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*FEDERAL SALES OF NATURAL RESOURCES:
PRICING AND ALLOCATION MECHANISMS*

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Abstract. Although the federal government ended FY1997 with a budget surplus, pressures to realize federal budget savings persist. Many question whether federal resource prices should be set to increase the public returns from the sale or use of those resources or at least to avoid financial losses. This report describes the systems used by the federal government to price its resources (timber, forage for livestock grazing, recreation uses, various categories of minerals, commercial fisheries, and water from federal water projects) and to determine who gets access to those resources.

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Federal Sales of Natural Resources: Pricing and Allocation Mechanisms

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Summary

Although the federal government ended FY1997 with a budget surplus, pressures to realize federal budget savings persist. Many question whether federal resource prices should be set to increase the public returns from the sale or use of those resources or at least to avoid financial losses. This report describes the systems used by the federal government to price its resources (timber, forage for livestock grazing, recreation uses, various categories of minerals, commercial fisheries, and water from federal water projects) and to determine who gets access to those resources.² For some (*e.g.*, timber and leasable minerals), markets are used to set prices, but administrative systems used for some resources may result in prices substantially lower than market values. This report will not be updated unless the current systems are substantially changed.

Timber Harvested from Federal Lands

Two federal agencies, the Forest Service (FS) and the Bureau of Land Management (BLM), sell significant quantities of timber. In general, both agencies determine salable quantities based on physical factors — area available for timber cutting, timber growth, and reserves to maintain sustainable harvests — but sale levels are constrained by public tolerance of possible environmental damages and desires for other uses. Once annual sale levels are determined, each agency prepares individual sales; the number and size depends largely upon the potential buyers in the area. The process typically takes several years to plan the sale and prepare the area. Finally, the agencies appraise the timber (estimate the market value), and the appraised value becomes the minimum price for the timber.

¹CRS analysts contributing to this report are: Ross Gorte (timber); Betsy Cody (livestock grazing and water projects); David Whiteman (recreation); Marc Humphries (locatable minerals and onshore leasing); Larry Kumins (offshore leasing); and Eugene Buck (commercial fisheries).

²Other resources — wildlife, freshwater and coastal marine fisheries, and water generally — are usually managed by the states, with state responsibility for their allocation and pricing.

The timber is then sold to the qualified bidder (*i.e.*, an individual or firm with the capacity to harvest the timber) with the highest bid. For BLM sales, buyers pay the total bid value. For most FS sales in the West, buyers pay the average bid value (*i.e.*, the bid rate) for the amount of timber actually removed, as measured (“scaled”) by the agency or an independent third party. Most federal timber is sold competitively, with markets to set prices, although as much as a third of FS timber is sold at or near the appraised value. Many timber sales cost more to prepare than they return to the U.S. Treasury; in FY1997, FS timber revenues were \$451 million, while allocated expenses (including the revenue-sharing payments) were \$527 million. However, prices cannot simply be raised; generating net timber sale profits would require altering practices to reduce agency costs or to increase timber market values.³

Livestock Grazing on Federal Lands

The federal government charges a fee for grazing private livestock on the federal lands managed by the BLM and the FS. Each agency identifies grazing allotments and determines the number and timing of livestock grazing, based on forage quantities, range conditions, other uses, and historical grazing. All allotments are required to be associated with a base property — private lands located in the vicinity of the allotment. While the agencies have the authority to reallocate allotments, allotments typically remain with the permittees indefinitely, unless they sell the base property or violate the terms of the agreement. The Taylor Grazing Act of 1934 specifies that a grazing permit is not a right or interest in the land, but because the allotments are usually transferred with the base ranch when it is inherited or sold, the value of the allotment is typically capitalized into the ranch’s value, although the grazing use may be adjusted upon transfer.

