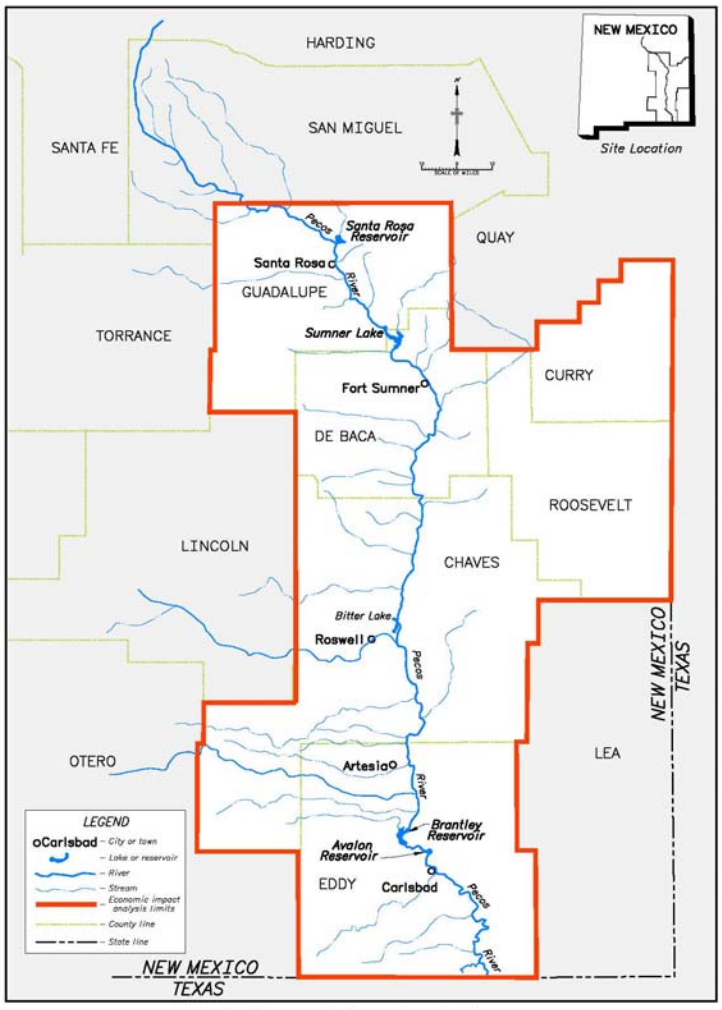
REGIONAL ECONOMY – AFFECTED ENVIRONMENT

Impact Area

Chaves, Curry, De Baca, Eddy, Guadalupe, Roosevelt Counties. These counties are either directly impacted or have strong economic ties to the four counties in the study area.

Government, services, and retail trade are the largest industry sectors of the overall regional economy, with agriculture important in many parts of the area as well.



Map 3.3 Economic impact analysis area

Population of Affected Area

- The 2000 Census - estimated a population of 183,022 in the impact area.
- About 57 percent of the population is in Roswell, Carlsbad, and Clovis.
- Nearly 86 percent of the area's total population lives in Chaves, Eddy, and Curry Counties.

Population of the study area (1990-2000)

