

2023 Gearing Up: Phase 3 & Beyond

Sediment marches towards Gavins Point Dam. The view from Bon Homme Cemetery. The open lake has decreased to 14 miles. After Gavins Point Dam was constructed in the mid-1950s, the lake extended 25 miles. (August 2022)



Other News from 2022: Building Bridges

- MSAC welcomes Scott Kostal as executive director.
- Author/historian Michael Lawson writes historical narrative for Phase 2.
- MSAC receives assistance from the USD Coyote Business Consulting project.

Guardians of the Reservoir Finalists ...

Top ideas picked






Read more on pg. 2

Visit MSAC's website
at www.keepitwater.org for
additional information.



Timeline for Phase 2 L&C SMP

Phase 2 Milestones:

- Kickoff Call: Feb. 26, 2021 
- Solutions Workshop: June 15-17, 2021 
- Initial Economic Analysis Results (WebEx): Feb. 1, 2022 (capturing the impacts/present conditions) Also, Sedimentation Impacts Footprint by Decade Feedback/GIS Map 
- 50% Draft Report: October 2022 
- 90% Draft Report (virtual): December 2022 
- Final Report: **estimated by March 1, 2023**

Other Tasks of Phase 2:

- Identify Beneficial Uses of Sediment
- Project History & Literature Review
- Economic Analysis Inventory
- Dredging Scenarios Update
- Environmental
- Constraints

View the PMP at www.keepitwater.org

Innovators tackle reservoir sediment

Bureau of Reclamation Press Release - Sept. 15, 2022

WASHINGTON - The Bureau of Reclamation has selected D-Sediment team as the winner of the Guardians of the Reservoir prize competition for their design solution to remove sediment deposits in reservoirs. The team, comprised of Michael Detering, Laura Backes and Joana Kueppers from Germany, developed the Sedimover technology for efficient 24/7 sediment transfer from a reservoir. The team is receiving \$100,000 in prize money.

"Sedimentation has impacted our reservoirs from the day they were built," said Reclamation Commissioner Camille Calimlim Touton. "The solutions identified through this prize competition provide an option to manage sediment so Reclamation reservoirs can continue to store water as they were designed to do."

The selection was announced at the Guardians of the Reservoir Finalist Showcase where the three finalists shared their innovative solutions.

The two other finalists were recognized for their accomplishments for this prize competition.

Reclamation presented the Versatility Award to the 3 D Dredger™ Team for their development of their Complete Sediment Management solution - a fully autonomous dredging system designed to handle sediment and larger debris using three dredging attachments. This team consists of inventors Nicholas LaBry and Kenneth LaBry of Prometheus Innovations, LLC, and Bartolomeo Mongiardino of Hydro Maintenance Service

Reclamation presented the Innovation Award to Slurry Pulsejet Engine for their development of a new technology to capture, dewater and move the sediments in dry or semi-dry form. It is based in minimizing water and power consumption. Baha Abulnaga and David Dibley of Mazdak International, Inc., Washington, developed this new technology.

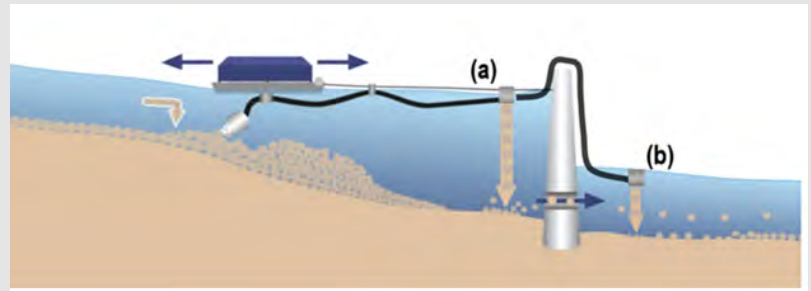
Sedimentation in reservoirs occurs when faster moving rivers transport sediment into slower moving water in reservoirs where it then falls out and begins to fill the reservoir. Sedimentation reduces the amount of water storage available in a reservoir, impacting the ability of reservoir owners to store water or reduce the risk of floods.

Reclamation is partnering with the U.S. Army Corps of Engineers, NASA Tournament Lab and HeroX on this competition. To learn more about this competition, please visit <https://www.usbr.gov/research/challenges/sediment-removal.html>.

