

MEMORANDUM

To: MCWD Board of Managers

From: Craig Dawson, Director of Research and Monitoring

Date: December 10, 2015

Re: 2016 Work Plans – Research and Monitoring Division

Purpose:

This memorandum provides a summary of all work plans under the Research and Monitoring Division including a brief description of program activities, a list of notable changes (>\$10,000) from the previous year's budget, and a summary of the overall budget and levy impact as compared to the previous year. Work plans summarized in this memo include the following:

Water Quality
 E-Grade
 Fund 5001
 Fund 5002 (new)

• Lake Nokomis Project Fund 5003 (moved from capital projects)

Joint Watershed Research Grant Program
 Aquatic Invasive Species (AIS)
 Research and Monitoring General Operations
 Fund 5005
 Fund 5006 (new)

Summary:

The 2015 work plans and budgets for the Water Quality and Aquatic Invasive Species (AIS) programs were prepared separately prior to the formation of the Research and Monitoring Department later in the year. The 2016 work plans and budgets have been developed to reflect these programs integrated in one department, with the most noticeable change being the creation of a fund for shared general operation expenses of the Water Quality and AIS programs (and subsequent reductions in their respective program funds). Research and Monitoring has also identified \$46,700 in expenses to be reassigned to District General Operations for, information technology, vehicle expenses and the like in 2016.

The Water Quality programs will continue in the array of projects that are being performed. Efforts will be increased in the development of the E-Grade program. During the development of E-Grade thus far, additional monitoring and data gathering beyond what the District has historically performed has been identified. Baseline monitoring will shift to the Phase 2 areas (northern upper watershed) of the watershed district in 2016.

The AIS program remains "adaptive management in progress", although most activities and baseline data-gathering would be continued into 2016. AIS staff will continue the higher-level monitoring to the post-rapid response to the zebra mussel infestation at Christmas Lake detected in August 2014, and which was confirmed as established in October 2015. The District will continue to pursue establishment of a staffed watercraft inspection/decontamination facility; a self-inspection certification program; a home-lake program; and other initiatives as opportunities arise. Research funds in the 2015 workplan would be repurposed in 2016 and 2017 with the Minnesota AIS Research Center to test and evaluate products and

the ways they can be used to control zebra mussel populations. The AIS District Representative position (20 months, without benefits) in the 2015 budget would be transitioned to a regular full-time staff position.

Notable Changes (>\$10,000) for 2016:

*Note. All changes listed below are specific line items within program or project areas that are proposed to change in 2016 by more than \$10,000. Line item changes within program areas greater than \$10,000 do not necessarily mean a change to the bottom line budget for that program. These changes may reflect a shift in emphasis or priority within a specific program without change to the program's total budget.

Other line item specific changes below \$10,000 are not listed. The total proposed budget change in each program area (including those less than \$10,000) is depicted in the summary spreadsheet on the final page of this memorandum.

E-Grade development

 Increase in consultant services as planned for 2016 in approved scope of work

 E-Grade development, contingency for expenses

 \$50,000 included in approved cost for program development;
 \$20,000 will be used in 2015; \$30,000 for availability in 2016

Joint Watershed Research Grants (JWRG)

Close-out of existing fund balance
 The JWRG would be de-funded in 2016, and could be re-funded in future years if deemed warranted

AIS

• Watercraft Inspections + \$15,000 Cost-share grants and roaming inspectors (7% increase)

-\$100,000

Water Access Improvement Grants

None of the \$75,000 in the 2015 workplan was expended for this program to provide signage and facilities to provide prompts for persons launching boats at public accesses to remove potential AIS. This activity would be funded over 2016-2017, with \$35,000 available in 2016.

Clean Boats Program

 Reduce number of planned fixed-site inspection/decontamination facilities from two through District grants/contracts to one for the

Initiative Foundation grant

• AIS Self-Inspection Certification and Home Lake Programs for watercraft
Self-inspection certification in 2015 work plan for \$5,000; add \$5,000
for 2016. New Home Lake Program for \$10,000.

Lake Minnetonka Zebra Mussel Study
 Study conducted in 2011-2014, with follow-up monitoring and evaluation planned every two years thereafter (beginning in 2016)

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AIS Management and Innovation Cost-share Program

No requests for funding have been received; County funding is now available for interested parties

- \$20,000

Outreach Activities
 Reduction from \$50,000 to \$10,000

 Early Detection/Baseline Monitoring
 Use one crew instead of two crews as budgeted in 2015

 Flowering Rush Removal
 This on-going effort in Lake Minnetonka would be suspended one year

 AIS Research
 Repurpose \$50,000 for additional economic study in 2015 for study for zebra mussel controls with U of MN for \$20,000 in 2016 and \$20,000 in 2017

R & M General Operations

• Legal expenses - \$15,000

Relocated Funds

• Personnel + \$288,008

At the Board's request, all personnel costs that were previously included in the General Operations budget were relocated to the program budgets. This is a simple relocation of a budgeted line item and represents zero overall impact to the District's budget.

• Vehicles and Maintenance - \$23,000

Vehicle expenses will be relocated to the General Operations Fund (1002) for District fleet vehicles. This is a simple relocation of a budgeted line item and represents zero overall impact to the District's budget.

• IT Services - \$13,700

\$13,700 was to be relocated to the IT Fund (1003) for collective development of GIS mapping and database needs. Database development has now been post-poned until 2017.

Financial Implications

See following page.