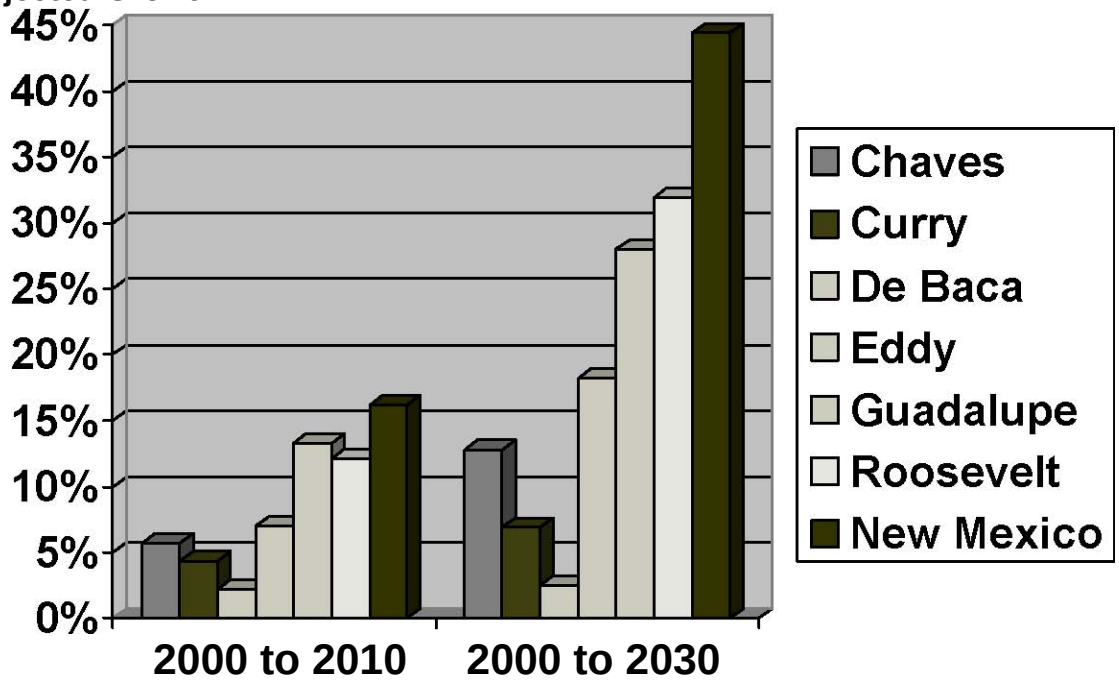
County/City/State	1990	1995	2000
Chaves County	57,849	61,539	61,382
Roswell	44,654	47,048	45,293
Curry County	42,207	47,464	45,044
Clovis	30,954	35,150	32,667
De Baca County	2,252	2,355	2,240
Fort Sumner	1,269	1,338	1,249
Eddy County	48,605	52,889	51,658
Carlsbad	24,952	26,822	25,625
Artesia	10,610	11,441	10,692
Guadalupe County	4,156	4,125	4,680
Santa Rosa	2,303	2,295	2,744
Roosevelt County	16,702	18,615	18,018
Portales	10,690	11,444	11,131
Study area counties	171,771	186,987	183,022
New Mexico	1,515,069	1,682,417	1,819,046

Sources: U.S. Census Bureau, 2000. Bureau of Business and Economic Research, University of New Mexico, 2004.

Population Projections

From 2000 to 2030, none of the population growth rates of the counties in the study area are projected to keep pace with the State's growth rate.