Grazing fees for both agencies were established under a formula in the Public Rangelands Improvement Act of 1978 (PRIA), and extended by Executive Order. The formula consists of a base value (\$1.23 per AUM,⁴ set in 1966), adjusted by indices of livestock prices and rancher operating costs (sometimes called “ability to pay” factors); the grazing fee for 1998 was \$1.35 per AUM. Many studies suggest that federal grazing fees are substantially lower than private lease rates, and that the federal expenditures for grazing management substantially exceed the revenues; 1996 receipts were \$28 million, while program costs were \$74 million.⁵ However, ranchers argue that different requirements and costs invalidate such comparisons. Since grazing allotments are associated with a base property, and are not competitively bid, the market value cannot be determined precisely. The appropriate fee has been debated for decades.

Recreation on Federal Lands

Recreation use of the federal lands is not “sold” in the traditional sense, but federal agencies do charge fees for some types of recreation. Recreation is available on most

³See CRS Report 95-1077, *Forest Service Timber Sale Practices and Procedures: Analysis of Alternative Systems*.

⁴An AUM — animal unit month — is the amount of forage consumed by a cow and her calf or by 5 sheep in a month, and has long been the unit of measurement for grazing on federal lands.

⁵See CRS Report 96-450, *Grazing Fees: An Overview*.

federal lands, but fees are only charged for users of certain developed facilities (such as campgrounds and boat launches) and for entering certain areas (mostly Park System units and some wildlife refuges). Congress first authorized agencies to collect entrance and user fees in the Land and Water Conservation Fund Act of 1965 (LWCF), with revenues credited to the LWCF account for possible subsequent appropriations. The LWCF Act (as amended) specifies both entrance and user fees that can be charged for certain types of areas. In 1993, Congress authorized the agencies to retain up to 15% of the revenues to recover fee collection costs (§10002(b) of P.L. 103-66). In 1996, Congress established the Recreational Fee Demonstration Program,⁶ allowing the FS, Park Service, Fish and Wildlife Service, and BLM to test new fee options for recovering the cost to operate and maintain federal recreation sites, since revenues under the LWCF fees are substantially less than agency management costs. The Park Service estimates that its FY1999 demonstration fee collections will be \$132 million.

In addition, the agencies allow certain commercial recreational organizations to use federal lands and facilities. Major developed sites principally within the National Park and National Forest Systems (*e.g.*, lodges, restaurants, ski areas) are operated, maintained, and sometimes improved by concessioners under contracts and leases with the agency. Competitive bidding is intended to capture the “fair market value,” to recover a fair share for the government, but many have criticized federal contracting policies as subsidizing the concessioners. Numerous large Park concession contracts are due for renewal, and the trend, spurred by congressional criticism, has been for substantial fee increases. Other commercial users (*e.g.*, river rafters, outfitters and guides) are also charged an administrative fee for their use permits. Again, these fees are intended to capture the fair market value of the use, but critics assert that the fees are unduly low.

In the closing days of the 105th Congress, an omnibus parks management bill (P.L. 105-391) revised Park concessions policy. Concession fees will now be deposited in a special account, with 80% directly available for high priority projects at the Park unit where the fees were collected and 20% directly available throughout the Park System. Fees are to assure that public services are available at a reasonable price.

Minerals Extracted From Federal Lands

Several approaches are used in disposing of minerals from federal lands. Locatable (also called hardrock) minerals are disposed under the General Mining Law of 1872. Federal oil and gas resources are disposed under one set of laws onshore, and a different set of laws offshore.⁷ Salable minerals — sand, gravel, and other common construction materials — are sold under other provisions. These components are discussed separately.

Locatable Minerals. The General Mining Law of 1872 was intended to promote mineral exploration and development, as part of the efforts to encourage settlement of the West. The Law allows prospectors to stake claims to unclaimed areas that they believe contain valuable minerals; filing a claim requires a \$25 location fee and a \$10 service

⁶See CRS Report 98-794 ENR, *Federal Recreational Fees: Demonstration Program*.

⁷The federal government also leases other energy and minerals onshore (*e.g.*, coal, potash, phosphates, and geothermal heat) but these leasing systems are not discussed in this report.

charge to the BLM.⁸ With certain exceptions, claims must be kept active with a \$100 annual holding fee per claim. In 1997, revenues were \$35 million, more than the \$11 million in BLM program costs.