Financial Implications:

The table below is an executive summary of the proposed 2016 budget and levy as compared to 2015:

Program	2015 Budget	2015 Levy	2016 Budget	2016 Levy
Water Quality	\$ 638,193*	\$ 396,447	\$ 412,516	\$ 412,516
E-Grade	**	**	\$ 333,522	\$ 333,522
Lake Nokomis Project	\$ 12,700	\$ 9,000	\$ 10,300	\$ 10,300
JWRG	\$ 100,000	\$ 0	\$ 0	\$ 0
AIS	\$ 831,900	\$ 305,517	\$ 628,388	\$ 345,708
R & M General Operations	***	***	\$ 96,900	\$ 96,900
Total	\$ 1,582,793	\$ 710,964	\$1,481,626	\$ 1,198,946

^{* =} Revised 2015 budget expenses

Note: The entire \$116,300 balance remaining in the JWRG fund at 2015 year-end is being transferred to the Highway 101 Causeway Project.

The budgets and levies are difficult to compare from 2015 to 2016 due largely to the change in showing all salaries and payroll expenses in the program budgets in 2016.

^{** =} Included in 2015 Water Quality budget and levy

^{*** =} Included in 2015 Water Quality and AIS budgets and levies

PREPARED BY: Yvette Christianson, Kelly Dooley & Kailey Kreatz

DATE: December 10, 2015

Program	Research and Monitoring: Water Quality Program (5001)
Summary	The Water Quality Program monitors the water resources throughout the watershed, identifies stressors and key resource areas that will assist the Planning Department in project development and provide the Communication Department with information to relay to the public.
Location	District-wide
Description	Two Track Approach: Geographic Focus
	Anchor Site Monitoring (\$42,607): Long-term water quality data collected on anchor monitoring sites on lakes (32 lake sites) and streams (approx. 33 stream sites).
	Subwatershed Monitoring (\$8,940): Additional monitoring in lakes and, wetlands for E-Grade in the Phase I areas (upper Minnehaha Creek). See contracted services for additional subwatershed monitoring costs.
	Two Track Approach: Responsiveness and Flexibility
	Volunteer Monitoring Program (\$2,060): Recruit, train and manage new and current volunteers interested in monthly lake and/or precipitation monitoring throughout the watershed.
	Investigational Monitoring (\$5,000): Responsiveness and flexibility to accommodate other programs (i.e., Planning – pre-and post-project monitoring and Permitting - illicit discharge) and the public water quality concerns.
	Contingency Monitoring (\$15,000): Responsiveness to high flow year, unexpected equipment failure/replacement, and unplanned monitoring costs.
	Contracted Services
	Subwatershed Monitoring (\$20,250): Staff time is allocated to other monitoring responsibilities; therefore, contracted services has been selected to conduct wetland plant identification and sediment geochemistry data for the E-Grade Program.
	Misc. Contracted Services (\$10,000): Additional services as needed.
	USGS Gauge Management (\$15,700): Partnership with USGS to collect, manage, and publish data at two locations: Lake Minnetonka at the Grays Bay Dam and at Minnehaha Creek near Hiawatha Avenue.

Water Resources Data Management/Analysis Software and Annual Support Fee (\$0): The WISKI software allows staff to store, verify, edit and analyze different types of data, such as, water flow, water level, precipitation, nutrient and biological data. The analysis capabilities of the tool allows staff to conduct statistical analysis and trend analysis of the data in-house. Research and Monitoring Department plans to purchase the Water Resources Data Management/Analysis software (WISKI) in the Fall 2015. If not, then the plan is to use any remaining 2015 funds to purchase the software and pay the annual support fee in the Spring 2016*.

Other Services

Engineering/Consulting (\$5,000): Services needed to provide additional monitoring and/or equipment installation.

2016 Budget Summary:

Activity/Expense	Budget	
Anchor Monitoring		\$42,607
Subwatershed Monitoring		\$8,940
Volunteer Monitoring Program		\$2,060
Investigational Monitoring		\$5,000
Contingency Monitoring		\$15,000
Contracted Services: Subwatershed Monitoring		\$20,250
Misc. Contracted Services		\$10,000
Contracted Services: USGS Gauge Management		\$15,700
Water Resources Data Management/Analysis Software		\$0
and Annual Support Fee		
Purchased with available funds from 2015 fiscal year		
Engineering/Consultant		\$5,000
Subtotal		\$124,557
Wages, PERA, and payroll taxes		\$287,959
	Total	\$412,516

Goals/ Outcomes

To assist the Planning Department with project development:

- Collect and analyze water and biological data to assess watershed function and condition (i.e., E-Grade Report)
- Identify long term trends and stressors
- Determine if waterbodies are meeting the nutrient goals and/or standards

To assist the Communication Department with public education and awareness:

• Analyze and grade the ecosystem features and function in each subwatershed, then package the information into an E-Grade report

Provide data and/or technical expertise to:

- Local, County and/or State government agencies
- Universities
- Lake and stream associations
- Citizens

Schedule

2016:

January - March: Complete the 2015 annual monitoring and technical reports, prepare for field work, and continue to work on any additional project management.

March - October: Monitoring streams and lakes, conducting macroinvertebrate and wetland surveys, fish index of biological integrity, sediment geochemistry analysis, and continue to work on any additional project management.

November - December: Data entry for annual monitoring and technical reports, monitoring streams for chloride, submittal of data to state agencies, and continue to work on any additional project management.

