State of Utah
GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

MEMORANDUM

TO: Water Quality Board

THROUGH: Walter L. Baker P.E.

FROM: Emily Cantón

DATE: November 24, 2015

SUBJECT: Budget Update FY2016-FY2017

In October, the Division of Water Quality submitted its budget to be included with the Department of Environmental Quality's FY16/FY17 request. The budget included planned expenditures for the Division's base budget as well as proposed increases for additional activities necessary to improve and protect the water quality for the citizens of the State of Utah.

The Division estimates anticipated revenues for FY16 to be $13.5 million. Revenue sources include general funds, federal funds, dedicated credits, and restricted funds. Revenues support the day-to-day operating expenses incurred by the Division to carry out state and federal mandates and responsibilities. Projected expenditures include labor and benefit costs for 78 FTEs, in-state and out-of-state travel, office space, supplies and equipment, sampling costs, legal fees, and contract services.

After the budget has been analyzed by the Governor's Office of Management and Budget, the Governor will make a final budget recommendation to the Legislature. Appropriations will then be outlined in a budget bill during the FY16 legislative session.

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MEMORANDUM

TO: Water Quality Board

THROUGH: Walter L. Baker P.E.

FROM: Erica Gaddis Ph.D.

DATE: November 23, 2015

SUBJECT: FY17 funding needs

The Division of Water Quality has identified three important financial needs for fiscal year 2017 to support the following new or expanded initiatives:

- **Spill Coordinator:** Fund a new FTE position for a person to lead spill response and coordinate closures. Since 2010, DWQ has responded to 458 spills of varying sizes, averaging 5 to 10 spills per month. Many spills currently remain unresolved due to resource constraints. DWQ estimates that appropriately responding to all spills and seeing them through to resolution would require 1.3 FTEs.
- **Wetland Program Support for Standards Development and Assessment:** Federal grants provided 6 years of seed funding for Utah's wetland program tasked with protecting 420,000 acres of wetlands in the state. The past work will be used to fully develop and apply standards and assessment methods for wetlands.
- **Harmful Algal Bloom Early Warning System for Utah Lake:** Funding will be used for three continuous monitoring sondes deployed in Utah Lake to measure pigments found in harmful algae. Data will be available in real-time for the Division and the Utah County Health Department to use in issuing public health advisories. The data will also inform the Division's Utah Lake water quality study.

The financial needs include one-time and ongoing funds summarized in the table below. DWQ submitted a building block request for the Spill Coordinator position to the Governor's Office for consideration in the FY2017 budget. DWQ is evaluating funding mechanisms for the other two needs. A summary of each need is attached to this memo.

Summary of DWQ's Building Block Requests for FY17

Program Request	One-time Request FY17	On-going Request	DWQ On-going Match	Potential Funding Source
Spill Coordinator	$0	$120,900	N/A	General Funds (alternative Water Quality Security Subaccount)
Great Salt Lake Wetlands: Water Quality Standards and Assessment	$122,788	$68,000 (7 years)	$40,596 one-time $26,963 on-going	Unknown
Harmful Algal Bloom Early Warning System for Utah Lake	$67,440	$15,000	$51,470 one-time $26,000 on-going	Unknown

FY 16 / FY 17 MODEL BUSINESS CASE

Request Title: Harmful Algal Bloom Early Warning System for Utah Lake
Invited: ☐ Yes ☒ No
Amount Requested: $67,440 + $15,000
FTE Requested: 0
Duration of Funding: ☐ FY 2016 one-time ☒ FY 2017 one-time ☒ FY 2017 on-going
(check all that apply)

Background

What system or program is the focus of the request? (Provide a brief description of system or program to include overall goal, major functions, federal or state requirements, etc.) How does the request align with the agency's core mission? Why does this activity constitute a proper role of state government or what market failure justifies government intervention?

Utah Lake is a popular destination for thousands of recreationists every year. Boating, water skiing, fishing, and swimming are all popular activities during the summer months. The State of Utah recognizes the value of this important resource and has established and maintains Utah Lake State Park that averaged almost 300,000 annual visits from 2007-2011. In addition to the lake's benefits to recreationists, Utah Lake is home to a threatened endemic fish species (June Sucker) and provides vital habitat for many other species of wildlife. Management of the lake's physical and biological resources are held in trust by the State of Utah for its citizens, including the lake bed and shoreline by the Department of Natural Resources' Division of Forestry, Fire and State Lands (Utah Code 65A-1-4) and the prevention, control, and abatement of new or existing sources of pollution into waters of the State by the Department of Environmental Quality's Division of Water Quality (Utah Code 19-5-104).