Projected Growth

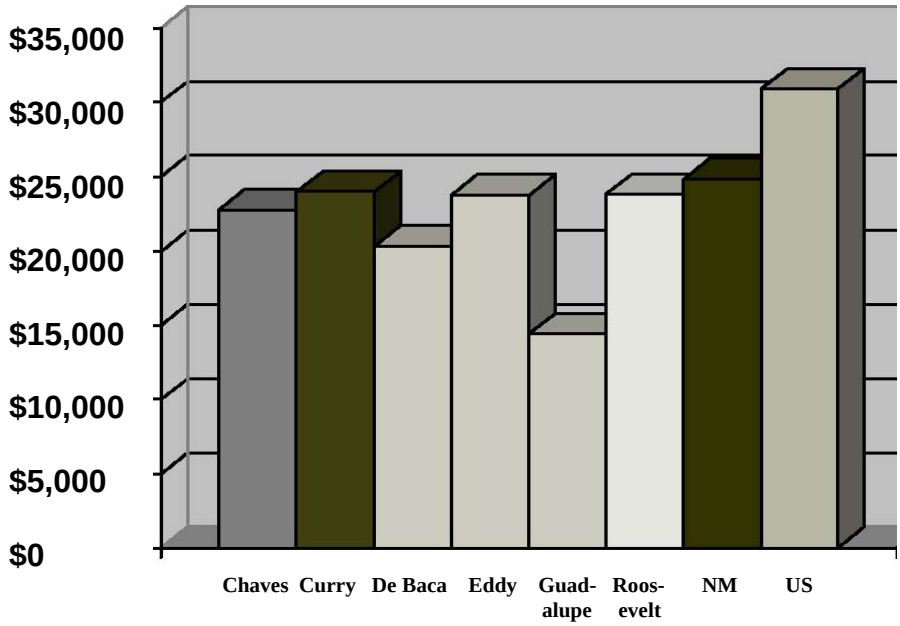


Source: Bureau of Business and Economic Research, University of New Mexico, 2004.

Income

- In 2002, New Mexico's Total Personal Income was $45.9 billion.
- In 2002 Chaves, Curry, and Eddy Counties each had Total Personal Income of more than $1 billion. De Baca, Guadalupe, and Roosevelt Counties each had relatively small Total Personal Income.
- Per capita income is relatively low in the economic impact area.

Median Household Income



Source: U.S. Census Bureau, 2004.

Earnings and Employment

- Agriculture, government (all levels), services, and retail trade are most important earnings sectors in Chaves, Curry, De Baca, and Roosevelt Counties, accounting for at least 60 percent of total earnings in each county in 2000.
- Agriculture is considerably more important in De Baca and Roosevelt Counties than in the State as a whole.
- Mining, services, government, and transportation and public utilities were all in double figures in terms of earnings for Eddy County.
- Each county in the impact area has had a much higher poverty rate than the national average for all selected years.
- Agriculture accounted for less than 8 percent of the jobs in Chaves County in 1999 but is a very important source of jobs in De Baca County.
- Farming employed 15% and retail trade employed 30% of workers in Guadalupe County. Services and government each employed about 20% of workers.
- Guadalupe County had double-digit unemployment throughout the 1990s and has continued to experience relatively high unemployment since.
- In 2003, Chaves, De Baca, Eddy, and Guadalupe Counties each had unemployment rates higher than the State and the nation.

Agricultural Acreage and Production

- The six-county impact area accounted for about 20 percent of the farms and farm acreage in New Mexico in 2002.
- The 277,337 irrigated acres in the six-county area represent slightly more than 42 percent of the total irrigated cropland in New Mexico.
- In 2002, farmers in the six-county region sold $815 million of agricultural products. Livestock production is the predominant agricultural activity in the region, accounting for 86.5 percent of the value of agricultural products sold in 2002 (about $704 million). Source: National Agricultural Statistics Service, 2002.
- Approximately 39 percent of all New Mexico farms had net positive revenues in 2002.

Environmental Justice

- An evaluation of environmental justice impacts is mandated by Executive Order 12898 on Environmental Justice.
- Environmental justice addresses the fair treatment of people of all races and incomes with respect to Federal actions that affect the environment.
- Evaluating potential environmental justice concerns requires an understanding of where the project impacts are likely to occur and where potentially affected groups are located.
- The analysis relies on demographic data from sources such as the U.S. Census Bureau, individual counties and municipalities, and local school districts to determine the location of different groups of people.

REGIONAL ECONOMY – IMPACTS OF ALTERNATIVES

- Regional economic impacts associated with changes in Carlsbad Project operations could occur as a result of land retirement or fallowing associated with the CPWA and AWA options of water right purchases/leases and changes in cropping patterns.
- These impacts could be the result of changes in net farm revenues, input expenditures, income received from land payments when applicable, and any fiscal impacts resulting from changes in property tax revenues.
- Most of these changes in agricultural production would lead to negative regional economic impacts.
- Some positive one-time impacts also could occur as a result of land or lease payments made to farmers adversely affected by land use changes.
- Representative agricultural production costs and revenues were estimated using data from the New Mexico State University Crop Cost and Return Estimates in New Mexico.
- Irrigated crops included alfalfa, wheat, cotton, sorghum, and barley. Dryland crops included sorghum and wheat.
- The agricultural impacts of each alternative were evaluated by translating retaired acreage and changes in cropping patterns into changes in agricultural production.
- A range of impacts are estimated based on the equivalent acreage requirements shown below.

