS and FS (Tony Edwards, Legislative Affairs Specialist), February 2014; Personal communication between (name redacted) of CRS and FWS (Martin Kodis, Deputy Chief, Division of Congressional and Legislative Affairs), February 2014.

¹²⁶ The FS estimate is from personal communication between (name redacted) of CRS and Tony Edwards, FS Legislative Affairs Specialist, February 2014. The BLM estimate is from personal communication between BLM and Carol Hardy-Vincent of CRS, February 2014.

¹²⁷ *U.S. Fish and Wildlife Service*, April 2013, <http://www.fws.gov/refuges/about/pdfs/RecreationFactSheetApril2013.pdf>.

¹²⁸ Personal communication between Laura Comay of CRS and Chris Powell, NPS Senior Congressional Affairs Specialist, February 21, 2014. Units may be completely open to hunting or fishing, or these activities may be permitted only in portions of the unit.

Congress typically considers species management issues, such as how to balance land and resources use, when the protection of endangered and threatened species force the recognition of trade-offs among user groups. These conflicts are usually regional over resources, such as surface or ground water, timber, or shorelines, to name a few.

Endangered Species

The protection of endangered and threatened species—under the 1973 Endangered Species Act (ESA)¹²⁹—is controversial, in part, because dwindling species are often harbingers of resource scarcity. Under the ESA, all federal agencies must “utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to ... this Act.”¹³⁰ As a result, the federal land agencies specifically must consider listed species in their land management plans, timber sales, energy or mineral leasing plans, and all other relevant aspects of their activities. They must consult with FWS (or NMFS, for most marine species and anadromous fish such as salmon) about those effects. The majority of these consultations result in little or no change in the actions of the land managers. But some result in major controversies over the appropriate balance of land and resource use with protection of endangered and threatened species, often with some user groups allied with the listed species.

The ESA may become a focus of debate, particularly where conservation of a species signals conflict over resources in various habitats. These species include sage grouse (energy and other resources in sage brush habitat) and polar bears (energy development in northern Alaska), among others. Conflicts arise once a species is listed, because legal tools, including penalties and citizen suits, are available to aid species recovery and protect habitat. Use of these tools, or the failure to use them, has led to conflict.¹³¹ Proposals resulting from such conflicts include granting greater authority to states over whether a species may be listed, granting priority for water projects over species recovery, and limiting the ability of citizens groups to petition for listing new species.

CRS Products

CRS Report R42945, *The Endangered Species Act (ESA) in the 113th Congress: New and Recurring Issues*, coordinated by (name redacted)

CRS Report RL31654, *The Endangered Species Act: A Primer*, by (name redacted)

CRS Report RL32992, *The Endangered Species Act and “Sound Science”*, by (name redacted)

Invasive Species

While habitat loss is a major factor in the loss of species, invasive species have long been considered the second most important factor.¹³² Invasive species may affect some of the key resources on federal lands. For example, gypsy moths have been a pest in eastern hardwoods, including national forests and Shenandoah National Park. In recent years, a fungus causing white-

¹²⁹ P.L. 93-205, as amended; 16 U.S.C. §§1531-1543.

¹³⁰ 16 U.S.C. §1536(a).

¹³¹ A more detailed discussion of the major provisions of ESA is provided in CRS Report RL31654, *The Endangered Species Act: A Primer*, by (name redacted)

¹³² For example, see Randy G. Westbrooks, *Invasive Plants: Changing the Landscape of America*, Federal Interagency Committee for the Management of Noxious and Invasive Weeds, Washington, DC, 1998, p. 5.

nose syndrome has devastated bat populations in northeastern states including those in caves on national park and national forest lands. Rats and cats threaten seabirds on coastal refuges, and goats harm rare native plant species on park units in Hawaii. In some cases, such as white-nose syndrome, no method of control is yet known, and current work is confined to research and prevention.¹³³ In other cases, such as the vegetation damage caused by non-native horses and burros, some control methods are considered inhumane, and others are considered expensive. In general, funding for detection, prevention, and control of invasive species on federal lands (and elsewhere) has been an issue. The 114th Congress is considering legislation to address invasive species management on federal lands.

CRS Product

CRS Report R43258, *Invasive Species: Major Laws and the Role of Selected Federal Agencies*, by (name redacted) and (name redacted)

Wildfire Management

Wildfire is a concern because it can lead to loss of human life, damage communities and timber resources,¹³⁴ and impact soils, watersheds, water quality, and wildlife. Management of wildfire—an unplanned and unwanted fire—includes preparedness, suppression, fuel reduction, site rehabilitation, and more.¹³⁵ A record-setting 10.1 million acres burned in 2015 due to wildfire, based on historical fire statistics, which were first reported in 1960.¹³⁶

The federal government is responsible for managing wildfires that begin on federal land. FS and DOI have overseen wildfire management, with FS receiving approximately two-thirds of federal funding.¹³⁷ Although wildfires can occur on federal, state, or private lands, some 95% of the funding is used to protect federal lands. Wildfire management funding—including supplemental appropriations—has averaged \$3.6 billion over the last 10 years, ranging from a low of \$2.6 billion in FY2012 to a high of \$4.9 billion in FY2015.¹³⁸

¹³³ For an example of prevention efforts, see those at Mammoth Cave National Park, where the fungus has already been found: <http://www.nps.gov/macawhitenose.htm>.

