Appendix 3. Technical Appendix

General

- Estimated DOI Inputs as a Percent of National Sector – DOI contributions as a percentage of the entire industry at the national level. In general we assume that contributions are proportional to production. Thus if Interior lands produce a certain percentage of the national total for given resource, this is equivalent to that same percentage of the national output, employment and value added associated with that resource. For hydropower, wind power, and geothermal the percentage represents the DOI capacity as a percentage of total capacity.
- The value added and economic contribution estimates do not capture output or employment effects beyond payroll spending and natural resource production. Bureaus are engaged in various other activities funded by appropriations, e.g., land acquisition, BLM's mine land reclamation, construction, road building, education, etc.

OSM

- The majority of the Office of Surface Mining's activities related to reclamation of abandoned mine lands are encompassed by funding from the AML fund. The impact of these funds is captured in the entry for Grants and Programs reported earlier in the table.

Indian Affairs, BIA, and BIE

- Sales volumes and values for BIA's oil, gas and coal activities are based on data from ONRR. Lacking multipliers specific to oil, gas and coal activities on Reservations, we used a multiplier based on BLM's onshore oil, gas and coal activities at the national level.
- "Other Royalties" includes revenues reported as contract settlement payments, estimated royalty payments, tax credits, tax reimbursement payments, revenues reported under royalty-bearing transaction codes for non-oil, gas, coal, or natural gas liquid product codes. This includes revenue associated with contract settlement payments, and sand & gravel royalty payments. There are no sales volumes associated with the first grouping of Other Royalties.
- BIA's economic contributions from oil, gas, and coal are assumed to be proportional to BLM's.
- Drilling costs for oil, gas, and dry wells were calculated for each state where Indian wells were completed in FY 2011. Costs per well were calculated as the total costs for each type of well (oil, gas, or dry) divided by the total number of completed wells of each type. The data were taken from "The Oil & Gas Producing Industry in Your State" (IPAA, October 2012).
- The ratio of dry holes to total wells completed was calculated for each state where Indian wells were drilled. These results were used to estimate the number of dry holes associated with Indian wells completed in each state.
- A single entry is provided for BIA timber and grazing activities; to date, no grazing data were provided.
- "Other minerals" were assumed to be construction aggregate (sand and gravel; crushed stone). The value of output was estimated by assuming the 2012 royalty collections of $3.4 million were derived from a 5% royalty. This implies a commodity value of about $67 million. The total value of construction aggregates produced in the US in 2012 was $6.4 billion (source: Sand and Gravel (Construction), U.S. Geological Survey, Mineral Commodity Summaries, January 2013).

- The values reported for Irrigation represent the value of the crops produced using irrigation water supplied by BIA. This value overstates the actual production attributable to BIA, as some level of production would occur without the irrigation water delivered by BIA, and water is only one of many inputs into agricultural production.
- Economic contributions associated with contractual support provided to tribal governments were evaluated by applying state and local government multipliers.
- Irrigation: The Department of the Interior's Bureau of Indian Affairs (BIA) manages 17 irrigation projects on Indian reservations in the western United States. The overall approach for estimating economic contributions and employment estimates is similar to that used for Reclamation's irrigation activities. Economic contributions and employment estimates were estimated for agricultural activities associated with BIA operated irrigation projects using data from the USDA National Agricultural Statistics Service (NASS) 2007 Census of Agriculture, Volume 2, American Indian Reservations. The Census of Agriculture does not provide complete coverage of all reservations. Where information was not available from the Census of Agriculture, irrigated acreage information was from "Numerous Issues Need to Be Addressed to Improve Project Management and Financial Sustainability," GAO-06-314, Mar 27, 2006. Irrigated acreage data were combined with average crop revenue per acre for irrigated acreage calculated based on data in the 2007 Agricultural Census. The agricultural revenue values in the Census were indexed to 2011 dollars using the NASS food grain prices received index. The multipliers used were based on IMPLAN grain farming sector.

