

Section 7. Conclusions

The social and economic effects of fish and wildlife habitat restoration in California's Central Valley have been investigated and documented at various scales and in varying levels of detail in recent years. Large-scale state- and federally funded programs, including CALFED and the Central Valley Project Improvement Act (CVPIA), have entailed economic analyses at a scale commensurate with the large geographic extent of these programs (CALFED 2000; U.S. Bureau of Reclamation 1997). Smaller-scale economic analyses have been undertaken at the county or individual watershed level (Adams and Gallo 2001; Grasslands Water District 2001). The Nature Conservancy (TNC) recognized the value of a medium-scale, regional evaluation of economic effects for the counties being affected by its Sacramento River Project and the various collaborative programs underway within the Sacramento River riparian corridor. With the resources provided by a 2000 CALFED grant, TNC has contracted with Jones & Stokes to complete this four-county analysis of the social and economic effects of riparian restoration along the Sacramento River from Red Bluff to Colusa. The report is intended to be both useful and instructive as a tool for decision makers and residents with interests in the Sacramento River riparian corridor.

The information available to estimate effects on agricultural production, county tax base, and the regional economy is extensive. County documents and county staff have provided complete and current information to support these analyses. Conversely, information available to estimate changes in recreation activity along the river and changes in expenditures for flood and bank protection and flood damage repair has proven to be limited. The information and methods available to document and quantify the economic value of protecting, restoring, and maintaining wildlife habitat from a societal perspective is not uniformly accepted by the public. Nonetheless, the public's willingness to fund major restoration activities, such as the CALFED and CVPIA programs and recent statewide parks and water propositions, indicate a strong public support for the sustainability of habitats and wildlife. Given the limitations of data, funding, and public perception, a reasonable estimate of social and economic effects has been presented in this report.

The analysis indicates that the agricultural sector of the regional economy would be most affected by riparian habitat restoration. The gradual conversion of approximately 9,390 acres of public and private agricultural land within the study area would reduce agricultural production and eliminate farmer profits. These losses would, in turn, have negative effects on the economy of the region, expressed as lost jobs and reductions in personal income. Annual agricultural production in the four-county area is estimated to decline by as much as \$11.5 million at the end of the land conversion process. While this loss is substantial, it is relatively small when taken in the context of the four-county economy. The estimated losses in agricultural production represent approximately 1% of the combined annual value of agricultural production reported by the four counties in 2000. Farmer income for the 4-county area could be reduced by up to \$4.5 million annually, although no attempt was made to determine future profits that could be generated by landowners who sell their property, using receipts of land sales. Direct and indirect

job losses are estimated to be as many as 228. This job loss represents a reduction of less than 0.15% of the four-county 2000 total employment base. Personal income is anticipated to be reduced by \$6 million. This reduction represents approximately 0.09% of 2000 personal income in the four counties. All these losses would occur incrementally as agricultural crops were replaced by riparian habitat over an assumed 30-year conversion time frame. While each of these economic effects would be small compared to the regional activity surrounding agriculture, the significance of the reductions increases when considered in the context of other land use changes that are resulting from urbanization, competition, and the sale of agricultural water to entities outside of the four-county area.

The analysis of the effects of riparian corridor expansion on county revenues (fiscal effects) indicates that there would be little effect. One of the four counties would experience a minor increase in revenues as property taxes were replaced by in-lieu payments from the state and revenue sharing from the federal government. Tehama County would experience a decrease in revenue (\$23,100 annually) as a result of the restoration program. This represents less than 0.3% of Tehama County's 2000–2001 countywide revenues for the revenue sources affected by restoration. Colusa County would experience a small decline in revenues, estimated at \$2,400 annually, as a result of riparian restoration. Glenn County would also experience a small decline in revenues, estimated at \$6,600 annually. This land use-related revenue analysis does not include a consideration of county cost increases for law enforcement related to habitat restoration-induced increased fishing on the Sacramento River. Law enforcement cost increases of several thousand dollars could occur as fishing activity increases.

Restoration of the Sacramento River riparian corridor would provide the opportunity to offset some of the projected economic losses from agricultural land conversion. During each year that restoration-related activities occur, there would be a substantial expenditure of funds for land conversion and planting, vegetation maintenance and, subsequently, restoration site monitoring. Assuming that 90% of the restoration occurs consistently in the first 20 years of the study period, the annual expenditure could reach \$1.4 million at the end of the 20-year period. This level of spending would decline in the latter part of the restoration effort and would be reduced to \$187,800 annually after restoration is complete. Small decreases in annual spending for bank protection, levee maintenance, and flood damage repair would also act to offset losses. Federal and state agency reimbursements to counties for flood damage repair is estimated to be about \$270,000 annually.

The greatest potential to offset agricultural production losses is the increase of recreation-related spending in the four counties. Predicted increases in fishing activity associated with the recovery of fish populations in the Sacramento River could increase annual recreation spending by \$50,500 in Glenn County, \$118,900 in Butte County, \$380,500 in Colusa County, and \$438,500 in Tehama County. These estimates do not include increased spending from hunting, wildlife observation, and other recreation pursuits that might increase with improved habitat along the river. Local, state, and federal governments could significantly improve the likelihood of positive changes in the local recreation-based economy by improving access to the riparian corridor and updating, expanding, and constructing infrastructure and facilities that support recreation along the river. Several current planning processes provide opportunities in these areas. USFWS is considering its policies for access to and use of its Sacramento River NWR

lands through a comprehensive conservation planning process. DFG is developing a comprehensive management plan for its land holdings along the Sacramento River. TNC has commissioned a recreation/public access study of the Sacramento River corridor that will be useful in planning future facilities and access expansions. With added funding, further studies could be conducted to consider other conditions that would be modified by improvements in riparian habitat along the Sacramento River. The issues of water quality improvement, changes in food supply, and impacts on community character have not been investigated in this report. Local communities must determine whether these types of analyses would be beneficial as additional input to local decisions on land conversion

Even though this study has been subject to limitations of available funding and current and complete data, it does address a broad range of the major social and economic issues associated with development of a riparian corridor along the Sacramento River. The major costs and benefits are fairly presented. The agricultural sectors of local economies would be negatively affected, but the effect would be small compared to total agricultural activity. Local jobs and personal income would also endure minor reductions over the study time frame. The easily quantified benefits would be small in comparison to the losses, but the potential for substantial local benefits in the recreation sector and societal benefits from the improvement in habitat conditions in the Sacramento Valley is large. It is hoped that this study will achieve its goal of providing decision makers and local residents with a useful tool when considering future habitat restoration activities along the Sacramento River.