Alternative	FSID lease or purchase	River pumper lease or purchase	CID lease or purchase	CID cropping pattern	PVACD lease or purchase for well field
No Action	3,300	1,400	800	1,600	1,200
Taiban Constant	2,500	1,000	600	1,200	900
Taiban Variable (45 cfs)	2,500	1,000	600	1,200	900
Taiban Variable (50 cfs)	3,100	1,300	700	1,500	1,200
Taiban Variable (55 cfs)	3,500	1,500	800	1,700	1,300
Acme Constant	8,100	3,400	1,900	3,900	3,000
Acme Variable	6,200	2,600	1,400	3,000	2,300
Critical Habitat	2,500	1,000	600	1,200	900

Summary of annual impacts of action alternatives on the regional economy compared to No Action Alternative

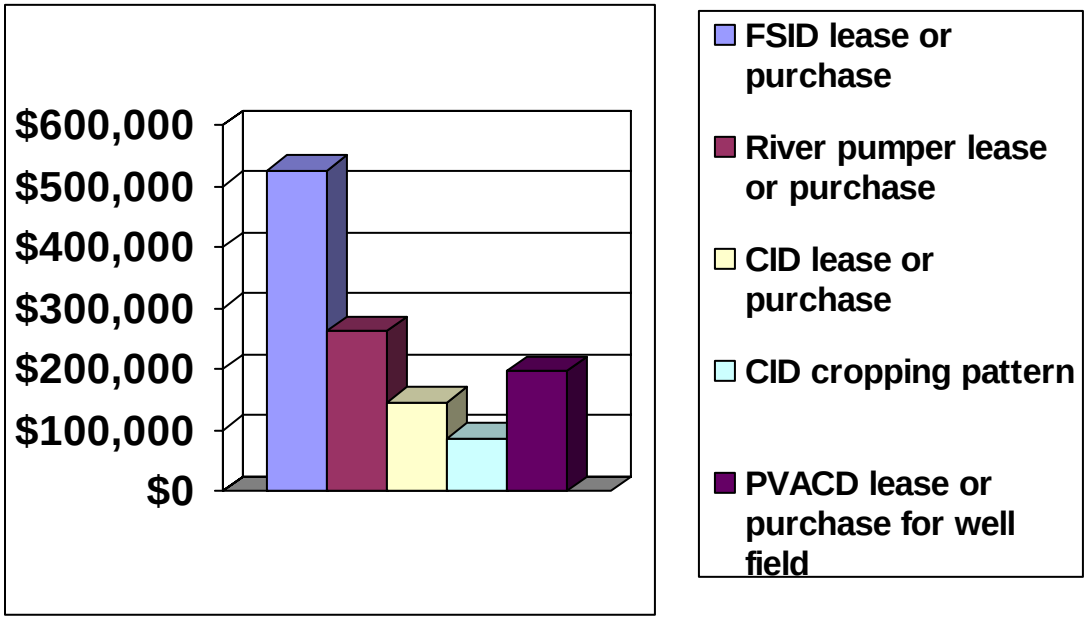
Indicator	Taiban Constant Alternative	Taiban Variable Alternative (45 cfs)	Taiban Variable Alternative (50 cfs)	Taiban Variable Alternative (55 cfs)	Acme Constant Alternative	Acme Variable Alternative	Critical Habitat Alternative
Change in the value of regional output ($)	+ 88,000 to +525,000	+ 88,000 to +525,000	+ 22,000 to +131,000	- 22,000 to - 131,000	-504,000 to - 3,149,000	- 307,000 to -1,902,000	+88,000 to +525,000
Change in regional income ($)	+ 7,000 to +211,000	+ 7,000 to +211,000	+ 2,000 to +53,000	- 2,000 to - 53,000	- 39,000 to -1,267,000	- 24,000 to -766,000	+ 7,000 to + 211,000
Change in regional employment	+0.1 to +6.8	+0.1 to +6.8	0.0 to +1.7	0.0 to -1.7	-0.5 to -40.8	-0.3 to -24.7	+0.1 to +6.8

- The analysis indicates that the greatest negative annual regional economic impacts resulting from lost production and input purchases would occur under the Acme Constant Alternative followed by the Acme Variable Alternative.

