

STATE OF CALIFORNIA  
**Budget Change Proposal - Cover Sheet**  
 DF-46 (REV 07/14)

Fiscal Year 2015-16	Business Unit 3960	Department Department of Toxic Substances Control	Priority No. 5
Budget Request Name 3960-007-BCP-BR-2015-GB		Program 3630 Safer Consumer Products	Subprogram

Budget Request Description  
 Biomonitoring

Budget Request Summary

The Department of Toxic Substances Control (DTSC) requests 2.0 limited-term positions and \$600,000 for two years to support the California Environmental Contaminant Biomonitoring Program (CECBP). Approval of this BCP would support CECBP's momentum in identifying and measuring toxic chemicals in Californians to help assess the effectiveness of public health and environmental programs in reducing chemical exposures and preventing disease.

Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Code Section(s) to be Added/Amended/Repealed	
Does this BCP contain information technology (IT) components? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, departmental Chief Information Officer must sign.</i>	Department CIO	Date
For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance. <input type="checkbox"/> FSR <input type="checkbox"/> SPR Project No. Date:		

If proposal affects another department, does other department concur with proposal?  Yes  No  
 Attach comments of affected department, signed and dated by the department director or designee.

Prepared By <i>[Signature]</i> for Myrto Petres	Date 1-5-15	Reviewed By <i>[Signature]</i>	Date 1/5/15
Department Director <i>[Signature]</i>	Date 1/6/15	Agency Secretary <i>[Signature]</i>	Date 1/6/15

**Department of Finance Use Only**

Additional Review:  Capital Outlay  ITCU  FSCU  OSAE  CALSTARS  Technology Agency

BCP Type:  Policy  Workload Budget per Government Code 13308.05

Original Signed By: PPBA Ellen Moratti	Date submitted to the Legislature 9 2015
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## Analysis of Problem

### A. Budget Request Summary

DTSC requests \$600,000 and 2.0 limited-term positions for two years from the Toxic Substances Control Account (TSCA) (\$520,000) and the Birth Defects Monitoring Program Fund (BDMPF) (\$80,000) to support the CECBP (also referred to as "Biomonitoring California" or "the Program"). Under the Program's enabling legislation [Health & Safety Code (HSC) Sections 105440 *et seq.*], DTSC is collaborating with the Office of Environmental Health Hazard Assessment (OEHHA) and the California Department of Public Health (CDPH) to implement the CECBP. CDPH is the program lead. (See Attachment A, which diagrams the principal divisions of responsibility.) CDPH is submitting a companion proposal.

### B. Background/History

Recognizing the importance and feasibility of identifying and reducing exposures to harmful chemicals, the Legislature established the tri-departmental Biomonitoring California program in 2006 [Senate Bill (SB) 1379, Perata and Ortiz, Chapter 599, Statutes of 2006, codified in HSC Sections 105440 *et seq.*] Biomonitoring California's principal mandates are to measure and report levels of specific environmental chemicals in biological specimens from a representative sample of Californians, conduct studies of communities, and help assess the effectiveness of public health and environmental programs in reducing exposures.

Biological monitoring or "biomonitoring" is the science of measuring chemicals in people's blood, urine, breast milk, or other biological specimens. Biomonitoring California generates information that helps scientists, public health practitioners, and policymakers answer such questions as the following:

- What chemicals are found in people's bodies and at what levels?
- Are these levels changing over time?
- Do certain groups or potentially-vulnerable subpopulations have higher exposures to specific toxic chemicals than the general population?
- Do regulations or public health interventions actually reduce exposures?
- Do specific chemicals contribute to the development of chronic diseases or conditions?

People are continuously exposed to chemicals in the air, water, food, dust, soil and personal care and other consumer products. Historically, people in California were exposed to toxic chemicals such as flame retardants, lead from gasoline and paint, and mercury from contaminated fish, to name a few. Often, protective actions only occurred after health impacts were observed. These health impacts may have been prevented with better monitoring of the population's exposures to these chemicals. Such monitoring capabilities are now available to Californians through Biomonitoring California.