Blue-green algae, which can produce toxins harmful to humans, livestock, and pets, threaten the recreational uses of Utah Lake. In October 2014, a toxic blue-green algal bloom resulted in the Utah County Health Department issuing a warning to recreational users of the lake. Because of the episodic nature of blue-green algal blooms, it is difficult to detect when a bloom is occurring. As a result, local health departments make decisions about whether warning signs should be posted at the lake based on visual observation. In August 2015, this resulted in a warning sign posted at Utah Lake when the algal bloom turned out not to be toxic. The proposed new program will provide for an early warning monitoring system for Utah Lake and funding to characterize the nature of blooms when they occur. This system will provide protection of public health without the need to unnecessarily post warnings based on visual observation alone. This should reduce public health warnings on the lake, preserving the economic benefit of the Utah Lake State Park to the community.

Legislative Changes: Agencies must coordinate all legislation through the Governor's general counsel. Please summarize any legislation needed in conjunction with this incremental budget change request.

X Check here if no legislative changes are required.

Justification: What are the presenting issues that funding is intended to address? *(mark yes/no for each)*

Add capacity to meet growing demand and/or improve quality for an existing system or program? ☐ Yes ☒ No
(If yes, please complete Option 1)

Invest in a new program, service, or activity? ☒ Yes ☐ No
(If yes, complete Option 2)

Other needs? ☐ Yes ☒ No
(If yes, complete Option 3)

Based on the choices selected above, fill out one or more of the justification options that follow. Any that are not utilized may be deleted. ***For invited requests****, you do not need a detailed response to every question. Instead, you may provide a brief justification for the option(s) that best explain the need for the budget change.* ***For non-invited requests****, you must reply to ALL applicable questions in the question and answer format.*

Option 2: New Program, Service or Activity

If identified, briefly describe the specific new program, service, or activity.

The new activity will be a Utah Lake Harmful Algal Bloom Early Warning System, composed of continuous monitoring stations that will be deployed at three separate locations within the lake. The Utah County Health Department, in coordination with the Division of Water Quality, will be able to notify the public of any precautions advised to protect their health. In the future, the sondes could also be deployed to other waters threatened with harmful algal blooms such as Pineview Reservoir, East Canyon Reservoir, Farmington Bay, or Scofield Reservoir.

What specific activities would this fund or support? How will these activities support the overall system, program, or activity?

One-time costs in the amount of $67,440 will fund the purchase of: a) the monitoring buoy, which includes solar panels, battery, cellular modem and antennae kit for wirelessly sending measurements to an on-shore data station, b) data sonde, which includes sensors to measure turbidity, dissolved oxygen, pH, conductivity, temperature, and phycocyanin (measure of blue-green algae).

On-going costs in the amount of $15,000 will fund the operation and maintenance of buoys and the cost of algal and toxin analysis in the event of a bloom. The annual operation and maintenance costs are based on the material costs to maintain the sondes, replace damaged sensors, calibration materials, and laboratory analyses for algal taxonomy and toxins.

Is the new program, service, or activity a legislative mandate? If so, please reference the mandate.

No.

What are the anticipated outcomes or results? How do the funded activities align with these results?

The primary outcome from this project will be early and accurate warning of blue-green algal blooms. This system will provide protection of public health without the need to unnecessarily post warnings based on visual observation alone.

The information from these monitoring stations, coupled with ongoing water sampling by the Division of Water Quality, will also be used to better understand the lake's nutrient dynamics that drive algae blooms and develop a predictive water quality model that will provide the information required to make scientifically based, long term management decisions.

Why is the new system, program, or activity needed? (May include data about current outcomes, new requirements, needs/gap assessment, audit or evaluation of findings, etc.)

While many efforts are currently underway to improve water quality conditions in Utah Lake, significant issues remain. The most concerning of these water quality issues are blue-green algae blooms during the late summer / early fall when the public's use of the lake is at its highest. Identifying when blooms are beginning to form through continuous monitoring stations deployed at three locations within the lake will provide an early warning to public health officials and to the public of appropriate precautions to take

to protect health.

Will the new system, program, or activity serve a population or meet a need already being served by another agency? How will agency resources and processes be leveraged to improve outcomes?

This activity does not serve a population or meet a need already being served by another agency.

The system will serve the recreation users of Utah Lake and the Utah County Health Department. The Division of Water Quality will match the one-time request with development of a Utah Lake Water Quality Model that will be used to develop appropriate nutrient targets for Utah Lake and will be calibrated partially with the data gathered by the proposed sondes. The cost of model development is $51,470. DWQ will match the on-going requests with labor and laboratory analysis of water quality samples collected monthly in Utah Lake during the summer months and staff support in analyzing harmful algal bloom data. The cost of water quality samples collected in Utah Lake is $26,000 per year.