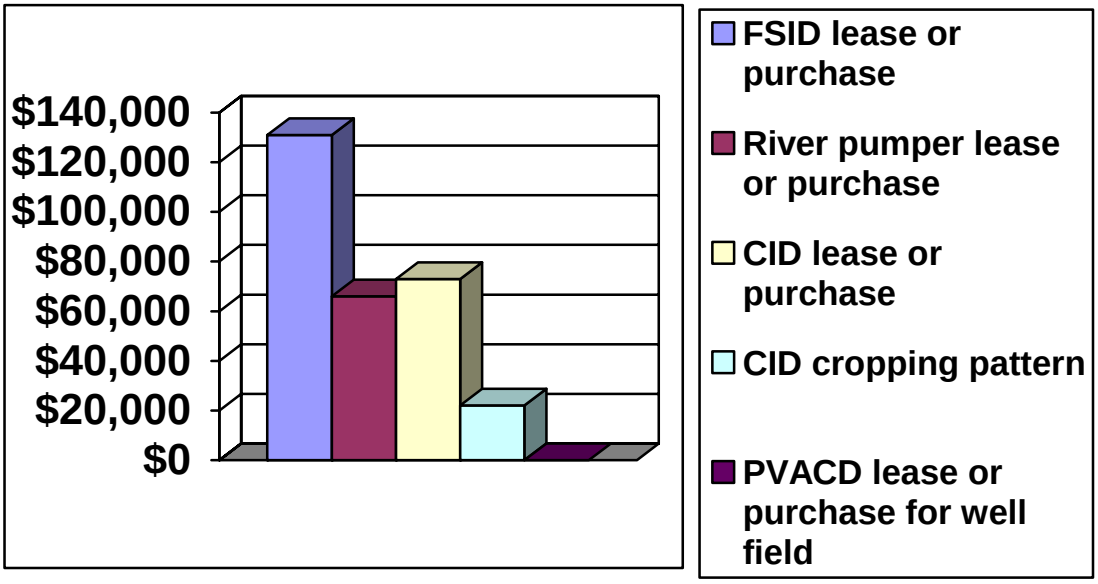
- Regional economic impacts are estimated to be considerably less under the Taiban Constant Alternative, the Taiban Variable Alternative (45 cfs), and the Critical Habitat Alternative than under the No Action Alternative.

- The regional impacts are presented graphically below.