Biomonitoring California has focused on chemicals of specific interest and concern to California, such as perchlorate and perfluorooctyl sulfonates (PFOS) (contaminants in the state's groundwater), flame retardants (used in furniture and other consumer products), mercury (from abandoned gold mines; through consumption of fish), and arsenic (naturally occurring in drinking water in some areas of California). Additional focus has been placed on numerous chemicals present in every day consumer products. Many of these chemicals have been linked to cancer, birth defects, hormone disruption, immune toxicity, obesity, heart disease, and DNA damage. Participants in Biomonitoring California are selected to represent California's population or potentially vulnerable communities.

#### **Budget History:**

The 2007 Budget Act appropriated \$1.9 million from the General Fund (GF) to the combined three departments for initial planning and program implementation, and \$3.3 million for one-time equipment purchases and contract services. In Fiscal Year (FY) 2008-09 the Budget Act shifted support from the GF to the TSCA. In FY 2012-13, TSCA funding for the Program was decreased by 75 percent and other special fund resources were identified to fully offset this decrease. Currently, the Program is supported by the TSCA, the Air Pollution Control Fund, the Department of Pesticide Regulation Fund, the Childhood Lead Poisoning Prevention Fund, and the BDMPF.

## Analysis of Problem

In FY 2014-15, DTSC received an augmentation of \$350,000 and 2.0 two-year limited term positions to partially mitigate the loss of federal funding from the Centers for Disease Control (CDC) federal funding to the Program as a whole. This augmentation was funded by both the TSCA and the BDMPF. CDPH also received a limited-term augmentation of \$350,000 and 2.0 positions.

**Cooperative Agreement with the U.S. Centers for Disease Control and Prevention (CDC):** The CDC conducts biomonitoring through its National Health and Nutrition Examination Survey (NHANES). As a national program, however, NHANES is not designed to provide data that is representative of chemical exposures in any specific state or to assess California-specific exposures (e.g., Californians are disproportionately exposed to flame retardants). Moreover, the national sample demographics are not representative of large subpopulations in California. In its effort to build capacity for biomonitoring, the CDC requested competitive proposals and awarded Cooperative Agreements (grants) to entities in California, Washington, and New York. California's five-year CDC grant augmented the overall Program's budget by \$2.65 million annually starting in FY 2009-10, and has played a critical role in establishing the Program's current capabilities and proficiencies. One sophisticated piece of CDC-funded equipment, a Time-of-Flight mass spectrometer (TOF), provides the ability to measure many previously-undetected chemicals in biological samples. The CDC grant ended in August 2014, but California was awarded another competitive five-year grant from the CDC of \$1 million annually. However, the new award is approximately \$1.65 million less than the initial award and is limited in scope to CDC's priorities.

**Programmatic History and Accomplishments:** Biomonitoring California has performed a number of powerful, small-scale collaborative projects with University of California faculty (Berkeley, San Francisco, Davis, and Irvine), Kaiser Permanente, and other investigators. Listed below are some of the key achievements that Biomonitoring California has made over the last five years by building partnerships and leveraging state resources:

- Tested urine and blood samples for up to 140 different chemicals from almost 4,000 Californians. This information is the basis of a massive database that will allow the Program to assess exposures to Californians and to protect their health.
- Recruited 92 pregnant women at San Francisco General Hospital and found that most toxic chemicals are transferred from the mothers to their infants. Many chemicals were at higher levels in the infants than their mothers. These discoveries will improve prenatal care advice across the State.
- Tested 101 Orange County firefighters for over 75 chemicals in their blood or urine. High levels of polybrominated diphenyl ethers (PBDE) flame retardants were found in all of the firefighters, particularly those who engaged in front-line activities. Use of personal protective gear and regular cleaning were associated with lower flame retardant levels, reinforcing health and safety guidelines. In addition, the Program found high levels of benzophenone-3, an endocrine disrupting chemical used as a sunscreen in some lotions and cosmetics and as a UV stabilizer in plastics, up to five times higher than the NHANES levels reported for the general population. Such findings will be useful in the implementation of DTSC's Safer Consumer Products Regulations.
- In collaboration with Kaiser Permanente, recruited 450 Central Valley residents. Upon completion of chemical analyses of blood or urine, we will compare biomonitoring results with detailed participant health information.
- In collaboration with the Cancer Prevention Institute of California, the Program is analyzing blood samples from over 2,500 female teachers across the State. The chemicals in these blood samples are examined for risk factors for breast cancer in this population, but they also provide information on levels of such chemicals in older women, a demographic that has not been well studied.
- In a Three Generations Study, the Program found significant changes in the profiles of chemicals in contemporary women compared to those measured in archived samples collected from their mothers during pregnancy.
- Biomonitoring California is the *only* program that offers testing results to study participants. Informational packets with test results, fact sheets, and suggestions for the reduction of exposures are mailed to individuals who requested their individual results.

