State of Alaska
FY2009 Governor's Operating Budget

Department of Environmental Conservation
Laboratory Services
Component Budget Summary

Component: Laboratory Services

Contribution to Department's Mission

Provide analytical and technical information in support of state and national environmental health programs.

Core Services

- Inspect and certify private labs.
- Test food, water, seafood, shellfish, and domestic and wild animals.
- Analyze fish tissue for chemical, microbial, and marine toxin contaminants.
- Permit and inspect dairy and meat producers.
- Permit and monitor the movement of animals and animal vaccines.
- Monitor and control animal diseases.

End Result	Strategies to Achieve End Result
A: Information is available for assessment of risks to public health, welfare and the environment. Target #1: All requested tests are completed. Measure #1: The % of tests requested that receive results.	**A1: Provide information relating to risks associated with chemical and biological contaminants.** Target #1: All requested tests for chemical and biological contaminants are complete. Measure #1: The % of requested tests for contaminants that receive results. **A2: Provide information relating to risks associated with animal diseases.** Target #1: All requested tests for animal diseases are complete. Measure #1: The % of requested tests for animal diseases that receive results. **A3: Provide information relating risks associated with toxins.** Target #1: All requested tests for toxins are complete. Measure #1: The % of requested tests for toxins that receive results.

Major Activities to Advance Strategies

- Test shellfish and seafood.
- Test food and drinking water samples.
- Evaluate fish for persistent organic pollutants.
- Test animals.
- Review and certify private labs annually.
- Train EH staff on drinking water sampling and testing protocols annually.
- Screen and/or inspect dairy farms and processors.
- Issue animal health certificates.
- Investigate animal disease complaints and outbreaks.

FY2009 Resources Allocated to Achieve Results

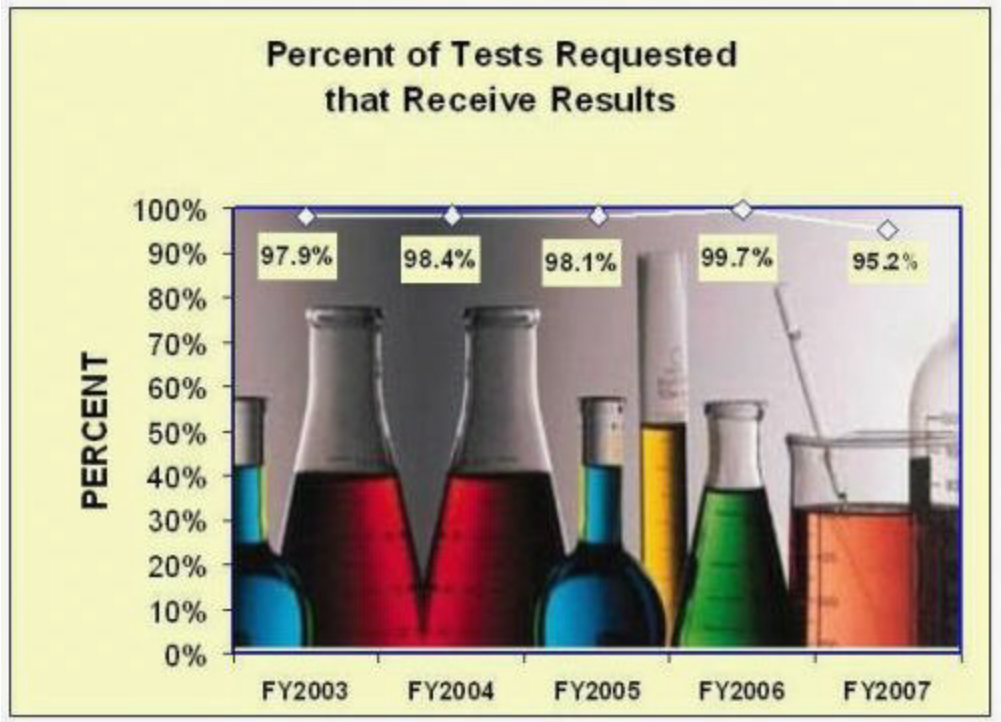
FY2009 Component Budget: $2,905,900

Personnel:	
Full time	24
Part time	0
Total	24

Performance Measure Detail

A: Result - Information is available for assessment of risks to public health, welfare and the environment.