Budget/Levy History

Year	Budget	Tax Revenue	Grants & Other Rev.	Expenditures	Transfer in/out	Carryover	Assigned Funds
2014	\$328,358	\$315,961	\$0	(\$294,037)	\$0	\$225,440	
2015	\$547,753	\$396,447	\$0	(\$638,193)	\$16,306	\$0	
2016	\$412,516	\$412,516	\$0	(\$412,516)	\$0	\$0	

Recommended 2016 Budget and Levy

Budget: \$412,516 Levy: \$412,516

Activity Code	Activity Name	Amount
4010	Wages, PERA, and payroll taxes	\$287,959
4011	Wages-Overtime	
4018	Salary – Insurance Reimbursement	
4020	Payroll Tax Expense	
4035	Unemployment Reimbursement	
4040	PERA Expense	
4050	Benefits	
4060	Staff Mileage/Expenses	
4065	Staff Training	
4066	Staff Tuition Benefit	
4110	Manager Per Diems	
4120	Manager Expenses	
4125	Manager Computer/Software	
4130	Manager Dues/Subscriptions/Internet	
4210	Office Supplies	
4215	Meeting Expense	
4220	Furniture & Fixtures	
4222	Vehicle Expense	
4230	Printing/Publishing/Postage	
4240	Telecommunications -Cell/internet	
4245	Special Events	
4247	High Water Restoration	
4248	FEMA Expense	
4250	Dues & Subscriptions	
4265	Rentals-Building & Equipment	
4280	Insurance	
4292	Bank/Agency Fees	
4295	Other/Miscellaneous	
4320	Contract Services	\$ 49,950
4330	Accounting & Auditing	
4340	Engineering/Consulting	\$ 5,000
4350	Legal Expense	
4390	CAC Expense	
4520	Monitoring/Lab Analysis/Inventories	\$ 73,607
4530	Permit Acquisition	
4540	Property/Easement Acquisition	
4550	Construction	
4565	Property Management - CBRE	
4566	Tenant Relocation - CBRE	
4570	Equipment/Supplies	
4575	Repairs/Maintenance	
4594	Debt Service-Principal	
4595	Debt Service-Interest	
4600	Grants/Awards/Loans - Given by MCWD	
4651	Issuance Cost	
4962	Office Bldg. Maintenance	
4963	Office Building Utilities	
.,, 00		TOTAL \$412,516

PREPARED BY: Yvette Christianson & Kelly Dooley **DATE:** December 10, 2015

Program	Research and Monitoring: Ecosystem Evaluation (E-Grade) Progr	am (5002)
Summary	The Ecosystem Evaluation (E-Grade) Program is being developed scientifically defensible, ecosystem evaluation tool to assess ecolo and services on a graded scale throughout the watershed.	
Location	District-wide	
Description	Contracted Services (\$207,000): The third year of the Ecosystem Evaluation Program focusing on next set of features: Terrestrial, Groundwater, and Hydrology Identify key features of health and ecosystem services Identify appropriate metrics and indices Update datasets and fill data gaps Follow up meetings with Partners and Consultant Develop Grade Break Point Test scoring system Contingency Services (\$30,000): Costs related to unforeseen E-Grade Program activities and expenses. Legal Expense (\$5,000): Costs for continuing services with Smith Partners in the processing and finalizing of the E-Grade Program. Printing/Publishing/Postage (\$5,000): Communication services to promote and prepare the public and municipalities for the introduction and rollout of the first subwatershed report card.	
	Activity/Expense	Budget
	Contracted Services	\$237,000
	Legal Expense	\$5,000
	Printing/Publishing/Postage	\$5,000
	Subtotal	\$247,000
	Wages, PERA, and payroll taxes	\$86,522
	Total	\$333,522
Goals/	Develop a water quality index	
Outcomes	 Evaluations of the ecological features and their performar control, biodiversity habitat diversity, recreation, drinking and nutrient cycling within the lower Minnehaha Creek, Six Mile Marsh subwatersheds. Create a comprehensive report that grades the health of the 	g water supply, Schutz Creek, and

	ecosystem.
	 Focus management strategies in the areas identified as high-need for
	improvement or protection.
	Build understanding of the various factors that impact the health of the
	water bodies and other ecological features.
Schedule	2016:
	Winter - Spring: Identify ecosystem services and key health indicators for
	terrestrial, groundwater, and hydrology; Review literature studies to develop break
	points, statistics, reference sites, and other pertinent data for terrestrial,
	groundwater, and hydrology; Test scoring system in streams and wetlands;
	<i>Spring - Summer:</i> Investigate appropriate metrics and available data for metric assessment for terrestrial, groundwater, and hydrology; Follow up meeting with partners and consultants for terrestrial, groundwater, and hydrology; Present preliminary scores and stressors to TAC; Final meeting with partners and Board to present final analysis and report for deep and shallow lakes; Finalize grading process and publish technical paper for streams and wetlands;
	Summer - Fall: Update datasets and fill data gaps;
	<i>Fall - Winter:</i> Final meeting with partners and Board to present final analysis and report for streams and wetlands; Develop grade break point and test scoring system for terrestrial, groundwater, and hydrology; Follow up meeting with partners and consultants.