## Analysis of Problem

- The Biomonitoring California website ([www.biomonitoring.ca.gov](http://www.biomonitoring.ca.gov)) was recently redesigned and improved with new features and content; the new site provides biomonitoring study results to the public and researchers.

Over the past five years, Biomonitoring California has greatly increased its laboratory capability to analyze environmental chemicals or their metabolites in human urine and blood. In 2009, the Program was capable of measuring fewer than 10 toxic chemicals in human urine and blood, while it now can measure 140 distinct chemicals in human samples. Currently, the Program is developing analytical methods to measure chemicals newly introduced to commerce, such as chemical fragrances, new flame retardants, and substitutes for Bisphenol A (BPA), another suspected human hormone disruptor.

### C. State Level Considerations

The mission of DTSC is to protect California's people and environment from harmful effects of toxic chemicals; Biomonitoring California provides a set of tools to gauge progress. This BCP is also consistent with CalEPA's Strategic Plan: Continuous improvement and application of science and technology.

Biomonitoring is an effective tool for measuring and tracking exposure to toxic chemicals and has broad statewide relevance for public health. Data from Biomonitoring California provides an early warning system for exposure to toxic chemicals and is a means to target surveillance for potential adverse health effects. Information collected by the Program can assist in the development Safer Consumer Products regulations and Proposition 65 implementation, as well as CDPH's Safe Cosmetics Program. Results from the Program can also be used to assess the effectiveness of public health efforts and regulatory programs to decrease exposures to specific chemicals. For example, regulatory programs can utilize biomonitoring data (as was done recently with dropping levels of PBDEs) to demonstrate that product restrictions or other actions actually result in lower exposures and improved health outcomes. In addition, the Program's laboratory resources can be mobilized, as needed, to augment the State's emergency response to chemical releases.

The new TOF instrumentation provides the Program with first time ever capabilities to measure many previously unknown and undetected chemicals in biological samples. Coupled with Cal/EPA's CalEnviroScreen (a tool to identify disadvantaged communities with respect to their pollution burden), results from the TOF will help prioritize work for optimal use of resources. These new capabilities will augment both the Program's and the State's ability to investigate environmental exposures and potential links with disease in all Californians, including disadvantaged communities.

### D. Justification

The requested resources are essential for the Program to measure chemical contaminants in Californians. The Program will use such data, along with information from Cal/EPA's CalEnviroScreen, to prioritize investigations in communities disproportionately-impacted by health and environmental factors; assess the effectiveness of regulations in reducing exposures; and identify new chemicals of concern. Data derived from the Program will also be used to identify the most critical exposures to toxic chemicals of concern identified through State programs, such as DTSC's Safer Consumer Products Program, OEHHA's Proposition 65, and CDPH's Safe Cosmetics Program. Resources requested in this BCP reflect only the programmatic needs of DTSC.

As noted above, DTSC is requesting two limited term positions. The Research Scientist IV will be responsible for exploring new methodologies, operating and maintaining the TOF, generating and interpreting data, and setting the direction for the investigation of unknown threats. While some methodologies have been developed, many more are needed. The Research Scientist Supervisor II will supervise and manage all biomonitoring activities at DTSC.

Biomonitoring is an emerging field with rapidly-changing laboratory technologies. DTSC has purchased several instruments to test for different toxic chemicals in samples from different populations. The instruments have a useful life of approximately seven to eight years and, therefore, need to be replaced

## Analysis of Problem

on a regular cycle. To ensure that the laboratory is operating with the appropriate instrumentation, this request includes \$200,000 for the purchase of new equipment to replace biomonitoring equipment as it ages. Specifically, DTSC will replace a Liquid Chromatograph Mass Spectrometer in FY 2015-16 and a Gas Chromatograph Mass Spectrometer in FY 2016-17. Both of these pieces of equipment have been used for biomonitoring work for over seven years. No facility modifications or costs will be needed to house this equipment in the laboratory as it will be replacing existing equipment.