BLM

- The method used by BLM to estimate the contributions from oil and gas activities is based on adjusting the sum of the value of the gross output plus drilling costs to remove inter-industry sales to derive a final demand figure. A multiplier is then applied to final demand to derive the contribution estimates. The rationale for adding drilling costs to the gross output value (prior to making an adjustment to derive final demand) is that drilling costs are not accounted for in the IMPLAN production function for oil and gas extraction. Note that BLM's results are developed independently of BOEMRE's figures for offshore production, using a different approach. This complicates a direct comparison between the onshore and offshore analyses. BLM considers onshore direct output to include 1) oil and gas well drilling, with costs taken from the Independent Petroleum Producers Association report *IPAA Oil & Gas Producing Industry in Your State*; and 2) oil and gas sales, based on sales volume and sales value for the fiscal year. Final demand is taken to be the sum of these two items less interindustry sales.
- Figures reported for hardrock/locatable minerals were developed by the Office of Policy Analysis, assuming a total sales value of U.S. hardrock and other locatable minerals production of $40.1 billion (USGS Mineral Commodity Summaries 2013) and 13 total jobs (direct, indirect and induced) per $1 million, a value added multiplier of 1.54, and an output multiplier of 2.47 from IMPLAN Sector 27 "Mining and quarrying other nonmetallic minerals." In addition, we use estimated federal percentages for each mineral type to find individual federal sales value estimates (percentages from DOI (1993) "Economic Implications of a Royalty system for Hardrock Minerals" Appendix 13).
- The minerals included in the locatables category were as follows: barite, beryllium, bentonite, Fuller's earth, kaolin, copper, diatomite, feldspar, gemstones, gold, iron ore, lead, mica, molybdenum, nickel, perlite, platinum, salt, sand, silica, silver, sulfur, talc, and zinc. Non metallic minerals included gypsum, pumice, and crushed rock.

- Economic contributions associated with locatable minerals are not included in the state-level summaries because sufficient information was not available to apportion the contributions among the states.
- The methodology used to estimate the economic contributions associated with public lands grazing focuses on a specific subset of livestock to better reflect the animals that actually graze on BLM lands and also accounts for individuals who are unpaid or family laborers. In some areas this accounts for up to 35% of the total labor on ranches and farms. That figure was derived by developing a ratio between paid and unpaid/self-employed individuals for each of the relevant states. This methodology more accurately reflects the economic contribution that grazing on public lands makes to the ranching sector more generally. The analysis assumes that the grazing operations included in the Census of Agriculture are representative of those using BLM forage. It is possible that ranchers utilizing public lands have different spending or employment patterns than grazing operations as a whole, but using the Census of Agriculture provides a standard dataset for comparison across states. In addition, because the Census of Agriculture is only available every five years it is assumed that the per 1,000 AUM calculation remains constant from year-to year. It is also assumed that the ratio of paid to unpaid and self-employed labor is constant across all agriculture and forestry sectors. The sales value of BLM forage is based on the total sale price of livestock times the proportion of animal-unit months grazed on BLM-managed lands to total animal-unit months.
- Timber value is composed of the sales receipts for harvested sawtimber, sales of Special Forest Products, and stewardship timber sales. Contracts for sawtimber are typically sold at auction, and the BLM receives the agreed payments when timber is actually cut and sold. Special Forest Products includes fuelwood, posts, poles, etc. While the sales are negotiated, the BLM tries to follow the stipulation that sale prices will not go below 10% of the estimated market value. Stewardship Program timber sales are associated with BLM bartering goods (timber products) for services (land treatments) done outside contractors. The product value is used to offset the total cost of service work in the contract.
- Contributions related to building and operating wind and solar energy projects were derived using the Jobs and Development Economic Impact (JEDI) models produced by the National Renewable Energy Laboratory (NREL).