Budget/Levy History

Year	Budget	Tax Revenue	Grants & Other Rev.	Expenditures	Transfer in/out	Carryover	Assigned Funds
2014							
2015							
2016	\$333,522	\$333,522	\$0	(\$333,522)	\$0	\$0	

Recommended 2016 Budget and Levy
Budget: \$ 333,522
Levy: \$ 333,522

Activity Code	Activity Name	Amount
4010	Wages, PERA, and payroll taxes	\$86,522
4011	Wages-Overtime	
4018	Salary – Insurance Reimbursement	
4020	Payroll Tax Expense	
4035	Unemployment Reimbursement	
4040	PERA Expense	
4050	Benefits	
4060	Staff Mileage/Expenses	
4065	Staff Training	
4066	Staff Tuition Benefit	
4110	Manager Per Diems	
4120	Manager Expenses	
4125	Manager Computer/Software	
4130	Manager Dues/Subscriptions/Internet	
4210	Office Supplies	
4215	Meeting Expense	
4220	Furniture & Fixtures	
4222	Vehicle Expense	
4230	Printing/Publishing/Postage	\$5,000
4240	Telecommunications -Cell/internet	+0,000
4245	Special Events	
4247	High Water Restoration	
4248	FEMA Expense	
4250	Dues & Subscriptions	
4265	Rentals-Building & Equipment	
4280	Insurance	
4292	Bank/Agency Fees	
4295	Other/Miscellaneous	
4320	Contract Services	\$237,000
4330	Accounting & Auditing	\$237,000
4340	Engineering/Consulting	
4350	Legal Expense	\$5,000
4390	CAC Expense	\$3,000
4520	Monitoring/Lab Analysis/Inventories	
4530	Permit Acquisition	
4540	Property/Easement Acquisition	
4540	Construction	
4565	Property Management - CBRE	
4566	Tenant Relocation - CBRE	
4570	Equipment/Supplies	
4575	Repairs/Maintenance	
4594	Debt Service-Principal	
4595	Debt Service-Interest	
4600	Grants/Awards/Loans - Given by MCWD	
4651	Issuance Cost	
4962	Office Bldg. Maintenance	
4963	Office Building Utilities	

PREPARED BY: Kelly Dooley **DATE:** December 10, 2015

<u>Project</u>	Lake Nokomis – Biomanipulation of the Fish Community (50	003)
Summary	Third year of post-biomanipulation project monitoring in Lak	ke Nokomis
Location	Lake Nokomis	
Description	Background: In 2010, the Minnehaha Creek Watershed District (MCWD) a Science with cooperation from the Minnesota Department of (MnDNR) and Minneapolis Park and Recreation Board (MPF four-year biomanipulation study to improve the water quality order for the lake to meet the eutrophication standards. During those 4 years, the study observed improvements in the the aquatic plant community and in the water quality of the lathird year after the biomanipulation was completed. The plan summer of monitoring to assess the sustainability of the impricate Nokomis. Carp in Lake Nokomis is still a concern. If carp continue to reecologically sustainable levels, the carp can reverse the impricate Nokomis. MPRB applied for Environment and Natural grant (ENRTF) in 2015 to conduct applied research on carp in Subwatershed in 2017. In the meantime, Blue Water Science movement into/out of Lake Nokomis and Justine Koch, Unividonating time to conduct electrofishing survey in Lake Nokom ea second snapshot within two years of the carp population Engineering/Consulting (\$10,300): Costs to conduct post-praquatic plant survey, fish survey), summary report and prepar manuscript to a scientific journal. *Note: No funds were budgeted and spent on manuscript pub Water Science, at no charge, will inspect the inlet/outlet of La of carp activity; and MPRB monitoring staff will conduct the monitoring in Lake Nokomis 2016 Budget Summary:	Natural Resources RB) embarked on a rin Lake Nokomis in the fish community, in the 2016 will be the ris to conduct a third roved conditions in the Lake Nokomis is assessing carpersity of Minnesota, is mis. The survey will in Lake Nokomis. Toject monitoring (i.e., re and submit the lake Nokomis for signs water quality
	Activity/Expense Engineering/Consulting	Budget \$10,300
	Engineering/Consulting Total	\$10,300 \$10,300
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Goals/ Outcomes	The biomanipulation project was developed to reduce internal loading activities in Lake Nokomis, and to develop and sustain healthy fish and vegetation
	communities. See the excerpts of sections in the Minnehaha Creek Subwatershed Plan of the Comprehensive Water Resources Management Plan below:
	1) Section 3.1 - Problems and Issues - Water Quality: The District was preparing the TMDL study to address reducing phosphorus into and/or in Lake Nokomis
	2) Section 4.2: Goal 2: Ecological Integrity – Goal 2.2: Maintain conditions suitable for healthy and varied sport fish communities within the primary lakes of the subwatershed
	3) Section 4.3: Goal 3: Water Quality – Goals 3.1 and 3.2: Partner with the Minneapolis Park Board and City of Minneapolis to investigate and implement potential internal load reductions identified in the Lake Nokomis TMDLs, and manage aquatic vegetation in accordance with a vegetation management plan that takes into account water clarity goals
Schedule	2016 January - June: Preparing for monitoring activities
	July: Conduct aquatic plant survey, fish survey and inspect inlet and outlet for carp movement
	August - December: Prepare summary report and manuscript for publication

Budget/Levy History

Year	Budget	Tax Revenue	Grants & Other Rev.	Expenditures	Transfer in/out	Carryover	Assigned Funds
2014	\$3,700	\$0	\$0	(\$7,400)	\$3,700	\$0	
2015	\$12,700	\$12,700	\$0	(\$12,700)	\$0	\$0	
2016	\$10,300	\$10,300	\$0	(\$10,300)	\$0	\$0	