Is the new system, program, or activity an evidenced-based practice or supported by research, data, evaluation, or professional/industry standards? If so, please describe. If not, please describe the logic model or professional/expert opinion.

This project will use reliable scientific data to inform public health decisions and water quality assessments in Utah Lake.

Have outcomes/results been achieved by the same or similar programs or services in Utah or elsewhere? If so, what are the results?

No. There is currently no funding available for local health departments or the Division of Water Quality to monitor and/or respond to harmful algal blooms. The response that has been provided by DWQ and the Utah County Health Department to harmful algal bloom events has been done on an as needed basis and with insufficient resources. Continuing in this manner could result in reduced services to other important waters to offset the costs of monitoring and analysis.

List the data measure(s) that will be used to track outcomes/results. Will evaluation planning take place? If so, what are those plans?

Number of public health decisions made based on reliable scientific information.

FY 16 / FY 17 MODEL BUSINESS CASE

Request Title: Great Salt Lake Wetlands: Water Quality Standards and Assessment
Invited: ☐ Yes ☒ No
Amount Requested: $122,788 + $68,000/yr for 7 years
FTE Requested: 1
Duration of Funding: ☐ FY 2016 one-time ☒ FY 2017 one-time ☒ FY 2017 on-going
(check all that apply)

Background

What system or program is the focus of the request? (Provide a brief description of system or program to include overall goal, major functions, federal or state requirements, etc.) How does the request align with the agency's core mission? Why does this activity constitute a proper role of state government or what market failure justifies government intervention?

The importance of wetlands around Great Salt Lake as a critical resource to the state is recognized by state and federal natural resource agencies. A total of 420,000 acres or 80% of Utah's wetlands reside along the lake and serve important functions such as flood control, retention of pollutants and as habitat for approximately 7.5 million birds that visit the lake each year. In an economic study supported by the Great Salt Lake Advisory, the Great Salt Lake wetlands are also vital to the State of Utah's economy, generating an estimated $135.8 million dollars/year from recreation and waterfowl hunting. This project addresses a public concern that impounded and fringe wetlands may be deleteriously impacted by historic or contemporary pollutant loads. With one exception (selenium), Utah has no numeric water quality standards protecting the Great Salt Lake or its wetlands.

The State of Utah is authorized to develop and implement water quality standards as required by the federal Clean Water Act and the Utah Water Quality Act. The state has taken an inter-agency approach to wetland management by integrating water quality goals into a broad *Utah Wetland Program Plan* developed and supported by DEQ and DNR. A central goal is to "integrate wetlands into state water quality management and regulatory programs through the development of wetland water quality standards." This project builds on our success at managing wetland resources at the state-level, through a state-sponsored wetland program that bases the development of assessment protocols for these unique wetlands on scientific findings specific to the Great Salt Lake wetlands.

DWQ aims to maintain stakeholder interest and agency momentum through development of water quality standards for the major wetland classes associated with GSL and then application of other water quality program to ensure that wetlands are appropriately protected.

Legislative Changes: Agencies must coordinate all legislation through the Governor's general counsel. Please summarize any legislation needed in conjunction with this incremental budget change request.

X Check here if no legislative changes are required.

Justification: What are the presenting issues that funding is intended to address? *(mark yes/no for each)*

Add capacity to meet growing demand and/or improve quality for an existing system or program? ☐ Yes ☒ No
(If yes, please complete Option 1)

Invest in a new program, service, or activity? ☒ Yes ☐ No

(If yes, complete Option 2)

Other needs? ☐ Yes ☒ No
(If yes, complete Option 3)

Based on the choices selected above, fill out one or more of the justification options that follow. Any that are not utilized may be deleted. ***For invited requests****, you do not need a detailed response to every question. Instead, you may provide a brief justification for the option(s) that best explain the need for the budget change.* ***For non-invited requests****, you must reply to ALL applicable questions in the question and answer format.*

Option 2: New Program, Service or Activity

If identified, briefly describe the specific new program, service, or activity.

DWQ has developed a wetland program focused on Great Salt Lake for the past 6 years, using federal funding provided by the USEPA. The final funding package for USEPA will expire in 2016 and DWQ aims to continue the program as a state sponsored program. The primary purpose of the wetland program is to develop and apply standards that protect wetland water quality and support permit limits for regulated entities that discharge to wetlands or waters upstream of wetlands (e.g. Jordan River). Utah is required under the Clean Water Act to protect wetlands, as well as rivers, streams and lakes. The standards used to protect other waters are not applicable to wetlands. In many cases, water quality standards can be more flexible and less strict in wetlands than other waters. However, such standards need to be fully developed into rule to ensure protection of wetland systems and to issue defensible permits.