Reclamation

- FWS trip-related multipliers and average visitor expenditures were used to estimate impacts for Reclamation's recreation activities. The analysis relies on Reclamation visitation data collected during 2010-2012 and applies current expenditures per day, value added, output, and employment multipliers from FWS.
- The values reported for irrigation represent the gross value of the crops produced using irrigation water supplied by Reclamation. This value considerably overstates the actual production attributable to Reclamation, as some level of crop production would occur without the irrigation water delivered by Reclamation, and water is only one of many inputs into agricultural production. The multipliers used were developed for the 17-western state Reclamation service area. Reclamation is utilizing GIS imagery to document the type and acreage irrigated crops grown on Reclamation projects. These data, combined with state-level yields and nation-wide prices provided by the USDA, are used to estimate gross crop value. Reclamation currently has completed approximately 80% of this project.

- The economic contributions associated with Reclamation supplied M&I water are associated with the activities associated with operating water, sewage and other treatment and water delivery systems. The economic contribution delivering M&I water was estimated by using total 2005 M&I contract amounts in acre-feet and multiplying the total amounts by recent (2006) average market M&I water rates for major urban areas. For the FY 2012 report, no new information was available, so the FY2011 value was indexed using the CPI values for water, sewer, and trash collection services. Actual water deliveries are not reported on a Reclamation-wide basis. The most recent year for which actual M&I deliveries were reported on a Reclamation-wide basis is 1992. Therefore, these values should also be treated as estimates.
- The value of hydroelectricity generated at Reclamation facilities was estimated using regional wholesale prices for Reclamation major hydropower production areas as follows: BPA - $0.033/kWh; Parker Davis - $0.008/kWh; Boulder-Hoover - $0.021/kWh; Loveland - $0.041/KWh; Billings - $0.033/kWh; and Salt Lake City - $0.03/kWh.

BOEM and BSEE

- The BOEM maintains an in-house socio-economic impact model, MAG-PLAN, for economic impact analyses to support its lease sale planning duties. MAG-PLAN identifies the industry sectors that contribute to offshore oil and gas activity (e.g., wells drilled, platforms installed, etc.) and calculates the size of the direct impact in each sector. Total OCS related spending and employment in the U.S. economy is estimated with ratios and multipliers from the recently updated version of the MAG-PLAN model which incorporates 2010 IMPLAN data.
- BOEM's economic impact models and the macroeconomic allocation factors available from other agencies indicate that the activities associated with this production resulted in over $122 billion in the total U.S. output in FY 2012, over $59 billion in value added[105] (approximately 0.4% of total U.S. GDP) and sustained 734,000 domestic jobs (approximately 0.6% of all U.S. employment).[106] The rows in Table A3-1 identify the individual components that we estimated to arrive at these totals.

[105] Value added is defined as the difference between an industry's total output and the cost of its immediate inputs. It is an individual producer's contribution to GDP.

[106] These jobs are considered sustained because many are continued from OCS oil and gas activity in previous years. It should be emphasized that these estimates do not represent "new" jobs; many of these would represent new contracts or orders at existing firms that would essentially keep the firm operating at its existing level as earlier contracts are completed and filled.

- The basis for calculating the FY2012 impacts of OCS oil and gas activity is the sales value of FY2012 OCS oil and gas production as published by the Office of Natural Resources Revenue.[107] As shown in the first column of Table A3-1 , the sales value of OCS production in FY2012 was just under $60 billion.[108] Because different sources of spending generate different degrees of economic impact, we distributed this sales value among industry spending, government revenue, and after-tax profits to enable the calculation of total economic impact and individual state impacts. The portion of industry profits that flow to foreign entities has spending impacts that cannot be separated from those of other U.S. activities that generate income abroad, so we omit any spending impact from this portion of total sales.[109] That leaves just over $50 billion of OCS stimulated direct spending in the U.S. economy, shown in the second column of Table A3-1.