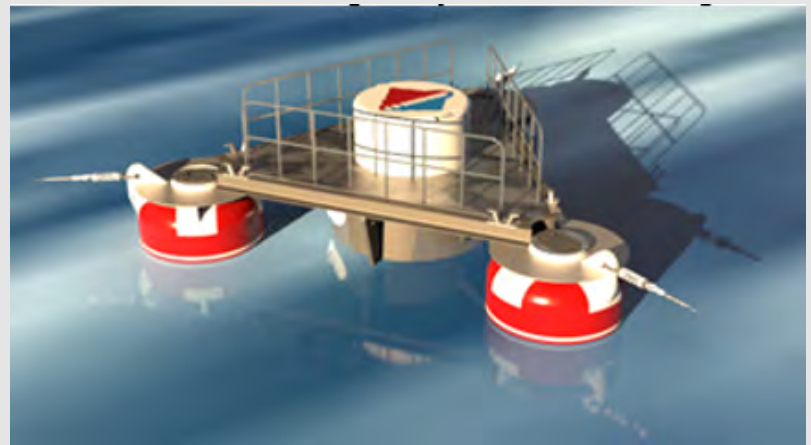
Reclamation conducts prize competitions to spur innovation by engaging a non-traditional, problem-solver community. Please visit Reclamation's [Prize Competition website](#) to learn more.

Guardians of the Reservoir Final Showcase on YouTube:
<https://www.youtube.com/watch?v=efPdjNKPkNw>

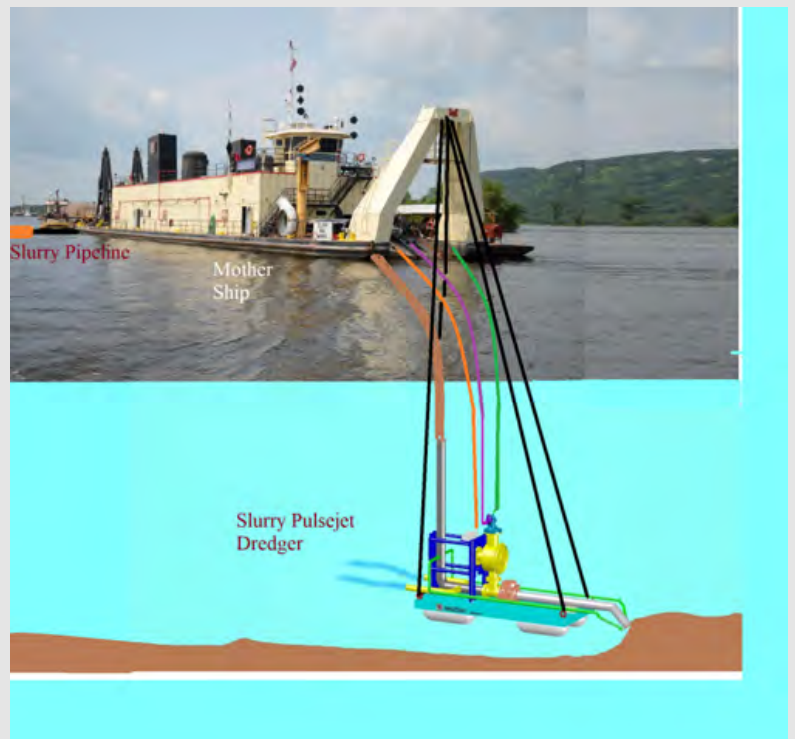
- **Guardians of the Reservoir finalists'** (3) ideas are expected to be included in the Phase 2 report along with a variety of other sediment management techniques discussed at the Solutions Workshop and in past studies, research.
- **Phase 3** is expected to expand analysis of 1 to 3 techniques.



D-Sediment team was the winner of the Guardians of the Reservoir prize competition. The above illustration shows their design solution.



BOR recognized the 3D Dredger Team with the Versatility Award. The above image is a 3D Render of the 3 D Dredger TM System's Initial Floating Platform Design.



BOR presented the Innovation Award to Mazdak International for their development of Slurry Pulsejet Engine.

MSAC continues work to forge pathways to sustainable reservoirs

Hello everyone. As your new Executive Director I am honored and excited to be a part of MSAC and the important purpose it serves.