Target #1: All requested tests are completed.
Measure #1: The % of tests requested that receive results.



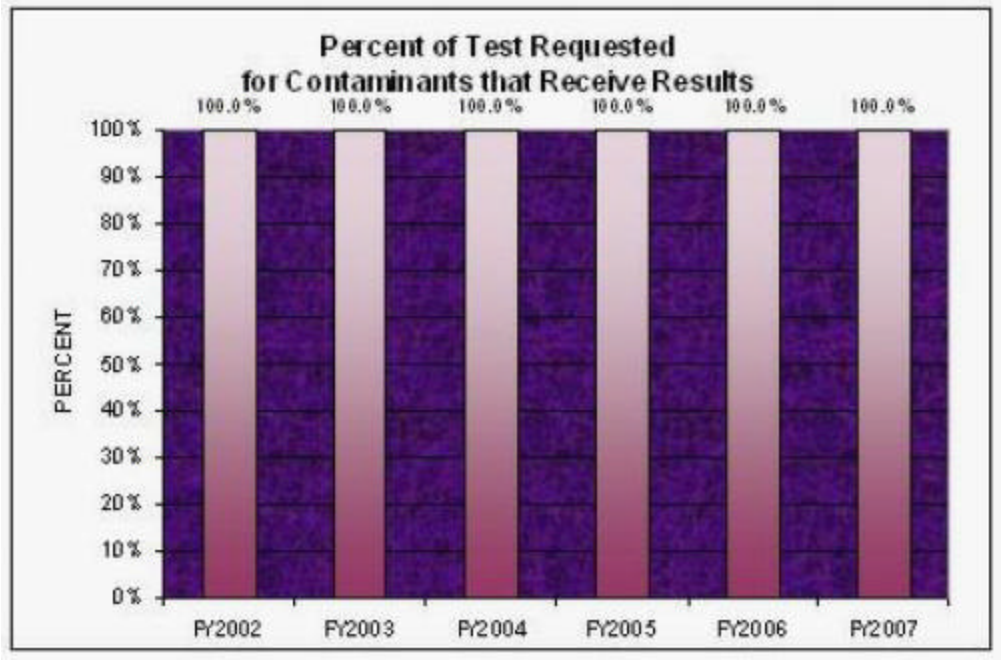
Analysis of results and challenges: The Environmental Health Laboratory's Target is to provide optimal customer service in the form of accurate, timely, and reliable results for 100% of the requests received. In addition to performing both biological and chemical analysis, the laboratory will continue to perform certification inspections for drinking water and environmental testing laboratories throughout the state.

During FY2006 a new state-of-art testing Environmental Health Laboratory with enhanced testing capabilities was constructed. The transition from Palmer to Anchorage was completed in December of 2005. The new facility includes testing labs for seafood toxins, bacteriology, immunology, dairy, animal diagnostics, chemical analysis, and molecular biology. New processes were developed and implemented during FY2006. They included: a Quality Management Program, Safety Program, Security Program, Laboratory Information Management System, Animal Diagnostic Program, and Molecular Biology Program. The lab has developed a Sample Submission Manual that provides guidance on proper sample collection, handling, and shipping, which has been published in hard copy form and also viewable on the department's website at: http://www.dec.state.ak.us/eh/lab/SubmissionManual/LSM_Main.htm.

During the 2nd quarter of FY2007 a large batch of samples were received from a client that did not meet acceptable sample criteria. Therefore, this isolated incident caused a decline in the percent of results provided.

