STATE OF CALIFORNIA — DEPARTMENT OF FINANCE

ECONOMIC AND FISCAL IMPACT STATEMENT
(REGULATIONS AND ORDERS)

STD. 399 (Rev. 10/2019)

ECONOMIC IMPACT STATEMENT

DEPARTMENT NAME	CONTACT PERSON	EMAIL ADDRESS	TELEPHONE NUMBER
State Water Resources Control Board	David Rose	david.rose@waterboards.ca.gov	(916) 341-5196

DESCRIPTIVE TITLE FROM NOTICE REGISTER OR FORM 400	NOTICE FILE NUMBER
Article 24 Curtailment of Diversions on Mill and Deer Creeks Due to Insufficient Flow for Specific Fisheries	Z

A. ESTIMATED PRIVATE SECTOR COST IMPACTS *Include calculations and assumptions in the rulemaking record.*

1. Check the appropriate box(es) below to indicate whether this regulation:

- ☐ a. Impacts business and/or employees
- ☐ b. Impacts small businesses
- ☐ c. Impacts jobs or occupations
- ☐ d. Impacts California competitiveness
- ☐ e. Imposes reporting requirements
- ☐ f. Imposes prescriptive instead of performance
- ☐ g. Impacts individuals
- ☒ h. None of the above (Explain below): Gov. Code section 11346.1, subd. (a)(1) [economic statement not required for emergency regulations]

If any box in Items 1 a through g is checked, complete this Economic Impact Statement.
If box in Item 1.h. is checked, complete the Fiscal Impact Statement as appropriate.

2. The _____ (Agency/Department) estimates that the economic impact of this regulation (which includes the fiscal impact) is:

- ☐ Below $10 million
- ☐ Between $10 and $25 million
- ☐ Between $25 and $50 million
- ☐ Over $50 million *[If the economic impact is over $50 million, agencies are required to submit a Standardized Regulatory Impact Assessment as specified in Government Code Section 11346.3(c)]*

3. Enter the total number of businesses impacted: _____

Describe the types of businesses (Include nonprofits): _____

Enter the number or percentage of total businesses impacted that are small businesses: _____

4. Enter the number of businesses that will be created: _____ eliminated: _____

Explain: _____

5. Indicate the geographic extent of impacts: ☐ Statewide

☐ Local or regional (List areas): _____

6. Enter the number of jobs created: _____ and eliminated: _____

Describe the types of jobs or occupations impacted: _____

7. Will the regulation affect the ability of California businesses to compete with other states by making it more costly to produce goods or services here? ☐ YES ☐ NO

If YES, explain briefly: _____

ECONOMIC IMPACT STATEMENT (CONTINUED)

B. ESTIMATED COSTS *Include calculations and assumptions in the rulemaking record.*

1. What are the total statewide dollar costs that businesses and individuals may incur to comply with this regulation over its lifetime? $ _____

   a. Initial costs for a small business: $ _____ Annual ongoing costs: $ _____ Years: _____

   b. Initial costs for a typical business: $ _____ Annual ongoing costs: $ _____ Years: _____

   c. Initial costs for an individual: $ _____ Annual ongoing costs: $ _____ Years: _____

   d. Describe other economic costs that may occur: _____

2. If multiple industries are impacted, enter the share of total costs for each industry: _____

3. If the regulation imposes reporting requirements, enter the annual costs a typical business may incur to comply with these requirements. *Include the dollar costs to do programming, record keeping, reporting, and other paperwork, whether or not the paperwork must be submitted.* $ _____

4. Will this regulation directly impact housing costs? ☐ YES ☐ NO

   If YES, enter the annual dollar cost per housing unit: $ _____

   Number of units: _____

5. Are there comparable Federal regulations? ☐ YES ☐ NO

   Explain the need for State regulation given the existence or absence of Federal regulations: _____

   Enter any additional costs to businesses and/or individuals that may be due to State - Federal differences: $ _____

C. ESTIMATED BENEFITS *Estimation of the dollar value of benefits is not specifically required by rulemaking law, but encouraged.*

1. Briefly summarize the benefits of the regulation, which may include among others, the health and welfare of California residents, worker safety and the State's environment: _____

2. Are the benefits the result of: ☐ specific statutory requirements, or ☐ goals developed by the agency based on broad statutory authority?