The Program has built laboratory capacity to measure 140 toxic chemicals in blood and urine samples. This request will provide DTSC with resources necessary to continue to support studies of chemicals in the bodies of Californians that will inform new public health policy, improve medical advice, change regulations, and identify new hazards of chemical exposures that were previously unknown.

### E. Outcomes and Accountability

In the study of Firefighters, Biomonitoring California data clearly showed how certain work practices protect firefighters from exposures to many chemicals, such as the flame retardant PBDEs. This information is a powerful educational tool to improve safety for firefighters and other occupations. Similarly, the high levels of mercury in a young mother's blood that were traced to the use of certain personal care products, not only informed the young mother but led to a health education outreach to the community. As more biomonitoring data are collected, policy makers will have more information available to inform public health and environmental protection policy development.

Measures of accountability include the following:

- To ensure the highest quality laboratory data, personnel requested in this BCP will continue to collaborate with CDC on laboratory methods development and transfer, and will maintain existing strict quality assurance/quality control measures. Staff will continue to participate in national and international proficiency testing.
- Biomonitoring California engaged an independent contractor to assess its programmatic functions, organization, and effectiveness, following an evaluation protocol developed by the CDC. This external evaluation assisted Program managers to identify and implement some operational changes to optimize productivity. One example of this was that the evaluation identified the need for better documentation. DTSC improved its documentation by finalizing Standard Operating Procedures (SOPs). SOPs allowed staff to minimize errors and reduce the time it takes to complete analyses and release results. In addition, use of equipment to automate some analytical steps allowed more samples to be analyzed during a day, thus improving productivity. Periodic evaluations of program functions will be repeated to maintain the most efficient and cost-effective use of resources.
- The Scientific Guidance Panel (SGP) for the Program will continue to provide scientific peer review of all aspects of Program implementation, including rigorous review of scientific data used to inform many public and environmental health programs, public health intervention, and policy decisions. SGP meetings are held three times a year in public venues. For each meeting, a transcript, and a summary of the Panel's input and recommendations are posted on the Program's website. Biomonitoring California reports back to the SGP on how the Panel's recommendations have been addressed.
- Biomonitoring California produces a required Legislative Report biennially, including a progress report and a summary of results for ongoing and continuing work.
- Biomonitoring California maintains a user-friendly website ([www.biomonitoring.ca.gov](http://www.biomonitoring.ca.gov)), which is updated to maintain current information about the Program, public meetings, and results of its investigations.

## Analysis of Problem

### F. Analysis of All Feasible Alternatives

**Alternative 1:** Adopt this proposal for 2.0 limited term positions and \$600,000 for two years to support the California Environmental Contaminant Biomonitoring Program.

**Pros:**

- California will have the resources to continue to provide important services to protect the health of residents from exposure to toxic chemicals in the environment, workplace, and consumer products.
- Biomonitoring California will continue to provide sound scientific data to inform public and environmental health programs, public health interventions and policy decisions in California, which in turn will contribute to the goal of reducing pollutant-associated illness and deaths.
- California will be proactive in its Early Warning System by identifying and preventing new chemical threats before exposures and health effects are manifested.
- Close collaboration with partners (including the University of California) will continue, which will enhance Program efficiency and effectiveness.

**Cons:**

- Requires an increase in TSCA and BDMPF expenditures and position authority.

**Alternative 2:** Do nothing (Status quo).

**Pros:**

- There would be no impact to the TSCA and BDMPF, and no additional positions would be required.

**Cons:**

- Fewer community studies will be conducted to investigate chemical threats to Californians.
- Limited numbers of biological samples will be analyzed, as laboratory capabilities will be severely curtailed.
- Development of methods to analyze blood and urine samples for additional chemicals or metabolites of concern will stop.
- California will have fewer means to identify new "unknown" chemicals to prevent repeating the problems we faced with flame retardants, BPA, phthalates, etc.
- Development of methods to analyze new chemicals of emerging concern using the newly acquired TOF will stop or slow considerably.
- California will be limited in assessing the extent to which its diverse subpopulations experience elevated exposures and potentially be at increased risk for reproductive and developmental effects or chronic diseases.
- The State will have limited capacity to assess or prevent exposures to toxic chemicals found in consumer products, the environment, and the workplace.
- Biomonitoring California's ability to inform and improve the efficacy of State programs to reduce toxic exposures will be limited (e.g., CDPH's Safe Cosmetics Program, DTSC's Safer Consumer Products, and OEHHA's Proposition 65).