Table A3-1. BOEM and BSEE Administered Industry Economic Impact FY 2012

	OCS Oil, Gas, and NGL Sales Value ($ millions)	Resulting Direct Domestic Spending ($ millions)	Resulting Total Domestic Output ($ millions)	Resulting Total Domestic Value Added ($ millions)	Domestic Jobs Sustained (Thousands)
Industry Spending	**$23,907**	**$23,907**	**$53,938**	**$31,658**	**336**
Government Revenue	**$12,198**	**$12,198**	**$38,902**	**$10,525**	**206**
After-Tax Profits	**$23,663**	**$13,998**	**$29,493**	**$16,931**	**192**
Foreign After-Tax Profits	*$9,664*	*NA*	*NA*	*NA*	*NA*
Domestic After-Tax Profits	*$13,045*	*$13,045*	*$26,452*	*$15,610*	*176*
Tax on Dividends	*$953*	*$953*	*$3,041*	*$1,321*	*16*
Sales Value	**$59,768**	**$50,104**	**$122,333**	**$59,115**	**734**

NB: Totals may not sum due to rounding error

[107] http://statistics.onrr.gov/ReportTool.aspx

[108] Office of Natural Resource Revenue only reports the sales value of royalty bearing volumes of oil and gas. To calculate the total sales value, we used the effective price (the ratio of sales value to sales volume) of the revenue volumes and applied it to the non-revenue volumes. The effective price is $3.09/mcf for gas, $1.52/gal for NGL, and $109.14/bbl for oil.

[109] As described in the After-Tax Profits section and shown in Table 4, foreign revenues come from a portion of retained earnings that are spent overseas and dividends held by shareholders in the rest of the world.

- We assumed direct industry spending (i.e., capital and operating expenditures) was 40% of total sales value (0.4 * $59.768 billion) in FY2012.[110] We then applied MAG-PLAN multipliers for direct, indirect, and induced spending (a total multiplier of 2.26) to estimate the total domestic output associated with this direct spending of $23.907 billion. We used the industry spending ratio from MAG-PLAN of $1.32 value added for every dollar of direct spending, to derive a value added of $31.658 billion. In addition, we estimated jobs sustained by industry spending using the ratio from MAG-PLAN of 14.07 total jobs per million dollars of direct offshore oil and gas industry spending, resulting in a figure of 336,000 jobs sustained. These output and employment estimates are shown in the third, fourth, and fifth columns, first row, of Table A3-1 for industry spending.
- Government OCS revenue originates from leasing revenue and taxes. A portion of OCS leasing revenue is allocated to grant and revenue sharing programs including state sharing in the 8(g) zone, GOMESA, Land and Water Conservation Fund (LWCF) and the Historic Preservation Fund (HPF). The remaining 98 percent of leasing revenue and all of the tax revenue go into the Treasury General Fund. To calculate the total output from the spending of government revenues, we used the MAG-PLAN derived Federal government spending multiplier (based on IMPLAN data) of 3.19. We converted government spending to jobs using the IMPLAN ratio of 16.86 total jobs per million dollars of direct spending by the Federal government. Leasing and tax revenue are divided between states based on historical federal funds distributions.
- Estimated after-tax profits of $23.663 billion ($13.998 billion going to domestic entities and $9.664 billion going to foreign entities) were distributed for our analysis between retained earnings and dividends to shareholders using EIA data which indicates that retained earnings are roughly equal to 66% of after-tax profits in the oil and gas industry ($15.6 billion) and dividends are roughly equal to 34% ($8.5 billion). Splitting retained earnings this way treats funds that go to the rest of the world as a leakage from the economy that have no discernable direct spending impacts in the U.S. Moreover, the domestic retained earnings are either saved or are already included in industry spending, so we assigned no additional economic impact to retained earnings beyond the direct spending. As with foreign shares of retained earnings, we allocated a portion of total dividends to foreign shareholders. As with foreign shares of retained earnings, we allocated $8.045 billion from total dividends to foreign shareholders using data from the Bureau of Economic Analysis, Department of Commerce, which indicates 21% ($1.69 billion) are sent to shareholders in the rest of the world, and thus have no direct spending impacts. Of the $6.356 billion of dividends paid out domestically, we used the IRS dividend tax rate of 15% to calculate taxes of $0.953 billion. Of the after-tax domestic dividends ($5.4 billion), we assume, based on two empirical studies, that 25% ($1.351 billion) is reinvested and the remaining dividends ($4.052 billion) are spent by shareholders.
- Domestic retained earnings of $8.277 billion and domestic spending from reinvested dividends of $716 million total $8.993 billion to be divided between onshore and offshore operations. Using the EIA data on oil and gas expenditures, of the 53% of expenditures in the U.S., 73% are on onshore activities, and 27% are for offshore activities. The offshore expenditure impacts are calculated identically to the industry spending described earlier (with a direct to total output multiplier of 2.26). The onshore portion is calculated using the IMPLAN Sector 20 and 29 average multiplier of 1.98 for total spending, 12.92 jobs per million dollars spent, and $1.15 value added for every dollar spent. These calculations result in a total impact of $18.495 billion in total output, $10.725 billion in value added, and 119,000 jobs.