   Explain: _____

3. What are the total statewide benefits from this regulation over its lifetime? $ _____

4. Briefly describe any expansion of businesses currently doing business within the State of California that would result from this regulation: _____

D. ALTERNATIVES TO THE REGULATION *Include calculations and assumptions in the rulemaking record. Estimation of the dollar value of benefits is not specifically required by rulemaking law, but encouraged.*

1. List alternatives considered and describe them below. If no alternatives were considered, explain why not: _____

ECONOMIC IMPACT STATEMENT (CONTINUED)

2. Summarize the total statewide costs and benefits from this regulation and each alternative considered:

Regulation: Benefit: $ _____ Cost: $ _____

Alternative 1: Benefit: $ _____ Cost: $ _____

Alternative 2: Benefit: $ _____ Cost: $ _____

3. Briefly discuss any quantification issues that are relevant to a comparison of estimated costs and benefits for this regulation or alternatives: _____

4. Rulemaking law requires agencies to consider performance standards as an alternative, if a regulation mandates the use of specific technologies or equipment, or prescribes specific actions or procedures. Were performance standards considered to lower compliance costs? ☐ YES ☐ NO

Explain: _____

E. MAJOR REGULATIONS *Include calculations and assumptions in the rulemaking record.*

California Environmental Protection Agency (Cal/EPA) boards, offices and departments are required to submit the following (per Health and Safety Code section 57005). Otherwise, skip to E4.

1. Will the estimated costs of this regulation to California business enterprises **exceed $10 million**? ☐ YES ☐ NO

If YES, complete E2. and E3
If NO, skip to E4

2. Briefly describe each alternative, or combination of alternatives, for which a cost-effectiveness analysis was performed:

Alternative 1: _____

Alternative 2: _____

(Attach additional pages for other alternatives)

3. For the regulation, and each alternative just described, enter the estimated total cost and overall cost-effectiveness ratio:

Regulation: Total Cost $ _____ Cost-effectiveness ratio: $ _____

Alternative 1: Total Cost $ _____ Cost-effectiveness ratio: $ _____

Alternative 2: Total Cost $ _____ Cost-effectiveness ratio: $ _____

4. Will the regulation subject to OAL review have an estimated economic impact to business enterprises and individuals located in or doing business in California exceeding $50 million in any 12-month period between the date the major regulation is estimated to be filed with the Secretary of State through12 months after the major regulation is estimated to be fully implemented?

☐ YES ☐ NO

If YES, agencies are required to submit a Standardized Regulatory Impact Assessment (SRIA) as specified in Government Code Section 11346.3(c) and to include the SRIA in the Initial Statement of Reasons.

5. Briefly describe the following:

The increase or decrease of investment in the State: _____

The incentive for innovation in products, materials or processes: _____

The benefits of the regulations, including, but not limited to, benefits to the health, safety, and welfare of California residents, worker safety, and the state's environment and quality of life, among any other benefits identified by the agency: _____

STATE OF CALIFORNIA — DEPARTMENT OF FINANCE

ECONOMIC AND FISCAL IMPACT STATEMENT
(REGULATIONS AND ORDERS)

STD. 399 (Rev. 10/2019)

FISCAL IMPACT STATEMENT

A. FISCAL EFFECT ON LOCAL GOVERNMENT *Indicate appropriate boxes 1 through 6 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*

☐ 1. Additional expenditures in the current State Fiscal Year which are reimbursable by the State. (Approximate)
(Pursuant to Section 6 of Article XIII B of the California Constitution and Sections 17500 et seq. of the Government Code).

$ _____

☐ a. Funding provided in _____

Budget Act of _____ or Chapter _____ , Statutes of _____

☐ b. Funding will be requested in the Governor's Budget Act of _____

Fiscal Year: _____

☐ 2. Additional expenditures in the current State Fiscal Year which are NOT reimbursable by the State. (Approximate)
(Pursuant to Section 6 of Article XIII B of the California Constitution and Sections 17500 et seq. of the Government Code).

$ _____

Check reason(s) this regulation is not reimbursable and provide the appropriate information:

☐ a. Implements the Federal mandate contained in _____

☐ b. Implements the court mandate set forth by the _____ Court.

Case of: _____ vs. _____

☐ c. Implements a mandate of the people of this State expressed in their approval of Proposition No. _____

Date of Election: _____

☐ d. Issued only in response to a specific request from affected local entity(s).