A1: Strategy - Provide information relating to risks associated with chemical and biological contaminants.

Target #1: All requested tests for chemical and biological contaminants are complete.
Measure #1: The % of requested tests for contaminants that receive results.



Analysis of results and challenges: Mercury testing of fish tissues is the primary testing activity for this measure. Because Alaska is a leading producer world wide for seafood, methyl mercury in fish has become a high profile issue. The Division of Environmental Health is the regulatory agency responsible for assuring the safety of commercially harvested fish for national and international markets, as well as subsistence and sport fish consumers.

The toxicity of mercury to man and animals in large doses is well known and has a long history. Mercury is a naturally occurring element and widely distributed in the environment. Ores bearing mercury are mined worldwide and the refined mercury is used in many commercial applications. Mercury is also found in trace quantities in fossil fuels such as coal and released into the environment when burned. With the advancement of science and refined measuring techniques for mercury, trace amounts were detected in the environment but more importantly, found in the water and food that we consume.

Mercury that enters the food chain is of particular concern due to its more toxic organic form as methyl mercury. The more toxic compound is formed when bacteria, for unknown reasons, convert elemental mercury to methyl mercury. Once this conversion to methyl mercury takes place the mercury is now in a form that is known to bioaccumulate. This bioaccumulation factor becomes significant among predatory fish and animals, with man being the top predator in the food chain.

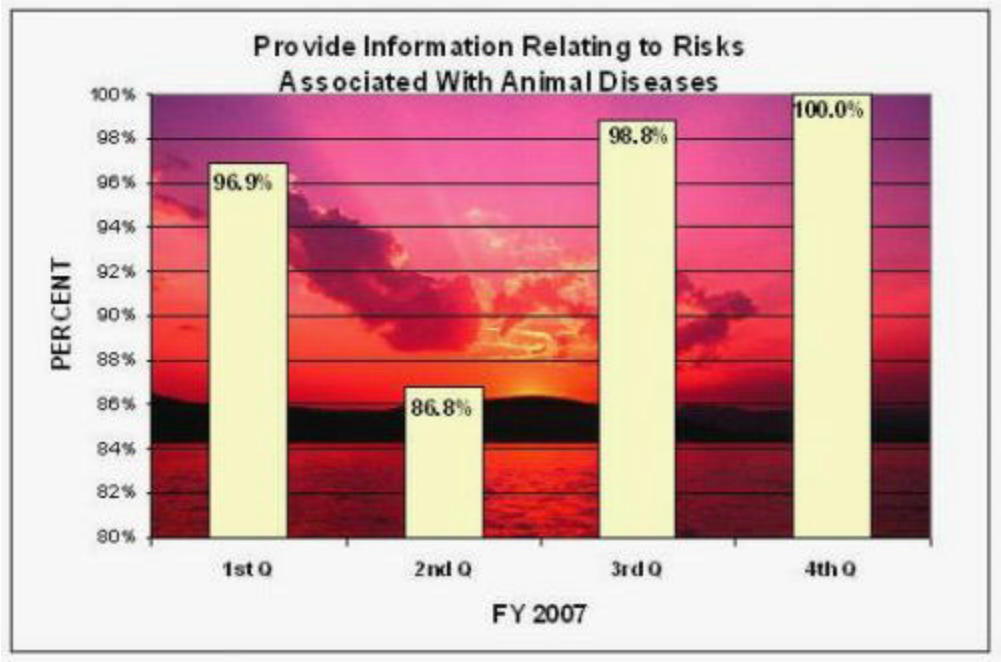
The significance of methyl mercury in fish became a concern more than 30 years ago. The US Food and Drug Administration set a regulatory level of 1ppm (part per million) for fish entering commerce. At the time this was considered a safe level for food consumption. Recent studies by the World Health Organization, US Environmental Protection Agency and private organizations indicate that the 1ppm level may not protect all segments of the population, particularly children, expectant mothers and women of child bearing age who consume fish on a regular basis.