Thus, DWQ will build on the work completed under the EPA Wetland Program Development Grants to develop and apply a framework for wetland water quality standards that is scientifically-credible, in alignment with resource management goals across DNR and DEQ, integrated in scope, and generated through a transparent and participatory process with stakeholders and researchers. Significant progress has been made in development of water quality standards. The focus of the program moving forward will be to monitor and assess wetlands using the tools that have been developed over the past 6 years.

DWQ request these funds from the Sovereign Land Restricted Account which is largely funded by industries that rely on Great Salt.

What specific activities would this fund or support? How will these activities support the overall system, program, or activity?

The activities to be funded under the new state sponsored wetland program will focus on standards development, monitoring, and assessment of water quality in wetlands using tools that were developed with support from previous grants. We have requested one-time funds to finalize the water quality standards architecture and proceed with rule making and on-going funds for monitoring and assessment. Ongoing monitoring and assessment is critical to protecting valuable wetland habitat and in developing defensible permits for facilities that discharge to wetlands. In addition to the match shown below, DWQ will continue to leverage other funding available from the Water Quality Board and EPA in support of these efforts. To keep on-going costs at a reasonable level, DWQ proposes an alternating schedule of GSL wetlands monitoring.

One-time Costs

Task/Item	Unit Cost	Units	Requested from Sovereign Lands Restricted Fund	UDWQ Match*	Total Budget
Facilitated Workshops	$10,000	Workshops	$30,000	$10,000	$40,000
Development of Water Quality Standards Architecture	$122,384	1	$92,788	$30,596	$122,384

Total	$122,788	$40,596	$162,384

*UDWQ match will be accounted for by laboratory services (water chemistry) paid by direct state appropriation, matching watershed-based supporting funds, and direct in-kind cash match as appropriate.

On-going Costs (FY2017 – FY2023)

Task/Item	Unit Cost	Units	Requested from Sovereign Lands Restricted Fund	UDWQ Match	Total Budget
Alternating Years – A					
Reference site wetland (12 sites: 4 Fringe + 8 Impounded)	$3,078	12	$34,000	$13,807	$47,807
Impounded wetland monitoring (15 sites)	$2,265	15	$34,000	$13,156	$47,156
Year A Subtotal			*$68,000*	*$26,963*	*$94,963*
Alternating Years – B					
Fringe wetland monitoring (17 sites)	$4,753	17	$68,000	$34,172	$102,172
Year B Subtotal			*$68,000*	*$34,172*	*$102,172*

*Note monitoring costs include labor and laboratory costs for monitoring water chemistry (nutrients, metals, toxics, chlorophyll a), sediment metals and nutrients, vegetation metals and nutrients, and benthic macroinvertebrates.

Is the new program, service, or activity a legislative mandate? If so, please reference the mandate.
No.

What are the anticipated outcomes or results? How do the funded activities align with these results?

1. Defensible and protective water quality standards and assessment methods for Utah's wetlands, recognizing the unique nature of the state's wetlands. DWQ's initial focus will continue to be wetlands surrounding Great Salt Lake that are highly valued by hunters as waterfowl and shorebird habitat.
2. Reporting on wetland health that informs management by multiple agencies and will help fulfill Utah's requirement to report to EPA on the State of Utah's waters.
3. The information from these monitoring stations, coupled with ongoing water sampling by the Division of Water Quality, will also be used to better understand the lake's nutrient dynamics that drive algae blooms and develop a predictive water quality model that will provide the information required to make scientifically based, long term management decisions.

Why is the new system, program, or activity needed? (May include data about current outcomes, new requirements, needs/gap assessment, audit or evaluation of findings, etc.)

This project will result in adoption of newly defined designated use classes, desirable conditions, and standards appropriate to protect the dominant wetland types found in Utah, primarily around GSL. This effort will also result in establishment and adoption of narrative criteria that support wetland designated uses and antidegradation policies for wetlands consistent with R317-2-3. The initial work will be completed over the course of 2 years (2016 – 2018); on-going funds are requested for a total of 7 years to implement the assessment methods against newly derived water quality standards.

This task will also begin to formalize and implement assessment methods and predictive tools that evaluate the effects of programmatic decisions and site-specific projects on GSL wetlands, developed with support from the USEPA. Assessment methods will be used to characterize the degree to which beneficial uses of wetlands are attained, as required by the Clean Water Act and Utah Code R317-2-7.1. Tools include the impounded wetland multimetric index (MMI) and a MMI for fringe wetlands, as well as refinement of monitoring methods established in partnership with UGS that focus on the use of more efficient and accurate tools for wetland assessment.