Local entity(s) affected: _____

_____

☐ e. Will be fully financed from the fees, revenue, etc. from: _____

Authorized by Section: _____ of the _____ Code;

☐ f. Provides for savings to each affected unit of local government which will, at a minimum, offset any additional costs to each;

☐ g. Creates, eliminates, or changes the penalty for a new crime or infraction contained in _____

☐ 3. Annual Savings. (approximate)

$ _____

☐ 4. No additional costs or savings. This regulation makes only technical, non-substantive or clarifying changes to current law regulations.

☐ 5. No fiscal impact exists. This regulation does not affect any local entity or program.

☒ 6. Other. Explain Not a State mandate; generally applicable regulation.

Local agencies may incur cost of up to $203,664. See attached fiscal impact analysis for details.

STATE OF CALIFORNIA — DEPARTMENT OF FINANCE

ECONOMIC AND FISCAL IMPACT STATEMENT

(REGULATIONS AND ORDERS)

STD. 399 (Rev. 10/2019)

FISCAL IMPACT STATEMENT (CONTINUED)

B. FISCAL EFFECT ON STATE GOVERNMENT *Indicate appropriate boxes 1 through 4 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*

☒ 1. Additional expenditures in the current State Fiscal Year. (Approximate)

$ 115,779

It is anticipated that State agencies will:

☒ a. Absorb these additional costs within their existing budgets and resources.

☐ b. Increase the currently authorized budget level for the _____ Fiscal Year

☐ 2. Savings in the current State Fiscal Year. (Approximate)

$ _____

☐ 3. No fiscal impact exists. This regulation does not affect any State agency or program.

☐ 4. Other. Explain _____

C. FISCAL EFFECT ON FEDERAL FUNDING OF STATE PROGRAMS *Indicate appropriate boxes 1 through 4 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*

☐ 1. Additional expenditures in the current State Fiscal Year. (Approximate)

$ _____

☐ 2. Savings in the current State Fiscal Year. (Approximate)

$ _____

☒ 3. No fiscal impact exists. This regulation does not affect any federally funded State agency or program.

☐ 4. Other. Explain _____

FISCAL OFFICER SIGNATURE	DATE
Leah Vang Digitally signed by Leah Vang Date: 2021.09.17 15:40:17 -07'00'	9/17/21

The signature attests that the agency has completed the STD. 399 according to the instructions in SAM sections 6601-6616, and understands the impacts of the proposed rulemaking. State boards, offices, or departments not under an Agency Secretary must have the form signed by the highest ranking official in the organization.

AGENCY SECRETARY	DATE
Jared Blumenfeld Digitally signed by Jared Blumenfeld Date: 2021.09.21 16:24:58 -07'00'	

Finance approval and signature is required when SAM sections 6601-6616 require completion of Fiscal Impact Statement in the STD. 399.

DEPARTMENT OF FINANCE PROGRAM BUDGET MANAGER	DATE

ATTACHMENT 1: FISCAL IMPACT STATEMENT

Fiscal Effect on State and Local Government

Summary

The fiscal effects resulting from the proposed emergency regulation for Mill and Deer Creek watersheds are the costs that would be incurred by state and local government agencies to respond to any requirements therein, or otherwise due to the requirements therein and the savings to state and local government agencies, pursuant to Government Code section 11346 et seq. This Fiscal Impact Statement has been prepared in accordance with State Administrative Manual 6600-6616.

The fiscal effect on local and state government agencies as a result of the proposed emergency regulation includes: (1) the costs to complete and submit certification forms; (2) revenue losses and other costs for public water supply agencies; and (3) state and local tax revenue losses.

The State Water Board estimates the total cost to all state and local agencies (including city, county, schools, and publicly owned water suppliers) due to the proposed emergency regulation will be $319,443. The total reporting costs for all state and local agencies to complete and submit compliance certification forms is estimated to be $130. Total revenue losses for public water supply agencies are estimated to be $133,110, and additional costs for conservation and enforcement is estimated to be $66,550. Total state and local tax revenue losses are estimated to be $119,663, including $115,714 to state government and $3,949 to local government. The total fiscal impact to state governmental agencies is estimated to be $115,779, and the total fiscal impact to local governmental agencies is estimated to be $203,664.

The proposed regulations are not anticipated to have a financial impact on school districts or to result in costs or savings in federal funding to the State.

Fiscal Costs of Proposed Reporting Requirements

The fiscal effect on local and state government agencies as a result of the proposed reporting requirement includes the costs to complete and submit certification forms. The time and effort required to submit the certification forms is considered an additional cost of compliance for these water right holders and claimants.