Recommended 2016 Budget and Levy
Budget: \$10,300
Levy: \$10,300

Activity Code	Activity Name	Amount
4010	Wages	
4011	Wages-Overtime	
4018	Salary – Insurance Reimbursement	
4020	Payroll Tax Expense	
4035	Unemployment Reimbursement	
4040	PERA Expense	
4050	Benefits	
4060	Staff Mileage/Expenses	
4065	Staff Training	
4066	Staff Tuition Benefit	
4110	Manager Per Diems	
4120	Manager Expenses	
4125	Manager Computer/Software	
4130	Manager Dues/Subscriptions/Internet	
4210	Office Supplies	
4215	Meeting Expense	
4220	Furniture & Fixtures	
4222	Vehicle Expense	
4230	Printing/Publishing/Postage	
4240	Telecommunications -Cell/internet	
4245	Special Events	
4247	High Water Restoration	
4248	FEMA Expense	
4250	Dues & Subscriptions	
4265	Rentals-Building & Equipment	
4280	Insurance	
4292	Bank/Agency Fees	
4292	Other/Miscellaneous	
4320	Contract Services	
4320	Accounting & Auditing	
4340	Engineering/Consulting	\$10,300
		\$10,300
4350	Legal Expense	
4390	CAC Expense	
4520	Monitoring/Lab Analysis/Inventories	
4530	Permit Acquisition	
4540	Property/Easement Acquisition	
4550	Construction	
4565	Property Management - CBRE	
4566	Tenant Relocation - CBRE	
4570	Equipment/Supplies	
4575	Repairs/Maintenance	
4594	Debt Service-Principal	
4595	Debt Service-Interest	
4600	Grants/Awards/Loans - Given by MCWD	
4651	Issuance Cost	
4962	Office Bldg. Maintenance	
4963	Office Building Utilities	ĺ

PREPARED BY: Yvette Christianson **DATE:** December 10, 2015

<u>Project</u>	Joint Watershed Research Grant Program (5004)						
Summary	The goal of the Joint Watershed Research Grant Program is to provide watershed managers and municipalities with needed research, information, and products based on a <i>sound scientific foundation</i> and a <i>favorable economic assessment</i> that could be employed within the Twin Cities geographic area.						
Location	District-wide						
Description	Background: Partnership with Mississippi Watershed Management Organization in funding grants to support research which assesses existing BMPs and standards, provides new tools, advances understanding of water and natural resources, and determines the potential of existing and new management practices. Partnership began in 2008 with each organization contributing \$100,000/year. Four projects were awarded in 2008 and three projects were awarded in 2010, though one of the three was never implemented. There will not be funding available for the Joint Watershed Research Grant Program in 2016. The \$100,000 will be reallocated to the Highway 101 Causeway Project (fund code TBD).						
	Activity/Expense Budget						
	Grants/Awards/Loans \$0						
	Total \$0						
Goals/Outcomes	 Improved methods and tools based on sound research and scientific information to protect and improve the water quality of streams, lakes and rivers. To advance our understanding of water related biological, chemical, and physical systems and their functions and interactions with the built environment. 						
<u>Schedule</u>	2016 January-December: Will not be funded in 2016						

Budget/Levy History

Year	Budget	Tax Revenue	Grants & Other Rev.	Expenditures	Transfer in/out	Carryover	Assigned Funds
2014	\$0	\$0	\$0	\$0	(\$14,125)	\$141,413	
2015	\$100,000	\$0	\$0	(\$25,107)	(\$116,306)	\$0	
2016	\$0	\$0	\$0	\$0	\$0	\$0	

Recommended 2016 Budget and Levy

Budget: \$ 0 Levy: \$ 0

Detailed Budget		
Activity Code	Activity Name	Amount
4010	Wages	
4011	Wages-Overtime	
4018	Salary – Insurance Reimbursement	
4020	Payroll Tax Expense	
4035	Unemployment Reimbursement	
4040	PERA Expense	
4050	Benefits	
4060	Staff Mileage/Expenses	
4065	Staff Training	
4066	Staff Tuition Benefit	
4110	Manager Per Diems	
4120	Manager Expenses	
4125	Manager Computer/Software	
4130	Manager Dues/Subscriptions/Internet	
4210	Office Supplies	
4215	Meeting Expense	
4220	Furniture & Fixtures	
4222	Vehicle Expense	
4230	Printing/Publishing/Postage	
4240	Telecommunications -Cell/internet	
4245	Special Events	
4247	High Water Restoration	
4248	FEMA Expense	
4250	Dues & Subscriptions	
4265	Rentals-Building & Equipment	
4280	Insurance	
4292	Bank/Agency Fees	
4295	Other/Miscellaneous	
4320	Contract Services	
4330	Accounting & Auditing	
4340	Engineering/Consulting	
4350	Legal Expense	
4390	CAC Expense	
4520	Monitoring/Lab Analysis/Inventories	
4530	Permit Acquisition	
4540	Property/Easement Acquisition	
4550	Construction	
4565	Property Management - CBRE	
4566	Tenant Relocation - CBRE	
4570	Equipment/Supplies	
4575	Repairs/Maintenance	
4594	Debt Service-Principal	
4595	Debt Service-Interest	
4600	Grants/Awards/Loans - Given by MCWD	\$ 0
4962	Office Bldg. Maintenance	
4963	Office Building Utilities	
	5	TOTAL \$0
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PREPARED BY: _Eric Fieldseth DATE: _December 10, 2015_