[110] This assumption is based on the results of BOEM's in-house leasing model, IMODEL.

- The tax revenue from dividends is treated in the same way as government revenues with an output multiplier of 3.19 and a ratio of total jobs to direct spending of 16.85, resulting in a total output of $3.041 billion, a total value added of $1,321 and total employment of 16,000. We based the total impact from the spending of domestic dividends ($7.957 billion) on the average (1.96) of the multipliers of the consumer sectors in IMPLAN (sectors 320-425). Likewise, we used the IMPLAN ratio of $0.41 in value added per dollar spent and 14.10 total jobs per million dollars of consumer spending to calculate the value added and employment, $16.931 and 57,000.
- Additional analysis was required to estimate the distribution of economic impacts by state. For the industry spending category, the MAG-PLAN model reports the economic impacts that occur in each of the five Gulf of Mexico (GOM) states while aggregating the remainder of the U.S. Since MAG-PLAN has the breakout of economic impact (direct spending, total output, and total jobs) for the GOM states, we applied the percentages for each individual state to the FY2012 industry spending data to calculate the impacts in each of the GOM states. For the remainder of the U.S., we used Bureau of Labor and Statistics (BLS) data on employment by state for each industry sector that MAG-PLAN identifies as having meaningful levels of activity (at least 1% of activity) outside the GOM states.[111] We weighted the BLS state employment data by the contribution of each sector to total industry spending from MAG-PLAN to give us the distribution of economic impacts from industry spending by state. Next, we allocated the spending outside the GOM states according to the new BLS-derived distribution.
- For the government revenue sector, we allocated the spending and job components of grant and revenue sharing programs to the state which receives the funds. We allocated the remaining leasing revenue and tax revenue between states in the proportion in which each receives government funds based on historical federal funds distributions to states as reported by the Census Bureau.[112]
- Note that BOEM's results are developed independently of BLM's figures for onshore production, using a different approach. This complicates a direct comparison between the offshore and onshore analyses. BOEM considers offshore direct output to include several related supporting sectors, including steel product manufacturing, water transportation, air transportation, food supply, etc. Interindustry sales are removed in calculating final demand.

Grants and Payments

- The total grants and payments reported in Table A1-1 represent all grants and payments for bureaus and Interior-wide programs in FY 2012, including current and permanent PILT payments and mineral revenue payments. State-level FY 2012 grants and payments data were obtained from the DOI Office of Budget for the grants and payments analyzed in this report. The FY 2014 Budget in Brief reports actual FY 2012 grants and payments totaling $4.856 billion.
- Includes a total of $4.91 billion in grants and payments. Variances between the two figures can be attributed to the use of estimates for certain grant and payment totals at the time the Budget in Brief is printed, and exclusion of program administration costs in grant awards.

[111] http://www.bls.gov/cew/

[112] U.S. Census Bureau Statistical Abstract Table 467: Federal Funds - - Summary Distribution by State and Island Areas: 2007. <http://www.census.gov/compendia/statab/2010/tables/10s0467.xls>.