Will the new system, program, or activity serve a population or meet a need already being served by another agency? How will agency resources and processes be leveraged to improve outcomes?

DWQ is uniquely authorized to protect water quality in wetlands. The population to be served by this program includes those that discharge to wetlands as well as the hunting community around Great Salt Lake.

Currently DWQ and the Department of Natural Resources, Utah Geological Survey are engaged in a joint partnership to characterize the states wetland resources. The partnership was formed in 2009 and the framework for our wetland activities are documented in the Utah's Wetland Program Plan. The Plan outlines our wetland goals and objectives in 5 year increments and is reviewed annually. As part of the plan UDWQ's efforts are to develop wetland water quality standards and build scientific infrastructure to characterize wetland functions and ecological responses to disturbances. DWQ has successfully partnered with DNR on recent efforts to advance research, management, and planning of Great Salt Lake. Key among these efforts are the establishment and staff support of the *Great Salt Lake Advisory Council*, substantial revision to the *Great Salt Lake Comprehensive Management Plan*, establishment of *Utah's Wetland Program Plan*, and coordinated scientific research on the lake and adjacent wetlands through participation in the *Great Salt Lake Technical Team and the Great Salt Lake Ecosystem Program Technical Advisory Group*.

Is the new system, program, or activity an evidenced-based practice or supported by research, data, evaluation, or professional/industry standards? If so, please describe. If not, please describe the logic model or professional/expert opinion.

The tools used to devise defensible water quality standards and assess wetland health of these critical wetlands are built upon monitoring, research, data evaluation and analysis. These tools incorporate the scientific literature, best practices for biological assessment and analyses, quality assured data and a stakeholder engaged science review process. The resulting assessments are evidence based and any permit decisions would also be based on what is required to protect wetlands, using the best available science.

Have outcomes/results been achieved by the same or similar programs or services in Utah or elsewhere? If so, what are the results?

Yes. The approach proposed for the protection of wetlands is parallel to the approach that is currently in place for Utah's streams, rivers, and lakes. It includes establishment of beneficial uses, development of water quality standards specific to those uses, assessment against the standards using monitoring data, and interpretation of the standards into permits for discharges to wetlands.

List the data measure(s) that will be used to track outcomes/results. Will evaluation planning take place? If so, what are those plans?

Outcomes and results will be tracked in DWQ's biennial Integrated Report on the State of Utah's waters. Additionally, monitoring is tracked by the Utah State Laboratory and DWQ's data manager responsible for quality assurance. Standards development will require approval by the Water Quality Board and will be tracked through the rule making process.

DWQ's wetland goals and objectives are reviewed annually as part of Utah's Wetland Program Plan. Implementation, reporting and review are done in collaboration with state and local natural resource agencies and stakeholder groups such as the GSL Technical Team, Phragmites Committee, GSL Duck Clubs and the Jordan River Farmington Bay Water Quality Council.

FY 16 / FY 17 MODEL BUSINESS CASE

Request Title: Spill Coordinator
Invited: ☐ Yes ☒ No
Amount Requested: $120,900
FTE Requested: 1
Duration of Funding: ☐ FY 2016 one-time ☐ FY 2017 one-time ☒ FY 2017 on-going
(check all that apply)

Background

What system or program is the focus of the request? (Provide a brief description of system or program to include overall goal, major functions, federal or state requirements, etc.) How does the request align with the agency's core mission? Why does this activity constitute a proper role of state government or what market failure justifies government intervention?

The Division of Water Quality's mission is to protect, maintain and enhance the quality of Utah's surface waters and groundwater to allow appropriate beneficial uses and protect public health. Unfortunately, pollutant spills into Utah's waters are a routine occurrence across the state and often threaten human health and water quality. On average, the Division responds to 5 to 10 spills per month of varying sizes. Response to spills often requires monitoring, investigation, and sometimes enforcement. The numbers of spills are expected to increase as our population increases.

The DWQ has historically managed the spill of pollutants to waters of the state by distributing the spill management duties over 6 staff that already carry full workloads. As a result, many spills have not been fully resolved and remain open in the environmental spill tracking database: http://eqspillsps.deq.utah.gov/. The DWQ recognized the need to manage spills more efficiently, and has recently created a new Spills Coordinator position and hired a FTE whose primary responsibility is to appropriately address spills, track, and close out the incidents. This FTE is currently funded with vacancy savings which cannot be sustained beyond FY16.