The proposed regulation would require all water right holders in Mill and Deer Creek watersheds to complete and submit a certification form upon receipt of orders. The State Water Board determined the total number of water right records held by state and local government agencies in the Mill and Deer watersheds and multiplied that number by an estimated average time to complete a simple online certification form multiplied by an average staff cost per hour. Based on information compiled from the State Water

Board's Electronic Water Rights Information Management System (eWRIMS) database, water right holders and claimants representing 65 water rights and claims (22 in Mill Creek and 43 in Deer Creek) would receive an order and would be required to submit a certification form. These diverters include one state agency (California Department of Transportation) and one local special district (Deer Creek Irrigation District), each with one water right or claim. The estimated maximum amount of time to complete the required certification form as a result of the proposed regulation is one hour of staff time per water right record at an assumed pay rate of $65 per hour. The cost to local and state governmental agencies for this requirement is therefore $130 in total.

Fiscal Costs of Implementation of Drought Emergency Minimum Flows

This section presents the methods used to estimate the fiscal effects on state and local government that could result from implementation of the proposed drought emergency minimum flows. The period covered by the regulation is assumed to be one year (365 days) from date of enactment.

The fiscal effect on state and local government is comprised of the following elements:

1. A reduction in agricultural and municipal water agency revenues from lost water sales;
2. Additional costs to public agencies for conservation and enforcement; and
3. Loss in state and local tax revenue associated with reduced public agency revenues and reduced agricultural production resulting from curtailed agricultural supply.

Section 6605 of the State Administrative Manual considers local government to include cities, counties, and special districts. Deer Creek Irrigation District (DCID) is an independent special district organized under the Irrigation District Laws of the State of California (DCID, 1944), and is the only local governmental agency with a water right or claim in either the Deer Creek or Mill Creek watersheds. Some other water right holders in the watersheds, such as Stanford Vina Ranch Irrigation Company (SVRIC), Los Molinos Mutual Water Company, and Mill Creek/Lassen Mutual Water Company, are formed as Non-Profit Mutual Benefit Corporations for water services to the benefit of its members and are not considered state or local governmental agencies in this fiscal analysis. Other diverters on Mill and Deer Creeks include individuals, non-governmental organizations, and private entities.

Water Supply and Demand Data

The proposed emergency regulation would impose drought emergency minimum flow requirements on Mill and Deer Creeks. Compliance with the drought emergency minimum flow requirements could result in reductions in surface water diversions to maintain the drought emergency minimum flow requirements at the Mill Creek Below Highway 99 (MCH) and Deer Creek below Stanford Vina Dam (DVD) gauges. The text below describes how Mill and Deer Creek streamflows measured at these gauges were

compared to the drought emergency minimum flow requirements. During some months, measured flows at the MCH and DVD gauges are less than the drought emergency minimum flow requirements, and additional water would be required to remain instream under the emergency regulation. This amount of additional water is referred to as the monthly shortfall amount, measured in acre-feet (AF).

Mill Creek Watershed

The Department of Water Resources' Mill Creek Below Highway 99 (MCH) gauge is located below Ward Dam and significant diversions and was used to represent the observed (impaired) streamflow in lower Mill Creek. Mean daily flow data from 2018 was compiled and a conservative 40% factor was applied to account for the assumption that flows in Mill Creek are likely lower during the current drought than 2018, which was classified as a below normal water year in the Sacramento Valley. Based on these flows, the amount of additional water that would be required to remain instream to attain the drought emergency minimum flow requirements is represented in the following table as monthly shortfall amounts.

Table A. Monthly Shortfall Amounts at MCH Gauge in Mill Creek, AF

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
0	0	0	0	0	284	0	0	0	246	259	0

Deer Creek Watershed

The Department of Water Resources' DVD gauge is located below the Stanford Vina Ranch Irrigation Company Dam and below significant diversions and was used to represent the observed (impaired) streamflow in lower Deer Creek. Mean daily flow data from 2018 was compiled and a conservative 40% factor was applied to account for the assumption that flows in Deer Creek are likely lower during the current drought than 2018. Based on these flows, the amount of additional water needed to remain instream to attain the drought emergency minimum flow requirements is represented in the following table as monthly shortfall amounts.