- The national-level value added and economic contribution analysis of grants and payments displayed in Chapter 1 and Appendix 1. Economic Contribution Estimates use national-level multipliers for the appropriate sectors. The state-level analysis of employment impacts related to grants and payments included in Appendix 2. State-by-State Information only includes those categories for which state-level data were available. Including information on impacts of the full array of grant programs and payments would likely increase employment impacts. The state analysis uses state-level multipliers for the appropriate sectors for each grant category
- Energy and mineral leasing revenues (bonuses, rents, and royalties) disbursed to the U.S. Treasury are one of the Federal Government's largest sources of non-tax receipts. These revenues help fund various government functions and programs through the General Fund of the U.S. Treasury. Royalty payments are divided into offshore and onshore categories. All employment and output impacts for offshore royalties were included in the category of Energy and Minerals for the national and state-level analyses.
- Federal law requires that all monies derived from mineral leasing and production activities on Federal and American Indian lands be collected, properly accounted for, and distributed. For Federal onshore lands, the revenues are generally shared between the states in which the Federal lands are located and the Federal government. In the case of American Indian lands, all monies collected from mineral production are returned to the Indian Tribes or individual Indian mineral lease owners. Revenues associated with Federal offshore lands are distributed to several accounts of the U.S. Treasury and certain coastal states with special Federal offshore tracts adjacent to their seaward boundaries.
- Does not include $12 billion in leasing revenues and corporate taxes that flow to the Treasury as a result of Interior's offshore mineral activities. These revenues are included in the BOEM totals.
- States receive nearly 50 percent of the revenues associated with mineral production on Federal public lands within their borders. Alaska is the one exception, which receives a 90 percent share. Coastal states, with certain Federal offshore 8(g) tracts adjacent to their seaward boundaries, receive 27 percent of the revenues.
- Mineral revenue payments include receipts for sales in the National Petroleum Reserve – Alaska, Mineral Leasing Associated Payments, National Forest Fund Payments to States, and Payments to States from Lands Acquired for Flood Control, Navigation, and Allied Purposes.
- Grants and Payments includes mineral revenue payments to states associated with onshore production, and grant programs funded by offshore leasing and other sources of revenues.
- The state-level analysis includes a preliminary estimation of the impacts of Federal offshore royalty payments (to states via Treasury). Additional details on these calculations are included in the BOEM section above.

- Land acquisitions: Output and employment contribution estimates for land acquisition are derived using state and national-level multipliers. It is assumed that 90% of funds go to landowners and 10% are spent on transaction costs. Much of the money land owners receive is likely to go into savings, be used to pay off loans, or be subject to tax. It is therefore assumed that landowners will spend only 50% of funds they receive. These expenditures are modeled as a household income change for households with annual incomes greater than $150,000. The remaining 10% of funds are assumed to go to service providers associated with real estate transaction costs or monitoring and administration of easements. Specific services associated with land acquisition could include land appraisal, title examination and legal services, environmental site assessments, and ecological inventory and management planning. IMPLAN sector 374 (management, scientific, and technical consulting services) is used to model the services associated with land acquisition. Temporal issues complicate the analysis, as there may be a delay between the date of the purchase, the date the landowner receives the funds, and the dates the landowner spends the funds. Contributions are typically reported for one year, and only a small portion of the funds received by landowners is likely to be spent in that same year; monitoring expenditures will also often be incurred in perpetuity whereas transaction costs are all up-front. As a simplifying assumption, all landowner expenditures and service fees are assumed to occur in the same year that the transaction takes place.