The DWQ has proposed a SUCCESS project which will demonstrate the effiencies gained by the continued funding of the FTE as the Spill Coordinator. DWQ will establish the previous two years of baseline data which will identify the historic time to close a spill. Beginning in November 2015, DWQ will collect baseline data with the Spill Coordinator position in place. In the past 5 years, 279 spills have been reported to DWQ of which 84 have been closed. Since filling the Spill Coordinator position with a full FTE, DWQ has closed an additional 20 spills and effectively responded to the Gold King Mine incident. We are confident that we will see gains in shortened time to resolve spills with continued funding of this position.

Legislative Changes: Agencies must coordinate all legislation through the Governor's general counsel. Please summarize any legislation needed in conjunction with this incremental budget change request.

X Check here if no legislative changes are required.

Justification: What are the presenting issues that funding is intended to address? *(mark yes/no for each)*

Add capacity to meet growing demand and/or improve quality for an existing system or program? ☒ Yes ☐ No
(If yes, please complete Option 1)

Invest in a new program, service, or activity? ☐ Yes ☒ No
(If yes, complete Option 2)

Other needs? ☐ Yes ☒ No
(If yes, complete Option 3)

Based on the choices selected above, fill out one or more of the justification options that follow. Any that are not utilized may be deleted. ***For invited requests****, you do not need a detailed response to every question. Instead, you may provide a brief justification for the option(s) that best explain the need for the budget change.* ***For non-invited requests****, you must reply to ALL applicable questions in the question and answer format.*

OPTION 1: Capacity / Quality of Existing System

Is the system currently reporting in SMIS (SUCCESS Management Information System)? If yes, describe SMIS measures and trends. If no, skip to next question.

DWQ has proposed spill response as a SUCCESS project but it is not yet active in SMIS.

If the system is not currently reporting into the SMIS system or for non-cabinet agencies not participating in the SUCCESS initiative, please answer the following questions. (Your GOMB OE consultant is available to assist in answering the questions.)

- What is the goal of the system, program, or activity?

  The DWQ Spill Coordinator is the over-arching lead on all spills that impact or have the potential to impact waters of the state. The position will work closely with staff from the Division of Environmental Response and Remediation that manage a broader set of incidents state-wide. The job duties include, receiving notice of incidents, coordinating activities and resources within DWQ or other agencies (e.g. monitoring crews, field investigations, enforcement, data analysis, etc.), working with other staff within DWQ to determine the appropriate response and clean-up activities, pursuing enforcement actions if appropriate, and ultimately closing out the spill in the DEQ Incident Database.

- What is the system, program, or activity throughput (volume of completed work the system produces)?

  The throughput is the number of days it takes to close a spill that either requires enforcement or does not require enforcement.

- What are the quality measures(s) for the system, program, or activity?

  The quality measure is the number of days it takes to make the decision whether to enforce or not, and the number of days it takes to close the spill in the Incident Database. DWQ's targets are to make an enforcement decision within 7 days, close spills that require enforcement within 60 days, and close spills that do not require enforcement within 30 days. For comparison, at the time we hired a full-time Spill Coordinator, there were 195 spills within the past 5 years that had not been closed.

- What is the most recent fiscal year budget or operating expenses for the system, program, or activity and does the figure include one-time funding?

  The Spills Coordinator FTE is funded from vacancy savings for FY16 in the total amount of $125,000. DWQ does not have any general fund money allocated to this position.

- Do the above measures have an existing baseline to track against future performance? If so, please provide.

  DWQ will establish the previous two years of baseline data which will identify the historic time to close a spill. Beginning in November 2015, DWQ will collect baseline data with the Spill Coordinator position in place. We are confident that we will see gains in shortened time to resolve spills with continued funding of this.

What is the critical activity, position, or function the funding is targeting?

The funding will support the Spill Coordinator Position in DWQ beginning in FY17. Funding of this position will ensure that DWQ is able to continue to meet its core mission as it relates to spills, to efficiently manage spill events that impact waters of the state, complete more enforcement actions for which penalties are contributed to the general fund, and to be responsive to the public by closing out and adequately addressing spills.

What previous improvement efforts or strategies have been used to improve quality or throughput? (GOMB may ask for documentation.)

DWQ recognized that the historical management of the spill program by distributing the load across 6 staff members was not efficient or effective. As a result, a FTE was hired with the primary responsibility of managing the spills program. This position is funded with vacancy savings through FY16. Through a proposed SUCCESS project, DWQ anticipates demonstrating that the addition of the FTE is directly related to improved management of spills across the state by addressing and closing them out in a timely manner.

Is the volume or demand for services expected to increase? (As opposed to seasonal fluctuations or temporary backlogs)

As the population across the state rises, and the demand for petroleum products produced and refined in Utah grows, the volume of spills is expected to continue to increase.