Table B. Monthly Shortfall Amounts at DVD Gauge in Deer Creek, AF

Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
0	0	0	0	229	422	0	0	0	685	677	0

Projected Water Supply Reductions

The monthly shortfall amounts at the MCH and DVD gauge locations described above represent estimated monthly reductions in the volume of surface water that would be diverted after the drought emergency minimum flow requirements become effective.

The monthly shortfall amounts and reported water diversion data submitted by water right holders and claimants were used in combination with other water right information from the eWRIMS database to estimate the reductions in surface water diversions that could occur under the proposed emergency regulation. Currently, all diverters are required to submit annual reports of water diversion and use to the State Water Board electronically through the eWRIMS Report Management System (RMS). The annual reports are mandatory filings that document water diversion and uses made during each month of the previous calendar year, including monthly direct diversion volumes, monthly diversion to storage volumes, and monthly water use volumes. For this analysis, water demand is based on the total monthly diversion amount reported for each water right record for calendar year 2018.

Tables C and D indicate the assumed distribution among the types of entities analyzed.

Table C. Entity Type and Estimated Annual Surface Water Supply Reduction, Mill Creek Watershed

Type of Entity	Volume, AF
Private Agriculture	789

The analysis for Deer Creek diversions included consideration of apportionments described in a Tehama County Superior Court decree, including language indicating water diversions would be proportionally diminished during times of shortage (Tehama County Superior Court Decree No. 4189, 1923).

Table D. Entity Type and Estimated Annual Surface Water Supply Reduction, Deer Creek Watershed

Type of Entity	Volume, AF
Private Domestic	4
Local Governmental Agencies	1,331
Private Agriculture	678

Revenue Losses and Other Costs to Local Governmental Agencies

Fiscal impacts to the one local governmental agency, Deer Creek Irrigation District (DCID), are assumed to result primarily from changes in water sale revenues and conservation and enforcement costs. The price of water charged by DCID is assumed in this fiscal analysis to be $100 per AF. The quantity of water that is estimated to be curtailed is 1,331 AF, so the reduction in public agency sales is assumed to be $133,100.

Reductions in surface water supplies available for diverters as a result of the drought emergency minimum flow requirements may be offset to some extent by increased groundwater pumping. In general, the net loss in water available for sale by public agencies is the amount of curtailed water that cannot be replaced in this fashion. However, any groundwater replacement pumping is assumed to occur from private wells rather than purchases from DCID. Accordingly, this analysis assumes no savings attributed to groundwater replacement for DCID. Groundwater replacement assumptions are factored into the change in tax revenue from reduced agricultural production analysis below.

DCID may incur costs associated with conservation and enforcement measures needed to address the overall shortage of water available for use in their service areas. The costs of implementing these measures are assumed to be $50 per AF of net curtailed water. Table E presents the anticipated costs that may be incurred by DCID for conservation and enforcement. After accounting for the cost of $66,550 estimated for conservation and enforcement, DCID may experience a net revenue reduction of $199,650.

Table E. Estimated DCID Water Sales, Water Conservation and Enforcement Costs, and Change in Net Revenue, Deer Creek Watershed

	Surface Water Supply Reduction (AF)	Cost Per AF	Total
Reduced Revenue from Water Sales	1,331	$100	$133,100
Conservation and Enforcement Cost	1,331	$50	$66,550
Net Revenue Reduction			$199,650

Changes to State and Local Government Tax Revenues

Changes in public agency water sales and in public and private agricultural production sales (revenue) can affect government tax revenues. The impact on state and local government income tax revenues is estimated by applying an estimated tax rate to these changes in revenue. An average tax rate of $99 per $1,000 was estimated using an IMPLAN[1] model for the region. To estimate the allocation of tax revenues, tax rates reported from the California Department of Tax and Fee Administration were used. California's sales tax rate is 7.25 percent; local taxing districts such as Tehama County apply an additional tax of 0.5 percent (CDTFA, 2021). As such, state tax revenues represent approximately 96.7 percent of all tax collected, and local districts receive the remaining 3.3 percent.[2] These shares of tax revenue are applied to (1) reduction in water sales and (2) reduction in agricultural product sales.

Tax Revenue Impacts from Changed Public Agency Water Sales

Table F provides a summary of impacts on tax revenues from changes in sales by DCID. Water sales are estimated to be reduced by approximately $133,110. Applying a 10 percent tax rate yields a change in tax revenue of $13,310.