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- The Program will be ill-equipped to systematically address chemical exposure issues with sound scientific data.

### **Alternative 3:** Redirect staff to perform biomonitoring activities.

#### **Pros:**

- There would be no impact on the TSCA and BDMPF and no new positions would be required.

#### **Cons:**

- There are insufficient resources and scientific personnel to redirect to cover the anticipated programmatic needs of Biomonitoring California without significantly impacting other core programs within DTSC.
- Specialized expertise is required for laboratory personnel in the Program, and DTSC does not have sufficient staff with these skills to be redirected.
- Even with redirection of staff, Biomonitoring California's operations would still require periodic purchase and maintenance of laboratory equipment, chemicals, and lab supplies.

### **Alternative 4:** Approve this BCP at a lower level of funding than requested.

#### **Pros:**

- There would be less of an impact on the TSCA and BDMPF than under Alternative 1.
- The Program would be able to provide an as-yet-indeterminate (but significantly reduced) amount of scientific data to inform State programs and policy decisions.
- Some collaboration with external partners (including the University of California) may continue at a reduced, but as-yet-indeterminate, level.

#### **Cons:**

- This alternative would require an increase in TSCA and BDMPF expenditures and position authority, albeit less of an increase than under Alternative 1.
- In the absence of full funding, there are insufficient resources and specialized scientific personnel to redirect to cover the anticipated programmatic needs without significantly impacting other Core Program within DTSC.
- The Program would function at a lesser level than that proposed in this request; it would have to scale back its efforts and productivity by an as-yet-indeterminate amount. The number of samples and/or the number of chemicals tested in each sample would be reduced.

## G. Implementation Plan

May 2015-June 2015

Managers will initiate recruitment of personnel to fill the newly established positions

July 2015-16 (budget is signed)

Begin hiring process - all new positions will be filled before September 2015.

## Analysis of Problem

### H. Supplemental Information

In addition to standard operating expenses that include travel and training, this proposal requests the following resources:

- \$200,000 for both the purchase of replacement equipment (to replace equipment that has exceeded its life expectancy, rendering it prone to downtime because of increasing need for repair and its inability to keep pace with new technologies) and new equipment (that utilizes new technologies with improved throughput and detection capability).
- \$80,000 in contracts for preventative maintenance services for sophisticated laboratory equipment to ensure its continued functioning within specifications; \$10,000 in laboratory supplies such as ultra-pure chemical reagents, solvents and gases, consumable plastic-ware and specialty glassware, required to test human biological samples.

### I. Recommendation

DTSC recommends Alternative 1, authorizing 2.0 limited term positions and \$600,000 for two years to support the Biomonitoring California Program.

# BCP Fiscal Detail Sheet

BCP Title: Biomonitoring

DP Name: 3960-007-BCP-DP-2015-GB

## Budget Request Summary

FY15

	CY	BY	BY+1	BY+2*	BY+3*	BY+4*
Positions - Temporary	0.0	2.0	2.0	2.0	-	-
<b>Total Positions</b>	<b>0.0</b>	<b>2.0</b>	<b>2.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Salaries and Wages	0	194	194	0	0	0
Earnings - Permanent	\$0	\$194	\$194	\$0	\$0	\$0
<b>Total Salaries and Wages</b>	<b>0</b>	<b>\$88</b>	<b>\$282</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Total Staff Benefits	0	88	88	0	0	0
<b>Total Personal Services</b>	<b>\$0</b>	<b>\$282</b>	<b>\$282</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Operating Expenses and Equipment	0	14	14	0	0	0
5301 - General Expense	0	4	4	0	0	0
5320 - Travel: In-State	0	4	4	0	0	0
5322 - Training	0	80	80	0	0	0
5340 - Consulting and Professional Services - External	0	206	206	0	0	0
5368 - Non-Capital Asset Purchases - Equipment	0	10	10	0	0	0
539X - Other	\$0	\$318	\$318	\$0	\$0	\$0
<b>Total Operating Expenses and Equipment</b>	<b>\$0</b>	<b>\$600</b>	<b>\$600</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Budget Request</b>	<b>\$0</b>	<b>\$600</b>	<b>\$600</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Fund Summary</b>						
Fund Source - State Operations	0	520	520	0	0	0
0557 - Toxic Substances Control Account	0	80	80	0	0	0
3114 - Birth Defects Monitoring Program Fund	\$0	\$600	\$600	\$0	\$0	\$0
<b>Total State Operations Expenditures</b>	<b>\$0</b>	<b>\$600</b>	<b>\$600</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total All Funds</b>	<b>\$0</b>	<b>\$600</b>	<b>\$600</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Program Summary</b>						
Program Funding	0	600	600	0	0	0
3630 - Safer Consumer Products	\$0	\$600	\$600	\$0	\$0	\$0
<b>Total All Programs</b>	<b>\$0</b>	<b>\$600</b>	<b>\$600</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