Are there other areas of the organization that can help resolve the need for more capacity? (Redeployment of staff, etc.)

No. All of DWQ's existing staff resources are allocated. In 2013, as part of a continuous improvement evaluation, DWQ completed a Kaizen of the existing Spill Program. This evaluation was undertaken with stakeholders from the Division of Oil, Gas, and Mining, Tri-County Health Department, and other divisions within DEQ. The Kaizen identified that in order to improve management of spills, DWQ needed one individual as the overarching lead. Previously, DWQ had 6 staff members who in addition to sharing the responsibility of the spill program, collectively managed 290 permits and 7 Clean Water Act Programs for the state.

How will the potential funding be used to maximize capacity to meet growing demand and/or increase the quality of the service?

Spill events reported in Utah are expected to increase as our population and demand for petroleum products increases. By funding the spills coordinator position, whose primary responsibility is to address and close out spills that impact waters of the state, DWQ will be able to continue to operate the spills program efficiently. By continuing to fund a position that is primarily responsible for management of the spill program, it will allow existing staff to effectively manage the increasing number of UPDES permits and programs within DWQ.

State of Utah

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Department of
Environmental Quality

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Executive Director

DIVISION OF WATER QUALITY
Walter L. Baker, P.E.
Director

MEMORANDUM

TO: Water Quality Board

THROUGH: Walter L. Baker, P.E.

FROM: Sandy Wingert
Watershed Protection Section

DATE: October 14, 2015

SUBJECT: Development of a Temperature Total Maximum Daily Load Study for Nine Mile Creek

The Division of Water Quality is developing a Total Maximum Daily Load (TMDL) Study for Nine Mile Creek and tributaries. This study is being conducted to address temperature exceedances which resulted in 303(d) listing of the creek.

Staff will present an overview of the TMDL development strategy, analyses completed to date, and a timeline for completion to the Water Quality Board during the meeting scheduled for October 28th, 2015.

Intensive monitoring efforts began in 2008 throughout the watershed in an effort to better understand extent of temperature exceedances and to help determine sources followed by two stakeholder meetings in 2014 and 2015 to share results.

Watershed Location

The Nine Mile Creek watershed is located in northeastern Utah in Duchesne and Carbon Counties and drains into the Green River. Elevation ranges from 5,000 ft at the confluence of Nine Mile Creek and the Green River to over 10,000 ft at the north-east border of Argyle Canyon and Antelope Canyon. Bureau of Land Management and private landowners manage the majority of the watershed at 63% and 25% respectively. Irrigation practices make up 50% of all the water-related land uses in the watershed.

Impairment

Nine Mile Creek, from the confluence of the Green River to headwaters, and all its tributaries are listed on Utah's 2000 Section 303(d) list of impaired waters for elevated water temperature and not being protective of its designated use of cold-water aquatic life (3A). Nine Mile Creek watershed is also listed on the 2014 303(d) list for failing to protect its cold-water aquatic life use due to exceedances in aluminum, copper, zinc, cadmium, and lead. This TMDL study, however, focuses solely on the temperature impairment.

Approach

Under the scope of the Federal Clean Water Act (CWA) states assess water quality and identify impaired waters (303(d) list). The purpose of developing TMDLs for these impaired waters is to develop a locally led strategy to restore, protect, and maintain the quality of waters of the state for their designated beneficial uses. It is the Division of Water Quality's policy to develop plans and strategies through a locally led, collaborative process with the Nine Mile Creek watershed stakeholders.