[1] Economic impact analysis software - IMPLAN (http://www.implan.com).
[2] State share of tax = 7.25% / (7.25 + 0.25), or 96.7 percent.

Table F. Tax Revenue Impacts from Changed Public Agency Water Sales, Deer Creek Watershed

	Rate	Total
Reduction in Agency Sales		$133,100
Tax Rate	10%	
Decrease in Tax Revenues		$13,310

There are no public water agencies in the Mill Creek watershed, so there is no change to tax revenues from changes in public agency water sales.

Tax Revenue Impacts from Reduced Agricultural Production

Agricultural production sales revenue by growers would be negatively affected as irrigation surface water supplies are reduced to achieve the drought emergency minimum flow requirements. Reduced agricultural production in turn would reduce associated income tax revenues. An analysis of the impact of curtailments on agricultural gross revenue was performed by multiplying the estimated agricultural revenue generated per AF of applied water by the total amount (from both public and private sources) of irrigation water reduced due to the drought emergency minimum flow requirements.

In the Mill Creek watershed, an estimated 789 AF of curtailment is anticipated. The curtailment is anticipated to occur in June, October, and November. Crop information submitted by water right holders and claimants in annual reports of water diversion and use indicate surface water diversions by private agricultural diverters were primarily used for pasture irrigation. In the Sacramento River Valley and foothills, forage (pasture and alfalfa) is typically irrigated during April through November (Macon, et al. 2020, Forero et al., 2015).

In the Mill Creek watershed, the largest diverter (Los Molinos Mutual Water Company) supplies surface water and does not own wells or storage facilities (CDM, 2003, p. 4-33). Therefore, it was conservatively assumed that there would be no replacement groundwater pumping for curtailed surface water in the Mill Creek watershed.

In a typical year, fully irrigated pasture requires about 4.5 AF per acre (Ferero et al., 2015). The value of irrigated pasture in Tehama County is estimated at $225 per acre (Tehama County, 2019, p. 5). This is equivalent to $50 in revenue per AF of applied water. Under these assumptions, curtailment of 789 AF is equivalent to a loss of $109,671 in production value, using a weighted crop value of $139 per AF for pasture and alfalfa (see Table G).

In the Deer Creek watershed, groundwater wells are used to provide a source of supply for walnut and almond orchards, and may also supply water for alfalfa and other crops.

Among DCID lands, approximately 80 percent of irrigated lands are supplied by surface water (CDM, 2003, p. 4-40). In this analysis, a 20 percent groundwater replacement assumption to the surface water supply reduction is assumed to be provided by private wells among the DCID-supplied lands. For lands served by SVRIC, approximately 60 percent of the supply volume is from surface water and 40 percent from groundwater. It is common practice for many growers to use surface water for irrigation in late spring and early summer when flows are available, then shift to groundwater wells later in the summer. For some growers with high-efficiency watering systems on orchards, groundwater may be used exclusively (NCWA, 2006, pp. 6-21 to 6-22).

Curtailment of 1,331 AF from DCID is estimated for this analysis with an estimated 20 percent of this amount assumed to be replaced by private wells owned by growers. In addition, curtailment of SVRIC diversions and a private irrigator in the amount of 678 AF are assumed with an estimated 40 percent of this amount assumed to be replaced by increased groundwater pumping from existing wells. These assumptions result in a net reduction in surface water supply in the Deer Creek watershed to all water users of 1,472 AF (see Table G)[3] in May, June, October, and November.

Potentially affected crops in the Deer Creek watershed include orchards (walnuts and almonds), alfalfa, and pasture, based on crop information submitted by water right holders and claimants in annual reports of water diversion and use. The water requirement for walnuts is 3 AF per acre (Hasey et al., 2018), and the production value per acre is about $3,367 (Tehama County, 2019, p. 1). The irrigation period is typically May through September.

Alfalfa requires 3.5 AF per acre for full irrigation (Long et al., 2020). Production value per acre in Tehama County is estimated at $1,477 per acre based on a yield of 7.0 tons and $211 revenue per ton (Tehama County 2019, p. 2). Although alfalfa has a lower value than walnuts per AF of applied water, the growing season for alfalfa is longer, and it may better utilize late irrigation for production of forage in late fall or new growth in early spring.