When a valid claim is shown to have economically recoverable minerals, the claim holder may develop the minerals, with or without a patent. A claimant may also file a patent application to obtain full title to the surface and the mineral rights.⁹ The cost to file is \$200 per application plus \$50 per claim (one application may contain several claims). If approved, the claimant pays \$2.50 per acre for placer claims (*e.g.*, alluvial deposits of high quality sand or gravel) or \$5.00 per acre for lode claims (*e.g.*, lode or vein deposits, usually in quartz or other rock) to obtain title to the land and minerals. These per-acre fees were substantial when the Mining Law was enacted in 1872, but are a fraction of land values today. The federal government currently receives no royalties or share of profits from locatable mineral discoveries or extraction from federal (or ex-federal) land.¹⁰

Onshore Oil and Gas. The system for leasing onshore oil and gas on federal lands was revised in 1987, replacing a system that had been in place since 1920.¹¹ The BLM plans the areas and timing of offerings and administers the leases, while the Minerals Management Service (MMS) collects the royalties. All leasable tracts must initially be offered competitively, usually bid at oral auction, with the highest responsible, qualified bidder being awarded the contract. These bonus bids are part of the lease payments. Lease holders must also pay an annual rental fee of at least \$1.50 per acre (increasing to \$2.00 per acre after 5 years), which is replaced by a royalty of at least 12.5% of the value of production once production is achieved. Onshore lease revenues in 1997 were \$763 million, much greater than the \$52 million of BLM costs for administering the system.

If no bids are received for a tract, or if the highest bid is less than the minimum statutory bid of \$2 per acre minimum, the lands are offered for leasing on a noncompetitive basis within 30 days, and are available for 2 years. The first qualified applicant is entitled to the lease, upon payment of an application fee of at least \$75. The noncompetitive lease holders also must make the rental and royalty payments described above.

Offshore Oil and Gas. The federal government also leases oil and gas on the outer continental shelf (OCS). MMS develops 5-year leasing plans in consultation with coastal states and other stakeholders. Many areas are withheld from leasing because of environmental concerns and public opposition, and Congress has enacted lease moratoria for specific areas in annual appropriations bills.¹² Twice a year, MMS offers leases for competitive bids to responsible bidders. The OCS Lands Act Amendments of 1978 authorized the Secretary of the Interior to experiment with numerous sealed bidding systems, varying bonus bids, royalties (in dollars or percentage), work commitments, and/or profit

⁸BLM administers all federal mineral rights, regardless of the agency with jurisdiction over the surface.

⁹Congress has prohibited the Department from processing patent applications in riders on the Interior Appropriations Acts since 1992.

¹⁰See CRS Report IB89130, *The 1872 Mining Law: Time for Reform?*

¹¹See CRS Report 91-577 ENR, *The Oil and Gas Leasing System on Federal Lands.*

¹²See CRS Report IB95115, *Outer Continental Shelf Leasing for Oil and Gas Development.*

shares (although royalty rates must be at least 12.5% and profit shares must be at least 30%). The Secretary was directed to test options and inform Congress of the systems tested. The vast majority of leases on the OCS have been awarded through competitive bonus bidding with a set *ad valorem* (percentage) royalty. As with onshore leases, the revenues from OCS leases (royalties, bonus bids, *et al.* were \$5.2 billion in 1997) greatly exceed total MMS appropriations (\$163 million in 1997).

Salable Minerals. These minerals (also called mineral materials) include “common varieties” of sand, stone, gravel, pumice, cinders, clay, *etc.* They can be sold upon request by an applicant. Except for sales to a government entity or limited sales to a nonprofit organization, sales are to be for the fair market value, as determined by an appraisal (with a reappraisal at least every 2 years). Salable minerals are to be sold competitively, with newspaper advertisement preceding sealed or oral bids. However, up to 100,000 cubic yards of material (or 200,000 cubic yards for public works programs or for mineral leases) may be sold noncompetitively at the fair market value. (No financial data are available.)