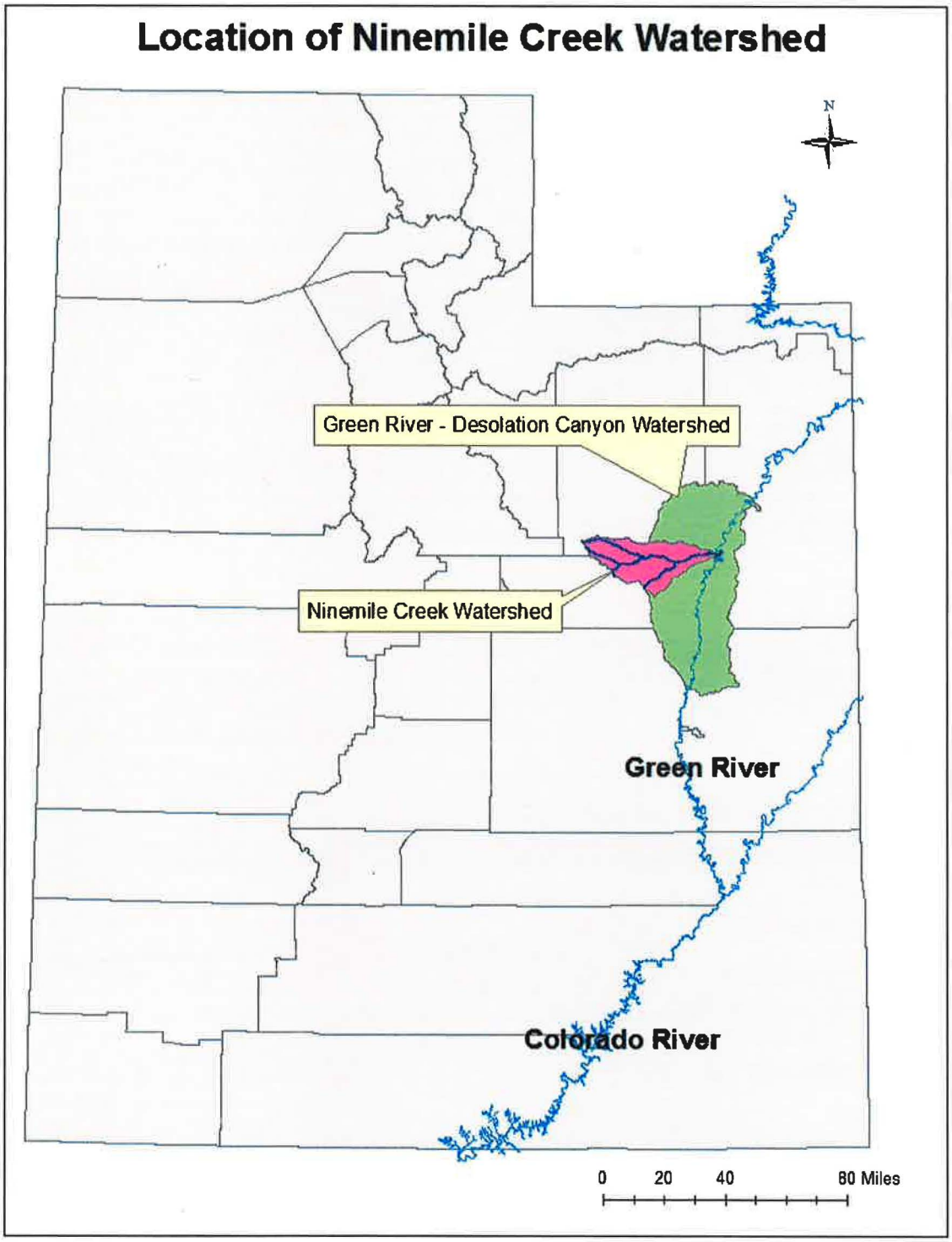
Management plans or TMDLs contain assessments pertinent to the defined beneficial uses, discussions of water quality standards associated with those beneficial uses, determinations of loading capacity of impaired waters, calculations of excess pollutant loads, designation of all significant sources of the pollutant and an allocation for reduction of excess pollutant loads. The load evaluation includes both point and nonpoint sources in addition to defining a margin of safety due to uncertainties related to the development of the TMDL.

The results of a GIS-based modeling effort support the development of a TMDL for the upper part of the watershed while a designated use change is warranted for the lower reaches. Lower sections of Nine Mile Creek regularly exceed the cold-water fisheries temperature standard of 20° C due to natural and uncontrollable conditions which is also supported by fish surveys that do not show any presence of cold water species such as trout. Staff recommends changing the lower reaches from a cold water fishery designated use to a warm water fishery use.

Following the water quality analysis, a project implementation plan will be prepared for the TMDL. The project implementation plan will outline a strategy to decrease water temperature where feasible, attain water quality standards, and restore the river to supporting status. It will include an evaluation of the existing BMPs and completed implementation projects in the watershed. The implementation plan, in conjunction with portions of the TMDL, will include the 9 key elements identified by the EPA that are considered critical for achieving improvements in water quality and obtaining 319 funds. These elements will help provide reasonable assurance that the non-point source load allocations identified in the TMDL will be achieved.

Schedule

The TMDL water quality study began in the 2008 with the first intensive monitoring effort. Nine Mile Creek stakeholders have met annually since 2014 to help determine the best path forward. Water quality data have been analyzed and modeled to determine the extent of the impairment. Watershed characterization and a model report are being developed. A draft TMDL Report and Implementation Plan will be completed and posted for public review by February 2016.


Location of Ninemile Creek Watershed
N
Green River - Desolation Canyon Watershed
Ninemile Creek Watershed
Green River
Colorado River
0
20
40
80 Miles