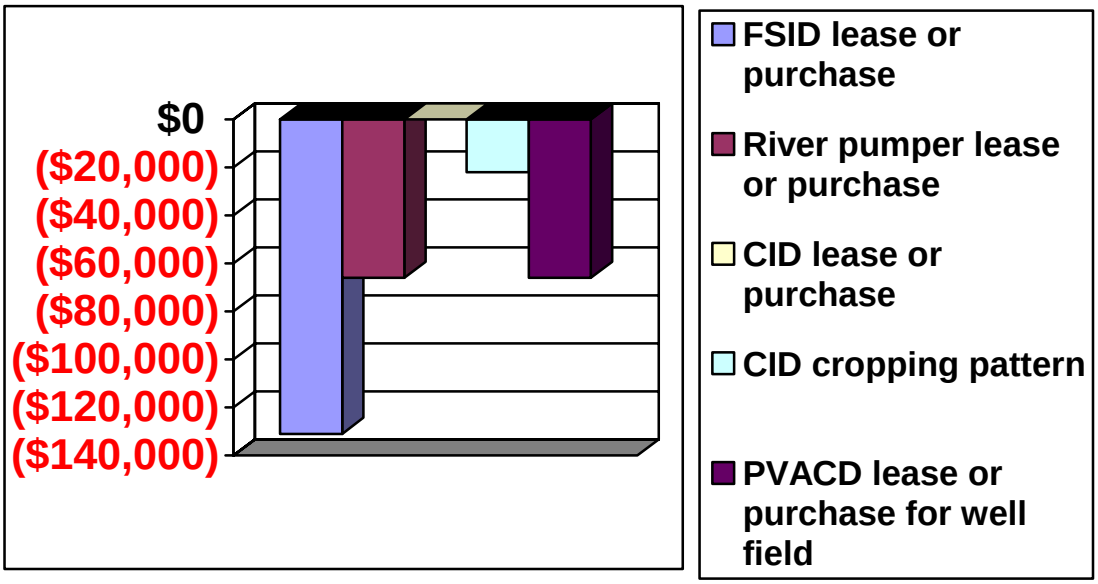
Regional Impacts Compared to No Action - Taiban Constant Alternative, Taiban Variable at 45 cfs Alternative, Critical Habitat Alternative



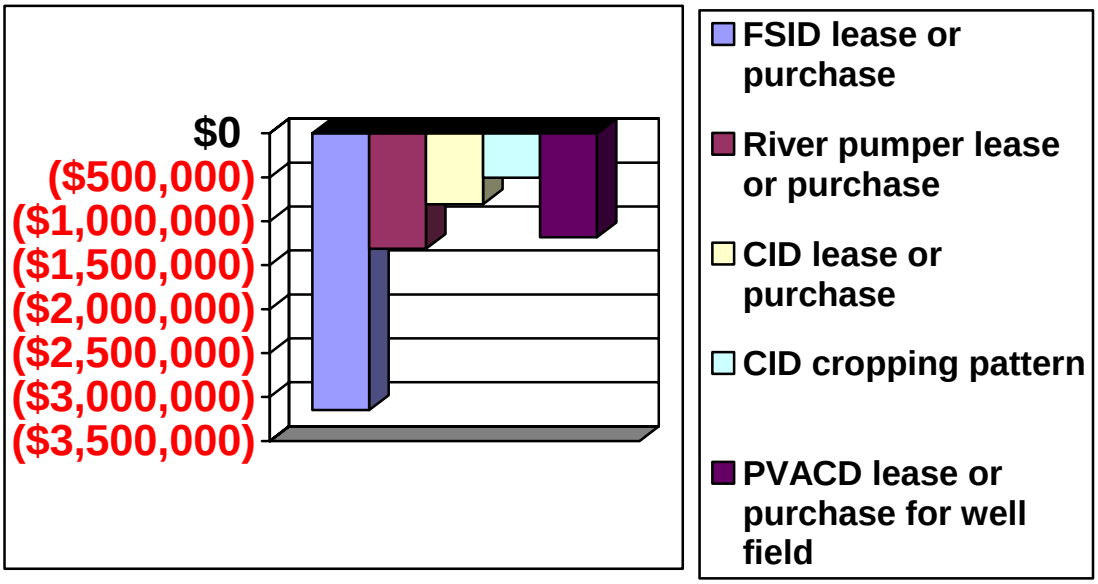
Regional Impacts Compared to No Action - Taiban Variable 50 cfs Alternative