Although there is little that can be done from the regulatory standpoint to eliminate the methyl mercury issue, it

is the Division of Environmental Health's responsibility to provide information through laboratory testing that will identify problems if lower regulatory levels are imposed. The accumulation of methyl mercury data for all species of fish will also allow consumers to make informed choices for consumption of Alaska fish. The Division's Environmental Health Laboratory began collecting data in 1997 and is gradually expanding its data base on the many fish indigenous to Alaska, both freshwater and saltwater species. As this data becomes available, it is viewable to the public on the Division's web page: http://www.dec.state.ak.us/eh/vet/fish.htm.

A2: Strategy - Provide information relating to risks associated with animal diseases.

Target #1: All requested tests for animal diseases are complete.
Measure #1: The % of requested tests for animal diseases that receive results.



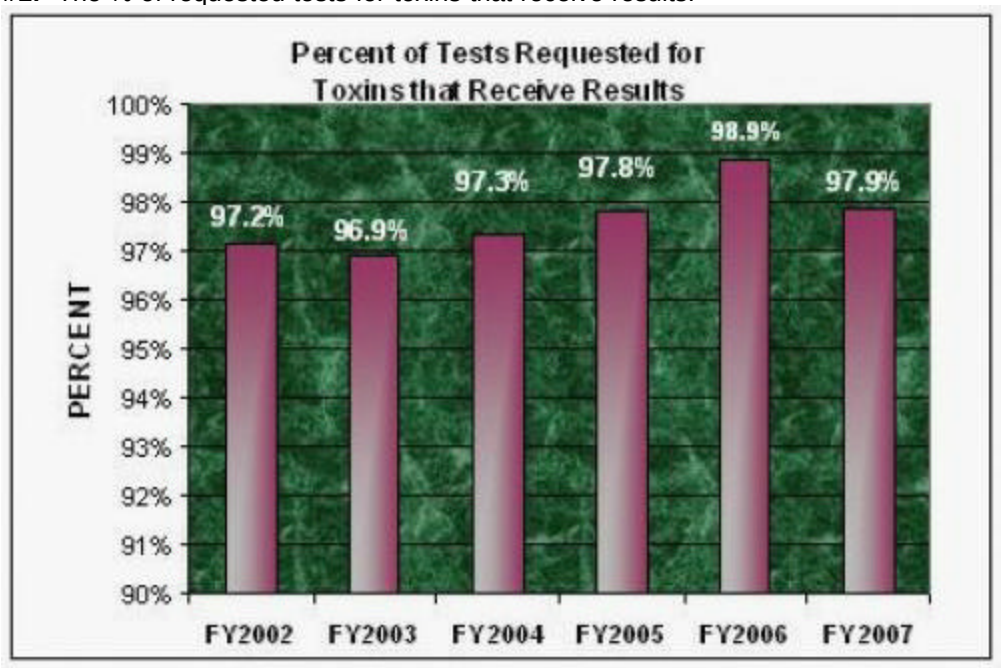
Analysis of results and challenges: This strategy provides the State of Alaska with the initial framework to monitor farm animals and wildlife for emerging diseases. Subsequent to the first reported case of "mad cow" disease in the United States, it has become more critical for the State Environmental Health Laboratory to develop the capability to test for various Transmissible Spongiform Encephalopathy (TSEs). Currently the Laboratory has been certified by USDA to perform Avian Influenza testing on samples collected from birds.

More animal tissue examination and molecular testing using DNA amplification will be possible in the future. It is expected that this testing scheme will be expanded from Chronic Wasting Disease (CWD) surveillance in wild game to Bovine Spongiform Encephalopathy (BSE) "mad cow" and Scrapie Disease surveillance in domestic animals.