Program	Aquatic Invasive Species (5005)
Summary	The purpose of the AIS Program is to prevent, contain, and control the harmful ecological, human, and economic effects of AIS through broadly diverse methods.
Location	Watershed Wide
Description	Prevention Activities AIS Watercraft Inspection Cost Share and Roaming Inspector Program (\$230,000) These funds would continue our cost-share and roaming inspector program, which offers 50% reimbursement for watercraft inspections done by our partner agencies in the District, as well as fund 100% of a roaming inspector program which provides coverage on waterbodies that otherwise would not receive coverage. Our 2015 budget for this activity was \$215,000, and we foresee spending closer to \$222,500 to cover an expanded pilot program at Christmas Lake that involves more extensive decontamination protocols. An additional \$15,000 would be budgeted in 2016 to further cover this expanded program at Christmas Lake. We would also continue discussions with Long Lake on getting an inspection program started there, as they currently have a limited presence of DNR inspectors.
	Off-Site Inspection/Decontamination Station Pilot (\$45,000) These funds would be available to create an off-site inspection/decontamination station if partners can be identified. Having a fixed site for decontamination would be an important tool for watercraft users, and something the District has been interested in for some time. The concept of having a regional inspection station to pilot is also of interest, it would be voluntary for users, but would be an added convenience if we could incorporate a proof-of-inspection system as well as other incentives for users to take advantage of the station. The District will continue to look for partnerships to pilot this concept.
	Water Access AIS Improvements (\$35,000) This program is available to agencies controlling public accesses in the District in order to facilitate proper cleaning and inspection of watercraft by operators entering and exiting water bodies. Hennepin County's public access on North Arm/Minnetonka is an example of these improvements. It uses social marketing principles in the messaging, and provides prompts for users to perform certain AIS related activities. This program would be split over two years, with \$40,000 to be identified in 2017 to complete the other accesses.
	Self-Inspection Certification Pilot Program (\$10,000) Focuses on recognizing a group of users (typically frequent users) who will demonstrate the steps they take to reduce the spread of AIS and take personal responsibility. In turn, the goal would be to allow these users to bypass the inspection process, and be examples for others to follow. By recognizing these individuals, we are hopeful to gain behavior change in others to follow suit.

Home Lake Pilot Program (\$10,000)

Participants in this pilot would be users who trailer their boats to one lake only in a given season, providing no risk for spreading AIS. The idea for this pilot is to allow these users to bypass the inspection process, and allow prevention efforts to be focused on those users who visit multiple lakes in a season.

Clean Access Pilot (\$5,000)

Experience on Lake Minnetonka has shown that one of the biggest risks of watercraft transporting zebra mussels is when the zebra mussels are attached to aquatic vegetation that attaches to boats and trailers at the boat landing. Vegetation in Lake Minnetonka becomes uprooted frequently either by boats or by natural processes, and often drifts into shorelines and docks such as those at public boat accesses, providing an easy way for vegetation to attach to boats and trailers. Similarly, watercraft inspection data from District lakes in 2014 showed that 93% of the potential AIS found on exiting watercraft was aquatic vegetation that was deemed removable by hand. The goal of this pilot is to manage the vegetation at a sub-set of launches in the District to reduce the amount of vegetation and potential AIS leaving the lake on exiting watercraft. The vegetation could be managed through a number of mechanisms, including the use of lateral barriers; physical, mechanical or chemical control; and creating water flow to move vegetation away from the launch.

AIS Outreach (\$10,000)

Communications are necessarily broad and flexible as needs and opportunities arise. Activities from past consultant work helped identify social marketing strategies and messages for AIS prevention. Social marketing strategies revolve around making desired behavior changes of certain users. Work will be done to implement more of those activities which target specific AIS vectors and pathways through strategic messaging.

Volunteer Monitoring Program (\$3,000)

This program was started in 2015 with good interest from the public, especially in regards to zebra mussel monitoring. We will continue to grow our volunteer network, and continue introducing them to ways to monitor for a variety of AIS. A guide book for volunteer AIS early detectors was created in 2015, and these funds in 2016 allow for additional copies to be printed if needed.

Early Detection/Baseline Monitoring (\$35,000)

The AIS Management Plan identifies the need for a survey and inventory of all waterbodies within the District, and acknowledges that this effort will likely span several years. It is critical to understand where AIS are present, as well as features at and in waterbodies throughout the watershed indicating the likelihood that AIS may be introduced. Actions within the strategy to inventory and document the presence of AIS are:

- a) Develop survey methodology and standards
- b) Inventory existing information from appropriate sources and conduct infield surveys as necessary
- c) Organize data to document and map distribution of AIS
- d) Identify at-risk and priority waters to survey and monitor
- e) Determine preferred schedule to re-survey waterbodies, streams, and wetlands.

This effort began in 2014, and the goal is to have at least one assessment done on each waterbody in the District by 2020. The two main activities included in this monitoring are aquatic plant point-intercept surveys, which assess the aquatic plant community in a waterbody, and our AIS Early Detection/Baseline Monitoring Surveys, which assesses aquatic plants and animals such as spiny water flea, zebra mussels and other invasive snails. Consultants may be utilized to get additional monitoring completed, or a portion of these funds may be used for two seasonal (6-month) staff to perform or assist in the monitoring.

Rapid Response and Containment Funding (\$35,000)

In 2015, \$30,000 was budgeted for Rapid Response and Containment Funding. Nearly all of these funds were needed for Christmas Lake in 2015, so the funds need to be replenished. Based on experience on Christmas Lake, \$35,000 seems to be the appropriate amount to have identified for future rapid response needs. The majority of these funds were needed for barriers (which the DNR now has on hand), control products, application costs, consultant costs (typically to assist with surveying), and lab analysis of water samples for product concentration monitoring.

Management and Research Activities

Carp Removal Program (\$1000)

This program is for the removal of carp as an invasive/nuisance species by DNR-licensed commercial fish harvesters, as well as the use of barriers to restrict the movement of carp. No activities are currently planned for 2016, but opportunities may arise while the work continues in Six-Mile Creek with the Carp Assessment.