Federal Fisheries Management

The federal government administers commercial fishing activity within the U.S. Exclusive Economic Zone (EEZ, generally 3 to 200 miles offshore) under the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). Management is through regional fishery management councils, composed of a variety of interests. In general, the regional councils regulate commercial fishing activity through seasons, quotas, gear, and other restrictions. Fees and other charges are minor, and are clearly not intended to be “sales” of fishing rights in federal waters; MSFCMA currently limits fees to recovering administrative costs.¹³ However, recovery of actual costs related to enforcement and management is authorized for individual fishing quota programs and for community development quota programs, up to 3% of the landed catch value.

Traditionally under the MSFCMA, only foreign commercial harvesters have been prevented from entering a fishery. However, federal programs currently limit access to the mid-Atlantic surf clam and ocean quahog fishery and a few other fisheries; some states also limit access to commercial fisheries in state waters.¹⁴ Limited access programs typically allocate harvesting rights based on historic harvests or willingness to pay for future harvest access. Fees are currently allowed to recover some management and enforcement costs, although limited access permits may become quite valuable, and some interests would like to see the MSFCMA amended so that more of this value is returned to the U.S. Treasury or used to enhance fisheries management activities.

Federal Water Projects

The federal government delivers water to irrigators and to municipal and industrial users in 17 western states through projects constructed by the Bureau of Reclamation. Once construction is completed, water is delivered at rates designed to recover construc-

¹³See CRS Report 93-88 ENR, *The Magnuson Fishery Conservation and Management Act: Reauthorization Issues*.

¹⁴See CRS Report 95-849 ENR, *Individual Transferable Quotas in Fishery Management*.

tion costs specified in long-term (typically 40-year) contracts. Except for fixed-rate contracts, rates may be adjusted every 5 years, depending on ability to pay and other factors.

Under the Reclamation Act of 1902, facility costs were *originally* to be financed with money received from public land sales, and repaid within 10 years by irrigators receiving project water. Payments were to be deposited into a revolving fund to finance future projects. Several factors — including administrative decisions not to charge interest, development of ability-to-pay standards, and occasional long-term fixed-rate contracts — have in many cases kept payments from covering the total cost of delivering water.

Congress established a new formula for water charges in the Reclamation Reform Act of 1982. This Act included interest charges on the unpaid principal on project capital costs and on operations and maintenance deficits accruing since 1982. The 1902 Act limited Bureau-supplied water to 160 acres of owned land, but critics charged that the cap was ineffective. The 1982 Act raised the ownership limit to 960 acres, and assessed a higher full cost rate on leased lands above 960 acres. Irrigators choosing to operate under prior (pre-1982) reclamation law were required to dispose of lands owned in excess of 160 acres, and to pay the full cost rate on any additional leased lands.

Current charges for water delivered from reclamation facilities are based on several factors, including: (1) the “reimbursable” costs of the project at the time of construction (costs not directly attributable to project users, such as for flood control, are borne by the federal government); (2) the amount of irrigable land within a project area; (3) yearly operation and maintenance costs; (4) land class and ownership; (5) interest on unpaid construction costs and on operation and maintenance deficits accruing since 1982; and (6) irrigators’ ability to pay. Consequently, prices for Bureau-delivered water vary among projects and within areas, with water from newer projects typically being more expensive (primarily because of higher construction costs). In 1990, water service contract rates ranged from \$0.22 to \$16.99 per acre-foot.¹⁵ In contrast, the 1990 full-cost agricultural water rates ranged from \$4 to \$251 per acre-foot. In addition, in 1992, Congress directed the Bureau to assess a surcharge on water delivered from the Central Valley Project in California to help pay for fish and wildlife habitat restoration (P.L. 102-575).

Conclusion

The federal government sells or leases many resources to users. Sometimes market mechanisms (*i.e.*, competitive bidding) are used to set prices and allocate resources, although markets do not assure cost recovery, because federal decisions of whether to sell or lease resources are often not determined by profitability. Non-market methods are also widespread, with prices and users determined by legislative or administrative policy decisions. Such prices may, but often do not and sometimes cannot, approximate the private market value of such resources, and may not recover administrative costs. Although the current systems have their defenders, with the continuing pressures to control federal spending, alternative resource sale or leasing mechanisms that increase federal revenues will likely be the focus of continuing debates.

¹⁵An acre-foot is enough water to cover one acre of land to a depth of one foot (= 325,681 gallons).