This testing contributes to the strategy of providing information relating to risks associated with animal diseases. These numbers include a high number of samples (81 in the 1st quarter and 322 in the 2nd quarter of FY07) that were received in the lab, but were unacceptable for testing due to the sample condition (hemolyzed). The lab has developed a Sample Submission Manual that provides guidance on proper sample collection, handling, and shipping, which has been published in hard copy form and also viewable on the department's website at: http://www.dec.state.ak.us/eh/lab/SubmissionManual/LSM_Main.htm.

A3: Strategy - Provide information relating risks associated with toxins.

Target #1: All requested tests for toxins are complete.
Measure #1: The % of requested tests for toxins that receive results.



Analysis of results and challenges: Paralytic Shellfish Poison (PSP) toxins are toxins produced by microscopic organisms that accumulate in shellfish through their natural feeding processes. These toxins affect humans, other mammals, and possibly birds when toxic shellfish are ingested. There is no known antidote once a person has ingested shellfish containing these toxins, nor is there any way of knowing, just from looking, whether or not a particular shellfish is toxic. If the person can be diagnosed soon enough after presenting with symptoms and can be placed on a respirator, the body will eventually cleanse itself of the toxins. The current method for detecting and quantifying these toxins is the mouse bioassay using extracts prepared by an AOAC (Association of Official Analytical Chemists) approved method. A chemistry procedure using High Pressure Liquid Chromatography (HPLC) was recently approved by AOAC and will become the new method of choice at the Environmental Health Laboratory in Anchorage.

Using a graduated uniform sampling plan, shellfish from commercial shellfish growing areas are routinely tested for these toxins. Since the department started the testing program in the early 1980's, no known illnesses have occurred from commercially harvested Alaskan grown shellfish.

All samples submitted to the laboratory are assigned a number and nearly all samples are tested. Although the intent is to test 100% of the samples received, occasionally samples are submitted in a decomposed condition that prevents testing; or the submitter will request that the sample not be tested for a variety of reasons. These factors account for a percent completion being less than 100%.

Key Component Challenges

Building capacity for a newly constructed state of the art Environmental Health Laboratory (EHL) using existing financial resources is an ongoing challenge. Chronic staffing shortages as the result of recruiting difficulties require limited staff to assume extra responsibilities when vacancies occur or new testing requirements need to be implemented. This not only stresses the existing workforce, but reduces the effectiveness of the new facility. Ancillary procedures performed to support each test result are necessary, but create additional workload. Many of these procedures, although required by standards of practice, were not performed when the laboratory was operated in the past. Currently, the laboratory reports approximately 25,000 results on 15,000 samples annually, which requires more than a total of 64,000 tests to be performed. This is a tremendous accomplishment utilizing 5 analysts and 4 technical support staff. Such ancillary tests include quality controls, proficiency tests, validation, and teaching tests - all of which are required to achieve and maintain testing certifications from federal regulatory agencies.

The EHL Chemistry Section has increased capability and capacity several fold from previous years. Implementation of a new Inductively Coupled Plasma Mass Spectrometer (ICP/MS) for total metals, methyl mercury, and pesticides at a very low level is one of the major changes. Recently, a new Liquid Chromatograph Mass Spectrometer (LC/MS) has been implemented for testing marine toxins and Melamine at concentrations 100 times more sensitive than conventional instrumentation. In the future, it is anticipated that this instrument will replace the mouse bioassay for PSP toxins in shellfish. As our work continues to change based on these new technologies, we may need additional positions to keep up with the increasing work demands.

The Environmental Laboratory received a significant cooperative agreement from the Food and Drug Administration (FDA) to enhance capability for rapid screening of food using molecular technology. This technology delivers results in a matter of hours instead of days. In order to meet the requirements of this agreement the lab will need to hire additional staff, get them trained, and validate new equipment within the next fiscal year.