¹³⁴ For more information on wildfire damages to homes and resources, see CRS Report RL34517, *Wildfire Damages to Homes and Resources: Understanding Causes and Reducing Losses*, by (name redacted)

¹³⁵ Preparedness is any activity that leads to a safe, efficient and cost-effective fire management program, as well as the range of tasks necessary to build, sustain, and improve the capability to protect against, respond to, and recover from domestic incidents. Suppression is all of the work associated with extinguishing or confining a fire. Fuel reduction is manipulation, including combustion, or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control. Site rehabilitation is efforts undertaken generally within three years of a wildfire to repair or improve fire damaged lands unlikely to recover to a management approved condition, or to repair or replace minor facilities damaged by fire.

¹³⁶ After 2015, the next largest fire years on record for acres burned were 2006 (9.9 million acres) and 2007 (9.3 million acres), respectively. National Interagency Fire Center, *Total Wildland Fires and Acres (2015)*, at http://www.nifc.gov/fireInfo/fireInfo_stats_totalFires.html.

¹³⁷ Wildfire management is funded under the Interior, Environment and Related Agencies appropriations bill. For more information on federal funding for wildfire management, see CRS Report R44082, *Wildfire Spending: Background, Issues, and Legislation in the 114th Congress*, by (name redacted) et al and CRS Report R43077, *Wildfire Management: Federal Funding and Related Statistics*, by (name redacted) and (name redacted)

¹³⁸ *Ibid.*

Congressional activity regarding wildfire management typically peaks during the fire season, and during the early part of the budget process.¹³⁹ Legislative issues for Congress include oversight of the agencies' fire management activities and other wildland management practices that have altered fuel loads over time; consideration of programs and processes for reducing fuel loads; rising wildfire suppression costs; and federal roles and responsibilities for wildfire protection and damages, including supplemental appropriations to deal with these issues. Another issue is the impact of the expanding wildland-urban interface (WUI), which has increased the wildfire threat to people and houses. Approximately 10% of all land within the lower 48 states is classified as WUI.

There is also congressional interest in FS air tanker readiness and efficacy,¹⁴⁰ specifically the planning for aviation resources given wildfire projections, the number and age of available air tanker units, and the contract process to place the units in service. FS aviation assessments conclude that additional resources are needed, but differ on the type, quantity, and cost of these resources.¹⁴¹ In 2013, FS awarded contracts with five companies to supply the agency with new air tankers over the next five years.¹⁴² In 2014, Congress authorized FS to receive aircraft transferred from DOD and the Department of Homeland Security for wildfire suppression,¹⁴³ and the 2014 farm bill authorized FS to establish an air tanker and aerial asset leasing program.¹⁴⁴ Further, the FY2015 funding bill provided FS with an additional \$65 million to acquire aircraft to “enhance firefighting mobility, effectiveness, efficiency, and safety.”¹⁴⁵

CRS Products

CRS Report R44082, *Wildfire Spending: Background, Issues, and Legislation in the 114th Congress*, by (name redacted) et al.

CRS In Focus IF10244, *Wildfire Statistics*, by (name redacted)

CRS Report R43077, *Wildfire Management: Federal Funding and Related Statistics*, by (name redacted) and (name redacted)

CRS Report RS21880, *Wildfire Protection in the Wildland-Urban Interface*, by (name redacted) and (name redacted)

CRS Report R40811, *Wildfire Fuels and Fuel Reduction*, by (name redacted)

CRS Report R41858, *Federal Assistance for Wildfire Response and Recovery*, by (name redacted)

¹³⁹ The fire season generally starts in mid- or late summer and ends in mid- or late fall. Factors such as wind, drought, precipitation events from the previous year, and more contribute to the length and severity of the fire season.

¹⁴⁰ The FS reports that the average age of air tankers still in service is more than 50 years old. USDA Forest Service, *Large Airtanker Modernization Strategy*, January 17, 2012, http://www.fs.fed.us/fire/aviation/airtanker_modernization_strategy.pdf.

¹⁴¹ RAND Corporation, *Air Attack Against Wildfires: Understanding U.S. Forest Service Requirements for Large Aircraft*, 2012, <http://www.rand.org/pubs/monographs/MG1234.html>; National Interagency Aviation Council, *Interagency Aviation Strategy*, July 2008; Fire Program Solutions LLC, *Wildland Fire Management Aerial Application Study*, USDA Forest Service, October 17, 2005; Forest Service, *Federal Aerial Firefighting: Assessing Safety and Effectiveness*, December 2002; USDA Forest Service, *National Study of Airtankers to Support Initial Attack and Large Fire Suppression*, 1995, http://www.fs.fed.us/fire/publications/aviation/nats1_report.pdf.

¹⁴² Forest Service, “U.S. Forest Service issues notice of intent to award “Next Generation” airtanker contracts,” press release, May 6, 2013, <http://www.fs.fed.us/news/2013/releases/05/next-gen-tanker.shtml>.

¹⁴³ National Defense Authorization Act, FY2014 (P.L. 113-66 §1098).

¹⁴⁴ Agricultural Act of 2014; P.L. 113-79 §8305.

¹⁴⁵ Consolidated and Further Continuing Appropriations Act, 2015, P.L. 113-235 Division F.

CRS Report RL34517, *Wildfire Damages to Homes and Resources: Understanding Causes and Reducing Losses*, by (name redacted)

CRS Report RL30755, *Forest Fire/Wildfire Protection*, by (name redacted)

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