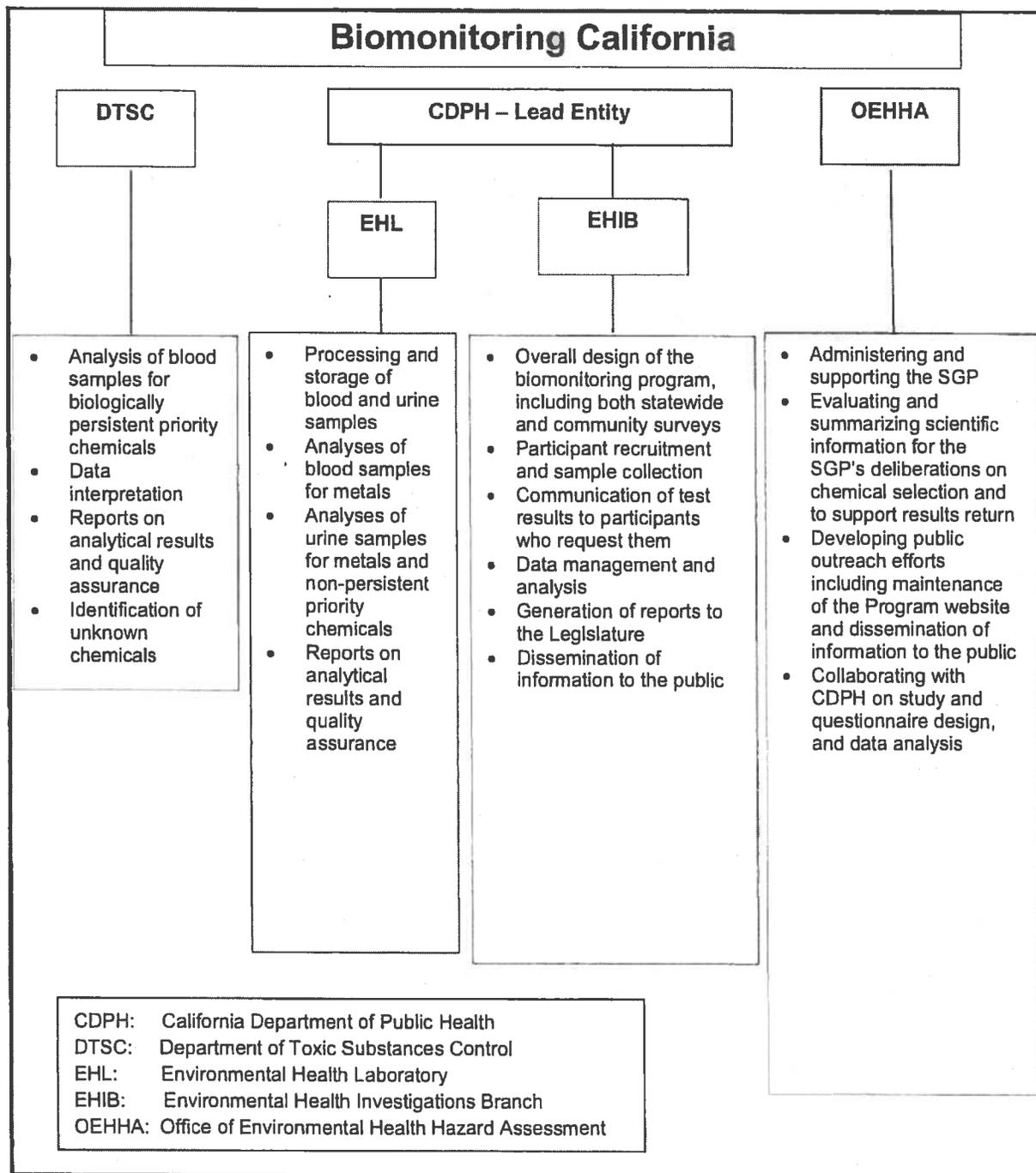
**Personal Services Details**

		Salary Information								
		Min	Mid	Max	CY	BY	BY+1	BY+2*	BY+3*	BY+4*
Positions										
5608	Research Scientist IV (Eff. 07-01-2015)(LT 06-30-2017)				0.0	1.0	1.0	-	-	-
5650	Research Scientist Supvr II (Eff. 07-01-2015)(LT 06-30-2017)				0.0	1.0	1.0	-	-	-
<b>Total Positions</b>					<b>0.0</b>	<b>2.0</b>	<b>2.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
Salaries and Wages										
5608	Research Scientist IV (Eff. 07-01-2015)(LT 06-30-2017)	0	90	90	-	-	-	-	-	-
5650	Research Scientist Supvr II (Eff. 07-01-2015)(LT 06-30-2017)	0	104	104	-	-	-	-	-	-
<b>Total Salaries and Wages</b>		<b>\$0</b>	<b>\$194</b>	<b>\$194</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Staff Benefits										
5150350	Health and Welfare Insurance	0	26	26	0	0	0	0	0	0
5150450	Medicare Taxation	0	3	3	0	0	0	0	0	0
5150500	OASDI	0	12	12	0	0	0	0	0	0
5150600	Retirement - General	0	47	47	0	0	0	0	0	0
<b>Total Staff Benefits</b>		<b>\$0</b>	<b>\$88</b>	<b>\$88</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Personal Services</b>		<b>\$0</b>	<b>\$282</b>	<b>\$282</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>

\*Data by Classification not available at this time.

## Attachment A

### Biomonitoring California Departmental Roles and Responsibilities



DEPARTMENT OF TOXIC SUBSTANCES CONTROL  
 Workload Analysis Chart  
 Budget Request Name: 3980-007-BCP-BR-2015-GB  
 Budget Request Description: Biomonitoring  
 PRIORITY: 5

ACTIVITY/TASK	Basis/Assumption for Workload Standard	PROJECTED 2015-16					DIFFERENCE IN BASE ADDITIONAL HOURS NEEDED
		HOURS TO COMPLETE TASK	NUMBER OF TASKS PER YEAR	HOURS NEEDED PER YEAR	NUMBER OF HOURS IN BASE FOR ACTIVITY		
<b>Research Scientist IV (Chemical Sciences) Lead for Time of Flight Instrument</b>							
<b>Under the direction of a Research Scientist Supervisor II:</b>							