For the first time in its history, the lab has hired a full time Quality Manager to implement the Quality Management System. Requirements set by EPA, FDA, and USDA, made it necessary for the lab to create a quality manager position to ensure all testing performed at the lab is accurate. Once fully implemented, our quality system will be ISO 17025 certified (International Standards Organization), which will guarantee our work for all customers. When determining the safety of food and drinking water, correct results are essential.

Assuring consumers of the safety of Alaska's wild fish resources continues to be a task the laboratory addresses. Buyers of Alaska's seafood products -- be it other nationalities or consumers in the store -- continue to ask for proof that Alaskan fish are not contaminated by pollution. Recent articles emphasize contamination of our food resources, especially fish, from environmental pollutants like mercury. Authors of these articles question the benefit of a fish diet and recommend restricted consumption. As funding becomes available, the laboratory will continue to test salmon, halibut, and other fish species for persistent organic pollutants and heavy metals. It is important this work continue so changes can be identified and areas of concern targeted.

The Office of the State Veterinarian is establishing surveillance programs for newly emerging diseases, foreign animal diseases, zoonotic diseases, and agriculture based terrorism threats. The laboratory will provide histological and analytical support for this surveillance. These threats, some of which have recently begun to appear in the United States, pose a grave threat to agriculture, wildlife, and public health in Alaska, as well as to the $3.5 trillion agriculture industry of this country. The entire U.S. border would be closed if a foreign animal disease occurred in Alaska. Efforts to address this important public health function have been increased as the threat from increasing agricultural and animal imports and international travel to the state continue to rise.

Significant Changes in Results to be Delivered in FY2009

None.

Major Component Accomplishments in 2007

- Relinquished the lease of the old Palmer laboratory after an extensive decontamination process. This involved the disposal of chemicals, some of which were over 40 years old and of unknown origin. It is a significant safety improvement for State employees to no longer work in that inadequate facility.
- Continue to purchase, set-up, and validate new testing equipment at new facility. As the building settles, we have been able to resolve some outstanding construction flaws such as leaking windows and billowing roofs.
- Passed Avian Influenza (AI) proficiency tests to maintain certification as an official testing laboratory. Alaska's laboratory was one of only 40 in the nation to pass this rigorous testing certification. The laboratory completed

over 3,500 AI tests on birds from Alaska, of which 2,500 tests were performed as part of a contract with the USDA. Statewide-wide surveillance testing for Avian Influenza was performed by the State Veterinarian at agricultural fairs (Palmer, Kenai, Fairbanks, and Kodiak) as part of the state's Influenza Response Plan. No High Pathogenic Avian Influenza was identified.

- The Drinking Water Certification program completed Memorandums of Understanding (MOUs) with several laboratories in other states for analyses we cannot conduct. The ability to perform these tests is required by EPA for drinking water primacy but because the testing is never needed in Alaska, we prefer establishing MOU's with facilities that can do the testing, if ever needed.
- The Office of the State Veterinarian (OSV) investigated several morbidity and mortality events in domestic livestock and all were concluded to not be Foreign Animal Diseases.

Statutory and Regulatory Authority

AS 03.05, AS 03.45, AS 03.58, AS 17.05, AS 17.07, AS 17.20, AS 44.46, AS 46.03, 18 AAC 15, 18 AAC 31, 18 AAC 32, 18 AAC 34, 18 AAC 80, 18 AAC 90

Contact Information

Contact: Kristin Ryan, Director
Phone: (907) 269-7644
Fax: (907) 269-7654
E-mail: Kristin.Ryan@alaska.gov