Payroll Impacts

- The domestic jobs supported by Interior in Table A1-1 represent additional jobs above and beyond Interior employees.
- For Table A1-1, 2012 payroll data were obtained from Department of the Interior Human Resources data systems. The payroll data include salary data based on the duty-station of all Interior employees through pay period 17, 2012.
- The calculation of the economic contributions associated with DOI payroll adjusts the total value of payroll for each state to account for taxes and savings rates using state-level data. These disposable income values (payroll – savings and taxes) are then used to calculate the economic impacts. This differs from the method used in last year's report, in which disposable income was assumed to be 66% of the payroll values for all states.
- For the payroll contributions shown in Table A1-1 , a national multiplier was used to estimate the employment contributions of Interior payroll, equaling 11.1 jobs per $1 million.
- For state-level salary effects shown in Table A2-1 and Table A2-2, 2012 payroll data and state-level multipliers were used. Since state multipliers do not capture leakages, the total of state salary impacts will not equal the national-level salary employment impacts.
- The total salary paid and number of employees for each Bureau does not necessarily reflect FTE data typically reported in budget documents. These data were used to estimate total salary impacts rather than data on total FTE's, which would not have been a complete estimate of total salary impacts of DOI employees.
- Some DOI bureaus, such as NPS, report payroll impacts in separate publications such as "*Economic Benefits to Local Communities from National Park Visitation and Payroll, 2010.*" The payroll numbers presented in the NPS report differ somewhat from those in the DOI report due to the fact that DOI used Department-wide FY 2012 payroll data from the central human resources data system and used a different set of national-level multipliers.

Recreation Impacts

- In Chapter 2, the value of the national sector was taken to be $858 billion, the 2012 output of the travel and tourism industry, as measured by the direct output of goods and services sold directly to visitors (source: Bureau of Economic Analysis Travel and Tourism Satellite Accounts).[113]
- Total recreation economic and employment impacts are national estimates calculated using national level multipliers, which include "leakages" between states that are not captured in state-by-state models.
- Last year's report included data for NPS units in U.S. territories, but not for FWS units. This year's report does not include these areas in the economic analysis for NPS or FWS. Visitation data for NPS reported in Table 2-2 includes visitation for all NPS units including U.S. territories. FWS does maintain some visitation data for sites outside of the continental United States, Hawai`i, and Alaska, and future analysis could include these areas.
- Visitation and expenditure data sources included the following: FWS Fishing, Hunting, and Wildlife-Associated Recreation Survey; NPS visitor surveys, and unpublished data for FY 2011 from *Economic Benefits to Local Communities from National Park Visitation, 2011* (Cui et al. 2013) for site-level impacts of visitor spending; for BLM sites, Forest Service expenditure data were used; Reclamation expenditures were also based on the FWS Fishing, Hunting, and Wildlife-Associated Recreation survey. Spending profiles associated with these data sources were used to develop estimates of average expenditures. For BLM the assumptions that were used were based on *Spending Profiles of National Forest Visitors, NVUM Four Year Report* by Stynes and White, 1998.
- Reclamation recently revised the method they used to collect recreation visitation information and new data has been collected over the past two years. In most cases, project recreation sites are managed by Reclamation partners, including both Federal and non-Federal entities.
- FWS used 2008 IMPLAN data and FY2012 visitation numbers; NPS used 2009 IMPLAN data and calendar year 2011 visitation numbers.
- Calculations for NPS relied on a similar approach to what was used for as BLM, but visitor segment, average persons per party, and spending profiles were derived from NPS data sources. In addition the MGM2 generic multipliers were used instead of IMPLAN state-specific multipliers (2008 NPS MGM2 Report, http://web4.msue.msu.edu/mgm2/default.htm). NPS visitation and economic contribution data are from FY2011, the most recent year for which information was available.
- The FWS National Survey of Hunting, Fishing, and Wildlife Associated Recreation state-level data were used to determine the average recreationist's trip spending per day.
- The BOR and FWS recreation valued added figures are based on the ratio of NPS valued added to total output. The FWS valued added figure for Delaware is based on the average of the MD, NJ, PA, and VA ratios because Delaware does not have a NPS unit.
- Table A2-1, Table A2-2 and Table A2-3 present state-by-state summaries of the total economic impacts and employment related to recreation visits and other Interior activities.

[113] http://www.bea.gov/newsreleases/industry/tourism/2013/pdf/tour412.pdf.