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Under Alternative B, designating 125,100 acres of VRM Class I and II, closing 30,040 acres to vehicle travel, and managing 36,990 acres for wilderness characteristics could limit surface-disturbing activities in these areas, subsequently protecting vegetation and reducing the potential for degradation of special status

species habitat compared to Alternative A. In addition, allocating 29,820 acres as the Desert Bighorn Sheep WHA and 2,240 acres as the Waterman Mountains VHA would limit surface-disturbing activities in these areas, resulting in protection of special status species habitat in those areas. Under Alternative C, designating 124,900 acres of VRM Class II, closing 10,880 acres to vehicle travel, and managing 9,510 acres for wilderness characteristics could protect special status species habitat similar to Alternative B, though across less area of the IFNM. Alternative C would include protection of wildlife habitat in the Desert Bighorn Sheep Wildlife WHA and Waterman Mountains VHA similar to Alternative B. Under Alternative D, designating 122,580 acres of VRM Class II would provide protection of special status species habitat, similar to Alternatives B and C, though across less area of the IFNM. Under Alternatives A, C, and D, utility corridors (8,240, 980, and 2,660 acres, respectively) would provide opportunities for land use authorizations that could result in surface-disturbing activities, resulting in direct conflicts with special status species or the loss or fragmentation of their habitat.

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The desert bighorn sheep prefer the rocky, mountainous habitats in the IFNM, primarily the Silver Bell Mountains. Sheep typically use the highest ridges of the mountains as a lookout. Desert bighorn sheep diet consists of shrubs, forbs, cacti and grasses. Globemallow, desert agaves, range ratany, buck wheatbrush, foothill palo verde, prickly pear, desert ironwood, and elephant tree also are consumed by desert bighorn sheep (Tarango et. al. 2002).

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In addition to watchable wildlife recreation, additional economic impact is generated by fishing and hunting has been evaluated in another 2003 study prepared for AGFD. This study found that fishing and hunting created a statewide impact of \$1.34 billion, including secondary impacts.

Table 3-19: 2001 Economic Impacts of Hunting and Fishing (in \$ millions)

	Fishing and Hunting Expenditures	Total Multiplier Effect	Full- and Part-Time Jobs	Salaries and Wages	State Tax Revenues
Pima County	\$84.5	\$105.0	1,187	\$18.3	\$5.4
Pinal County	\$20.0	\$22.9	296	\$3.8	\$0.9
Total for Arizona	\$958.5	\$1,340.0	17,190	\$314.0	\$58.2

SOURCE: Arizona Game and Fish Department 2003

The National Survey of Hunting, Fishing, and Wildlife-Associated Recreation reported that in 2001, wildlife recreationists spent \$108 billion on trips, equipment, and other items. In Arizona, 1.7 million resident and nonresident 16-year-old-and-older participants spent in excess of \$1.6 billion for fishing, hunting, or watchable wildlife forms of recreation. Of that total, trip-related expenditures were \$512.0 million and equipment purchases totaled \$1.0 billion. The remaining \$67.0 million was spent on licenses, contributions, land ownership and leasing, and other items and services (USFWS 2001). A study conducted for AGFD found the total economic effect (including secondary effects) from 2001 watchable wildlife activities in Arizona to be \$1.5 billion (\$1.1 billion by residents and \$434.7 million by nonresidents) (Southwick Associates 2003). (Watchable wildlife recreation is defined in the study as observing, photographing, and/or feeding fish and/or other wildlife.) Arizona resident expenditures for watchable wildlife recreation in 2001 totaled \$594.5 million and nonresident expenditures totaled \$226.2 million. In addition to this statewide data, this study provided county-based estimates of the economic impact of watchable wildlife recreation in 2001. Table 3-18 includes the county-level data applicable to the planning area.

Table 3-18: Economic Effects from All Watchable Wildlife Recreation in Arizona, by County, in 2001 (Participants 16 Years Old and Older)

	County Residents	Residents from Other Counties	Visitors from Other States	TOTAL ¹
Pinal County				
Retail sales	\$20,687,736	\$12,133,344	\$18,075,961	\$50,897,041
Total multiplier effect	\$38,535,190	\$22,694,280	\$34,735,654	\$95,965,124
Salaries and wages	\$10,838,913	\$6,407,698	\$9,368,291	\$26,614,902
Full- and part-time jobs	353	210	385	949
State sales and fuel tax revenues	\$1,177,490	\$683,445	\$1,050,972	\$2,911,907
State income tax revenues	\$282,476	\$166,580	\$216,275	\$665,331
Federal income tax revenues	\$1,982,471	\$1,168,656	\$1,487,257	\$4,638,383
Pima County				
Retail sales	\$85,322,023	\$36,240,245	\$51,982,423	\$173,544,691
Total multiplier effect	\$158,809,428	\$67,834,927	\$99,891,973	\$326,536,328
Salaries and wages	\$44,645,190	\$19,140,009	\$26,941,109	\$90,726,309
Full- and part-time jobs	1,454	635	1,107	3,196
State sales and fuel tax revenues	\$4,856,514	\$2,029,235	\$3,022,361	\$9,908,109
State income tax revenues	\$1,150,771	\$495,093	\$621,958	\$2,267,822
Federal income tax revenues	\$8,072,475	\$3,470,619	\$4,277,017	\$15,820,112

SOURCE: Southwick Associates 2003

NOTE: ¹ Some totals may vary due to rounding.

Statistics available from 2002 indicate that agricultural products generate more than \$2.3 billion in Arizona. Pinal County provided approximately 17.7 percent of this total, and Pima County just 2.9 percent of State sales (U.S. Department of Agriculture [USDA] 2004c). In 2002, the market value of cattle and calves accounted for over \$403 million of this revenue statewide, or about 16.9 percent. Pinal County accounted for almost 50 percent of the total State market value of cattle and calves, or about \$142.7 million. Figures for the market value of cattle and calves in Pima County were not available for 2002, but in 1997 Pima County accounted for only two percent of the State total, or just over \$7 million (USDA 2004b).

Grazing on the IFNM is authorized at the levels

Table 3-16: Farms with Grazing Leases or Permits

	Pinal County	Pima County	Arizona
Number of farms with cattle and calves	179	166	2,881
Number of farms with grazing leases or permits	63	91	1,372
Source of leases or permits			
Forest Service	18	23	466
Taylor Grazing (BLM)	28	38	533
American Indian lands	2	2	195
Other ¹	44	58	643

SOURCE: U.S. Department of Agriculture 1997

NOTE: ¹ Many of the farms or ranches in Pinal and Pima Counties have been issued permits or leases from both the ASLD and BLM, which accounts for the number of permits not adding up to the number of farms.

Table 3-17: Grazing Fees Received from Allotment

	2001	2002	2003	2004
Total AUMs	3,222	5,493	5,921	5,944
Grazing fees received	\$4,349.70	\$7,415.55	\$7,993.35	\$8,440.48

SOURCE: Calculated from U.S. Department of the Interior, Bureau of Land Management 2001a