Laboratory Services
Component Financial Summary

All dollars shown in thousands

	FY2007 Actuals	FY2008 Management Plan	FY2009 Governor
Non-Formula Program:			
Component Expenditures:			
71000 Personal Services	1,669.6	1,807.9	1,893.7
72000 Travel	39.0	51.1	51.1
73000 Services	185.0	783.5	720.5
74000 Commodities	243.2	219.3	196.9
75000 Capital Outlay	315.4	43.7	43.7
77000 Grants, Benefits	0.0	0.0	0.0
78000 Miscellaneous	0.0	0.0	0.0
Expenditure Totals	**2,452.2**	**2,905.5**	**2,905.9**
Funding Sources:			
1002 Federal Receipts	588.2	1,109.7	1,109.7
1003 General Fund Match	152.5	97.3	100.1
1004 General Fund Receipts	1,293.6	1,196.9	1,205.3
1005 General Fund/Program Receipts	177.5	158.7	159.0
1007 Inter-Agency Receipts	114.7	326.2	331.8
1052 Oil/Hazardous Response Fund	14.7	16.7	0.0
1061 Capital Improvement Project Receipts	111.0	0.0	0.0
Funding Totals	**2,452.2**	**2,905.5**	**2,905.9**

Estimated Revenue Collections

Description	Master Revenue Account	FY2007 Actuals	FY2008 Management Plan	FY2009 Governor
Unrestricted Revenues				
None.		0.0	0.0	0.0
Unrestricted Total		**0.0**	**0.0**	**0.0**
Restricted Revenues				
Federal Receipts	51010	588.2	1,109.7	1,109.7
Interagency Receipts	51015	114.7	326.2	331.8
General Fund Program Receipts	51060	177.5	158.7	159.0
Capital Improvement Project Receipts	51200	111.0	0.0	0.0
Restricted Total		**991.4**	**1,594.6**	**1,600.5**
Total Estimated Revenues		**991.4**	**1,594.6**	**1,600.5**

Summary of Component Budget Changes
From FY2008 Management Plan to FY2009 Governor

All dollars shown in thousands

	General Funds	Federal Funds	Other Funds	Total Funds
FY2008 Management Plan	**1,452.9**	**1,109.7**	**342.9**	**2,905.5**
Adjustments which will continue current level of service:				
-PSP Testing for Commercial Shellfish Farmers - Remove One Time Item	-80.0	0.0	0.0	-80.0
-Correct Unrealizable Fund Sources for Salary Adjustments: GGU	29.4	-28.8	-0.6	0.0
-FY 09 Bargaining Unit Contract Terms: General Government Unit	62.1	28.8	6.2	97.1
Proposed budget decreases:				
-Discontinue Environmental Health Lab Response Fund Activities	0.0	0.0	-16.7	-16.7
FY2009 Governor	**1,464.4**	**1,109.7**	**331.8**	**2,905.9**

Laboratory Services
Personal Services Information

Authorized Positions	FY2008 Management Plan	FY2009 Governor	Personal Services Costs	
			Annual Salaries	1,207,183
Full-time	24	24	COLA	89,758
Part-time	0	0	Premium Pay	0
Nonpermanent	0	0	Annual Benefits	692,439
			Less 4.81% Vacancy Factor	(95,680)
			Lump Sum Premium Pay	0
Totals	**24**	**24**	**Total Personal Services**	**1,893,700**

Position Classification Summary

Job Class Title	Anchorage	Fairbanks	Juneau	Others	Total
Administrative Assistant II	1	0	0	0	1
Administrative Clerk III	2	0	0	0	2
Administrative Officer I	1	0	0	0	1
Analyst/Programmer IV	1	0	0	0	1
Assistant State Veterinarian	1	0	0	0	1
Assoc Coordinator	1	0	0	0	1
Chemist I	1	0	0	0	1
Chemist III	2	0	0	0	2
Chemist IV	1	0	0	0	1
Chief Environmental Hlth Labs	1	0	0	0	1
Eh Biological Analysis Manager	1	0	0	0	1
Environ Health Off III	0	0	0	1	1
Laboratory Technician	3	0	0	0	3
Microbiologist I	3	0	0	0	3
Microbiologist III	2	0	0	0	2
Research Analyst III	1	0	0	0	1
State Veterinarian	1	0	0	0	1
Totals	**23**	**0**	**0**	**1**	**24**