AIS Management and Innovations Cost-Share Program (\$0)

With AIS grant funding available from Hennepin County, as well as the Initiative Foundation AIS Grants, this program is no longer needed.

Lake Minnetonka Zebra Mussel Study (\$30,000)

This study was started in 2011 and focuses on tracking the zebra mussel population in Lake Minnetonka and assessing any changes in water quality from zebra mussels. Only a population assessment was completed in 2015, with a plan to collect the whole suite of parameters for the study every other year. This was last completed in 2014, so it would be due in 2016. The whole suite of parameters include: Periphyton, Phytoplankton, Zooplankton and Veliger Density. From this work, we continue to have one of the largest data sets to track zebra mussels and their impacts in a waterbody.

Flowering Rush Management Program (\$0)

The MCWD conducted a pilot project in 2011 for the manual extraction (aka hand-pulling) of flowering rush. Follow-up evaluation in 2012 indicated it was highly effective in areas with soft soil substrate, and had little change in cobble/gravel/rock substrate. Data in 2015 is showing there can be large seasonal fluctuations in Flowering Rush, and successful control by hand removal is less clear. Further years of removal efforts would be helpful in evaluating hand removal as a control method for Flowering Rush. This removal program may be put on hold for 2016, but the population without removal efforts would still be assessed. If data and observation indicates that removal should continue in 2016, it

could be accomplished if there are unanticipated carry-forward funds available and/or modifying the scope of other activities in the 2016 AIS work plan.

Zebra Mussel Control Study with U of M (\$20,000)

This study would partner with the Minnesota AIS Research Center and likely another University or agency with expertise in toxicology, to further evaluate control products for zebra mussels, looking at both field and lab trials. This research would start to identify concentration and exposure relationships for the different products, which is what is needed to better our strategies for zebra mussel control and rapid response. This project would be split over two years, with another \$20,000 being identified in 2017.

Six-Mile Creek Carp Assessment (\$0)

This activity is included in the Six-Mile Creek Subwatershed Diagnostic Study, a comprehensive water quality project undertaken within the Planning Department. The District has entered into an agreement with the University of Minnesota Aquatic Invasive Species Research Center to conduct an applied science carp management study from 2014 through 2016, as the presence and activity of carp are major contributors to degraded water quality throughout the system.

* The MCWD's AIS Department is managing this aspect of the Diagnostic Study for the Planning and Permitting Department.

AIS Economic Study (\$0)

The second phase of this study, if warranted, was budgeted at \$50,000; it was not pursued.

Legislative and Regulatory Initiatives (\$15,000)

The Board has expressed a desire to expand the authority of the MCWD and other watershed districts in a variety of prevention initiatives (e.g., watercraft inspections), and thus make implementation of strategies in the AIS management plan more effective. The proposed funding would provide for legal and legislative services in initiatives at the legislative and agency levels. In 2015, these funds were used on legislative activity for the AIS trailer decal statute. Funding in 2016 would be the same as 2015.

Activity/Expense	D., J. a.4
	Budget
AIS Watercraft Inspection Cost Share and Roaming Inspector Program	\$230,000
Off-Site Inspection/Decontamination Station Pilot	\$45,000
Water Access AIS Improvements	\$35,000
Self-Inspection Certification Pilot Program	\$10,000
Home Lake Pilot Program	\$10,000
Clean Access Pilot Program	\$5,000
AIS Outreach	\$10,000
Volunteer Monitoring Program	\$3,000
Early Detection/Baseline Monitoring	\$35,000
Rapid Response and Containment Funding	\$35,000
Carp Removal Program	\$1,000
Lake Minnetonka Zebra Mussel Study	\$30,000
Zebra Mussel Control Study	\$20,000
Six-Mile Creek Carp Assessment	\$0
Legislative and Regulatory Initiatives	\$15,000
Activities Sub Total	\$484,000
Personnel Costs	\$144,388
Total	\$628,388
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The AIS program has developed a comprehensive management plan to	nea in Zuu7.
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added to the District's Comprehensive Water Management Plan adop It provides the basis to continue AIS efforts in coming years through education and outreach, regulation, capital projects, and research. Re	public esearch and
added to the District's Comprehensive Water Management Plan adop It provides the basis to continue AIS efforts in coming years through education and outreach, regulation, capital projects, and research. Re cost-sharing activities are prevention, control, and management activities	public esearch and
added to the District's Comprehensive Water Management Plan adop It provides the basis to continue AIS efforts in coming years through education and outreach, regulation, capital projects, and research. Re	public esearch and

Budget/Levy History

Year	Budget	Tax Revenue	Grants & Other Rev.	Expenditures	Transfer in/out	Carryover	Assigned Funds
2014	\$635,140	\$414,955	\$6,247	(\$440,335)		\$349,751	
2015	\$831,900	\$305,507		(\$515,400)	\$142,812	\$282,680	
2016	\$628,388	\$345,708		(\$628,388)			