To determine the value of reduced agricultural production in the Deer Creek watershed, a weighted crop value is assumed such that curtailment affects walnut orchards in May and June and alfalfa in October and November; this represents a conservative, worst-case scenario with the highest revenue crops most significantly affected. The actual impact is likely to be less than presented here, as growers would likely prioritize water to their most valuable crops and fields. The weighted value per AF of curtailment is

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[3] 1,472 AF = 1,331 AF from DCID * (1 – 20%) + 678 AF from two private diverters * (1 – 40%).

approximately $648. Under these assumptions, the curtailment of 1,472 AF would lead to a reduction of up to $953,856 in production value.

Table G provides a summary of the reduction in agricultural production in the Mill Creek and Deer Creek watersheds, and the associated tax revenue impacts. The combined total of $106,353 represents an upper bound tax revenue impact based on the curtailment estimates presented in this analysis. Also, fiscal support to local agencies from the state could in turn be affected, but such tax and funding relationships between the state and numerous local agencies are difficult to characterize and cannot be readily estimated. The proposed regulation is not anticipated to result in costs or savings in federal funding to the State.

Table G. Change in Tax Revenue as a Result of Reduced Agricultural Production, Mill Creek and Deer Creek Watersheds

	Mill Creek Watershed	Deer Creek Watershed
Net Change in Irrigation Supply (AF)	789	1,472
Product Gross Revenue ($) per AF	$139	$648
Change in Agricultural Production ($)	$109,671	$953,856
Net Change in Tax Revenues at 10% ($)	$10,967	$95,386

Summary of Fiscal Impacts

Table H displays a summary of the fiscal impacts of implementing the proposed drought emergency regulation in the Mill Creek and Deer Creek watersheds. It includes the reporting costs, as well as four categories of impacts associated with reduced surface water diversions to agriculture.

Table H. Summary of Fiscal Impacts of Implementing the Proposed Drought Emergency Regulation, Mill Creek and Deer Creek Watersheds

	Mill Creek	Deer Creek	Total
Certification Form	$65	$65	$130
Reduced water sales by public water district	$0	$133,100	$133,100
Conservation / enforcement	$0	$66,550	$66,550
Tax revenue reduction due to change in water sales	$0	$13,310	$13,310
Tax revenue reduction due to change in agricultural production	$10,967	$95,386	$106,353
TOTAL	$11,032	$308,411	$319,443

Distribution of Fiscal Impacts between State Government and Local Government

The fiscal impacts presented above reflect the combined totals for all state and local governmental agencies. Table I presents the impacts separated for those affecting state agencies and state government in aggregate from those affecting local governments and district agencies.

Table I. Summary of Fiscal Impacts of Implementing the Proposed Drought Emergency Regulation, State and Local Governments

	State	Local	Total
Certification Form	$65	$65	$130
Reduced water sales by public water district	$0	$133,100	$133,100
Conservation / enforcement	$0	$66,550	$66,550
Tax revenue reduction due to change in water sales	$12,871	$439	$13,310
Tax revenue reduction due to change in agricultural production	$102,843	$3,510	$106,353
TOTAL	$115,779	$203,664	$319,443

Attachment 1 References

California Department of Water Resources. Flow records from the Mill Creek (MCH) Flow and Temperature Gauge. California Data Exchange Center. Accessed at: http://www.cdec.water.ca.gov/cgi-progs/selectQuery?station_id=mch&sensor_num=&dur_code=D&start_date=04%2F07%2F2014+00%3A00&end_date=now

California Department of Water Resources. Flow records from the Deer Creek (DVD) Flow and Temperature Gauge. California Data Exchange Center. Accessed at: http://www.cdec.water.ca.gov/cgi-progs/selectQuery?station_id=dvd&sensor_num=&dur_code=D&start_date=04%2F07%2F2014+00%3A00&end_date=now

CDM and California Department of Water Resources, Northern Division (CDM). 2003. "Tehama County Flood Control and Water Conservation District, Water Inventory and Analysis," Report, September.

Forero, Larry C., R. Ingram, J. Davy, G. Nader, K. M. Klonsky, D. Stewart. 2015. "Sample Costs to Produce Pasture, Sacramento Valley, Flood Irrigation," University of California Agriculture and Natural Resources Cooperative Extension.

Hasey, J., D. Lightle, K. Jarvis-Shean, L. Milliron, E. Symmes, B. Hanson, A. Fulton, J. Murdock, and D. Sumner. 2018. "Sample Costs to Establish and Produce English Walnuts in the Sacramento Valley, Micro-Sprinkler Irrigated," University of California Agriculture and Natural Resources Cooperative Extension.

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