Lead scientist for method development for the identification and measurement of "unknown" chemicals in blood and urine, using state-of-the-art instrumentation (TOF Mass Spectrometer).	Based on discussions with laboratories equipped with such instrumentation and performing such tasks	280	2	560		560	
Tests, troubleshoots and maintains the new Time-of-Flight Mass Spectrometer	Based on Environmental Chemistry Laboratory's (ECL) experience with extremely sophisticated instruments and class specifications	12	24	288		288	
Organizes, implements and maintains a quality assurance/quality control system in the laboratory to deliver high-quality, timely human monitoring results to meet Program needs.	Required to maintain National Environmental Laboratory Accreditation Conference and ISO17025 certifications	16	12	192		192	
Summarizes biomonitoring findings on "unknown" chemicals for DTSC management and Advisory Committee meetings; coordinates with CDPH and OEHHA staff	Based on Environmental Chemistry Laboratory's (ECL) experience with past needs for communication with Scientific Guidance Panel, other agencies involved in biomonitoring and DTSC management	40	3	120		120	
Evaluates program goals, priorities, guidelines, protocols, research strategies and administrative materials.	Based on Environmental Chemistry Laboratory's (ECL) experience and class specifications	40	2	80		80	
Represents the department in meetings and interactions with staff from different institutions, state and federal agencies involved with Biomonitoring	Monthly meetings; preparation and attendance	8	12	96		96	
Takes the lead in the preparation of technical reports and manuscripts on "unknown" chemicals for publication in the scientific literature.	Based on Environmental Chemistry Laboratory's (ECL) experience with scientific publications	80	2	160		160	