Recommended 2016 Budget and Levy
Budget: \$628,388
Levy: \$345,708

Activity Code	Activity Name	Amount
4010	Personnel Costs	\$144,388
4011	Wages-Overtime	φ1,500
4018	Salary – Insurance Reimbursement	
4020	Payroll Tax Expense	
4035	Unemployment Reimbursement	
4040	PERA Expense	
4050	Benefits	
4060	Staff Mileage/Expenses	
4065	Staff Training	
4066	Staff Tuition Benefit	
4110	Manager Per Diems	
4110	Manager Expenses	
4125	Manager Computer/Software	
4130	Manager Dues/Subscriptions/Internet	
4210	Office Supplies	
4215	Meeting Expense	
4220	Furniture & Fixtures	
4222	Vehicle Expense	
4230	Printing/Publishing/Postage	
4240	Telecommunications -Cell/internet	
4245	Special Events	
4247	High Water Restoration	
4248	FEMA Expense	
4250	Dues & Subscriptions	
4265	Rentals-Building & Equipment	
4280	Insurance	
4292	Bank/Agency Fees	
4295	Other/Miscellaneous	
4320	Contract Services	\$151,000
4330	Accounting & Auditing	
4340	Engineering/Consulting	
4350	Legal Expense	\$15,000
4390	CAC Expense	
4520	Monitoring/Lab Analysis/Inventories	\$30,000
4530	Permit Acquisition	
4540	Property/Easement Acquisition	
4550	Construction	
4565	Property Management - CBRE	
4566	Tenant Relocation - CBRE	
4570	Equipment/Supplies	\$33,000
4575	Repairs/Maintenance	
4594	Debt Service-Principal	
4595	Debt Service-Interest	
4600	Grants/Awards/Loans - Given by MCWD	\$255,000
4651	Issuance Cost	
4962	Office Bldg. Maintenance	
4963	Office Building Utilities	
		TOTAL \$628,388

PREPARED BY: Yvette Christianson, Kelly Dooley, Eric Fieldseth & Kailey Kreatz

DATE: December 10, 2015

Program	Research and Monitoring: General Operations (5006)						
Summary	The Water Quality and AIS programs in the Research and Monitoring Department share general operation expenses.						
Location	District-wide						
Description	Equipment/Supplies/Services (\$36,700): Cover the cost of new equipment, supplies and service needed to efficiently collect water quality samples, ensure the safety of staff, calibration supplies to maintain equipment, provide telemetry services						
	Department Pull-up Banner (\$0): Collaborating with Education Department to design and print a pull-up banner to showcase the goals and activities of the Research and Monitoring Department. The Education Department will be covering the expenses for the pull-up banner.						
	Repair/Maintenance (\$8,000): Service and maintenance of fie	eld equipment					
	Watercraft/Trailer (\$17,000): Gas and maintenance of boats,	kayaks, and canoes					
	Staff Training/Expenses (\$20,200): Training includes workshops and conferences to assist staff with career development, networking, and maintaining/improving techniques and technical methods/skills; Expenses to reimburse staff for mileage and other expenditures that are related to work Legal Expense (\$15,000): Legal expenses that may be needed for review of contracts/agreements or other services						
	2016 Budget Summary:						
	Activity/Expense	Budget					
	Equipment/Supplies/Services	\$36,700					
	Department Pull-up Banner	\$0					
	Repair/Maintenance	\$8,000					
	Watercraft/Trailer Maintenance	\$17,000					
	Staff Training/Expenses \$20,200						
	Legal Expense Total	\$15,000 \$96,900					
Goals/ Outcomes	Instead of budgeting shared expenses separately, both pooling funds	programs are					

	The shared expenses are for new equipment and software, maintaining existing equipment and software, staff training/expenses and legal expenses
<u>Schedule</u>	Ongoing

Budget/Levy History

Year	Budget	Tax Revenue	Grants & Other Rev.	Expenditures	Transfer in/out	Carryover	Assigned Funds
2014							
2015							
2016	\$96,900	\$96,900	\$0	(\$96,900)	\$0	\$0	

Recommended 2016 Budget and Levy
Budget: \$96,900
Levy: \$96,900

Activity Code	Activity Name	Amount
4010	Wages	
4011	Wages-Overtime	
4018	Salary – Insurance Reimbursement	
4020	Payroll Tax Expense	
4035	Unemployment Reimbursement	
4040	PERA Expense	
4050	Benefits	
4060	Staff Mileage/Expenses	\$5,100
4065	Staff Training	\$12,500
4066	Staff Tuition Benefit	
4110	Manager Per Diems	
4120	Manager Expenses	
4125	Manager Computer/Software	
4130	Manager Dues/Subscriptions/Internet	
4210	Office Supplies	
4215	Meeting Expense	\$300
4220	Furniture & Fixtures	7000
4222	Vehicle Expense	\$7,000
4230	Printing/Publishing/Postage	\$10,000
4240	Telecommunications -Cell/internet	\$1,000
4245	Special Events	\$300
4247	High Water Restoration	4200
4248	FEMA Expense	
4250	Dues & Subscriptions	\$4,500
4265	Rentals-Building & Equipment	ψτ,500
4280	Insurance	
4292	Bank/Agency Fees	
4295	Other/Miscellaneous	
4320	Contract Services	
4330	Accounting & Auditing	
4340	Engineering/Consulting	
4350	Legal Expense	\$15,000
4390	CAC Expense	\$13,000
4520	Monitoring/Lab Analysis/Inventories	
4530	Permit Acquisition	
4540	Property/Easement Acquisition	
4550	Construction	
4565	Property Management - CBRE	
	Tenant Relocation - CBRE	
4566		\$22,200
4570	Equipment/Supplies Pagains/Mointenance	\$23,200
4575	Repairs/Maintenance	\$18,000
4594	Debt Service-Principal	
4595	Debt Service-Interest	
4600	Grants/Awards/Loans - Given by MCWD	
4651	Issuance Cost	
4962	Office Bldg. Maintenance	
4963	Office Building Utilities	