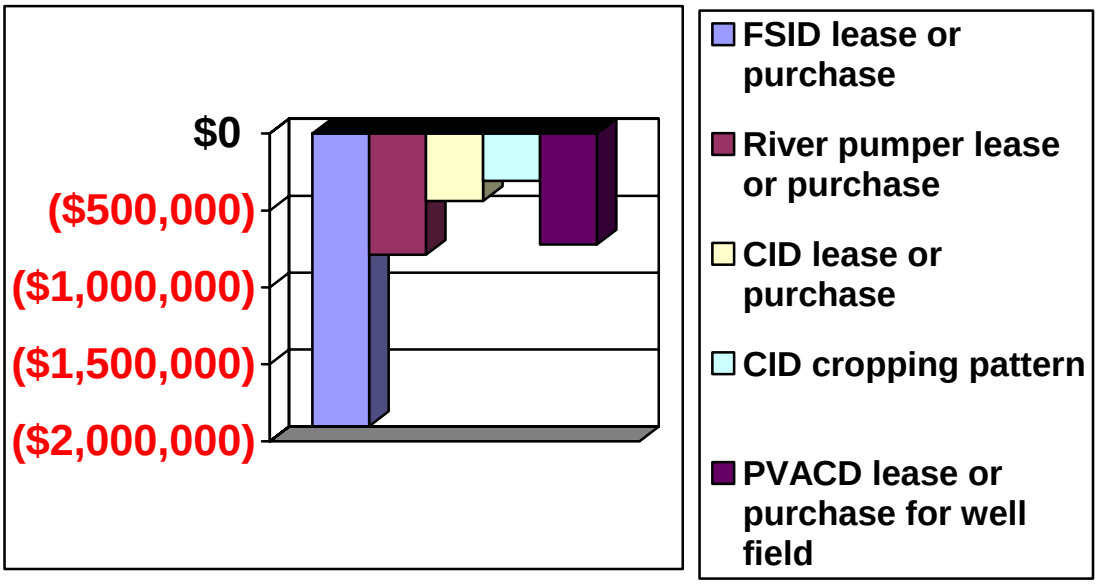
Regional Impacts Compared to No Action - Taiban
Variable 55 cfs Alternative



Regional Impacts Compared to No Action - Acme
Constant Alternative



Regional Impacts Compared to No Action - Acme Variable Alternative



One Time Impacts Associated with Land Retirement or Lease Payments

- Some positive impacts are associated with each action alternative as a result of lump-sum land retirement or lease payments and compensation for lost farm revenues as a result of changes to cropping patterns.
- These are analyzed as **one-time impacts,** not as recurring impacts.

Estimated total one-time impacts from a lump sum land retirement payment, compared to No Action Alternative

Alternative	Output	Income	Employment
Taiban Constant	-$246,000 to -$985,000	-$44,000 to -$178,000	-2.2 to -8.6
Taiban Variable (45 cfs)	-$246,000 to -$985,000	-$44,000 to -$178,000	-2.2 to -8.6
Taiban Variable (50 cfs)	$0 to -$246,000	$0 to -$44,000	0 to -2.2
Taiban Variable (55 cfs)	$0 to +$246,000	$0 to +$44,000	0 to +2.2
Acme Constant	+$1,354,000 to +$5,909,000	+$244,000 to +$1,066,000	+11.9 to +51.8
Acme Variable	+$739,000 to +$3,570,000	+$133,000 to +$644,000	+6.5 to +31.3
Critical Habitat	-$246,000 to -$985,000	-$44,000 to -$178,000	-2.2 to -8.6

- Greatest one-time positive impacts would occur under the Acme Constant Alternative, followed by the Acme Variable Alternative.

Environmental Justice Impacts

- Census data show the percentage of Hispanic population in Guadalupe County is nearly double the percentage for the entire area.
- Income data indicate Guadalupe County has a much lower income than the rest of the study area.
- The location of any negative regional economic or social impacts associated with each alternative is difficult to determine because the location of retired/fallowed land or land with changes to cropping patterns cannot be predicted with any certainty.
- There could be environmental justice concerns if any alternative resulted in impacts that are concentrated on irrigated land or recreation in Guadalupe County.
- The analysis of agricultural economic impacts indicates the greatest potential negative regional impacts are associated with the Acme Constant and Acme Variable Alternatives.
- The recreation analysis indicates minimal impacts under each alternative, although “somewhat less” recreation is expected to occur under the Taiban Constant and Taiban Variable Alternatives.