Seventy years ago Gavins Point Dam was under construction. Twenty years ago MSAC was just beginning life as an organization dedicated to educating the public about sedimentation in and around the Missouri River reservoirs and engaging organizations across the spectrum to address the problem that was growing every year.

Suffice it to say, MSAC, its staff, members and board of directors, have been on the forefront of getting stakeholders and government leaders together to work on this very complex issue.

Growing up in Springfield the river and its opportunities have always been just a few city blocks away. I grew up on the shoreline of the Springfield Marina and under the chalk rock bluffs at Terrace Park, the same ones that Native Americans had lived by for centuries and that Lewis and Clark's Corp of Discovery passed by. I spent time fishing and otherwise taking for granted something that I thought was so big and powerful it would be there forever. Today, every time I carefully navigate out of that marina, I am struck by just how much it has changed. This spring, when the ice is out I will once again set out from that marina knowing full well that I will be on my own voyage of discovery - discovering the changes that sedimentation has caused over the winter.

Since starting this position in November, I have gained a new perspective and appreciation for the work, amount of information, and relationships MSAC has developed over the years. For over a quarter of Lewis and Clark Lake's existence MSAC has been working to ensure this part of the Missouri River has a long and productive future. And, as its name states, MSAC is working to educate and build partnerships along all of the Missouri River.



Scott Kostal,
MSAC executive director

Along with learning the operations of MSAC my first two big items are (1) preparing for the USACE 90% Draft Report of the Lewis and Clark Lake Sediment Management Plan Study, and (2) diving into the world of the Water Resources Development Act (WRDA) of 2022. Starting this position, the "90% report" is in the forefront of MSAC work with the USACE. Events have pushed the report review period back a few weeks but we are staying engaged with the team in Omaha as we wait for the draft to come to our table for review. With the passage of WRDA 2022, I also have the opportunity to begin to understand how the 90% report nests within the provisions of WRDA. WRDA 2022 section 8204(b)(6)(B) is the direct tie to the 90% report as it authorizes the assessment of whether a sediment management plan (SMP) would be useful in the long-term operation of the reservoir. Clearly, an SMP is the starting point for addressing the sedimentation issue on Lewis and Clark Lake, which makes the 90% report key to moving to the full SMP and the realization of a feasibility study for possible solutions to reducing sedimentation on this reservoir and extending the operational life of Gavins Point Dam.

Finally, I must include my utmost gratitude and respect for Sandy and all she has done in having managed all of the information, engagements, financials, and membership for the past 10 years. As I begin to shoulder my share of the load she will be able to focus more on her role as Communication Coordinator and continue to add value to our education and engagement opportunities with legislators, both state and federal, stakeholders, and you, our valued MSAC members, as we work toward a sustainable and productive future for all of our Missouri River reservoirs.



Contact Information:

Ph: 605.464.1067

e: msacdirector@keepitwater.org

MSAC welcomes Kostal as executive director in November

SPRINGFIELD, SD - The Missouri Sedimentation Action Coalition (MSAC) is pleased to announce Scott Kostal as the new executive director for the organization. He recently assumed the reins from Sandy Stockholm, who has been working with MSAC since 2002 and had served as executive director since October 2010. Stockholm will continue as the coalition's communications coordinator.

"Scott will be a great asset to MSAC and its dealings with the U.S. Army Corps of Engineers (USACE) and other public entities. Scott grew up in the area and understands the challenges that sedimentation causes. He has first-hand knowledge of government through his military experience," said Mark Simpson, MSAC Board of Directors president.

Kostal is a native of Springfield who recognizes the many impacts of the mighty Missouri River.

He witnessed the devastation it caused in 2011 as he served as

operations manager for the South Dakota National Guard's first joint task force during the flooding disaster relief effort.

After serving 31 years in the military, Kostal returned to Springfield and has taken an active role in his hometown and the surrounding region. In May of 2022, he was elected Springfield's mayor - a position he believes will fit well with the MSAC job. He is ready to take the next steps to expand upon past MSAC efforts.

"I am committed to doing all I can to assist in MSAC's continuing work to address sedimentation issues along the Missouri River. I am ready to engage with the USACE and believe I bring a background that will help in educating and building upon our relationship with this important agency," he said, adding that he spent over 20 years of his uniformed career as a combat engineer. "The US Army Corps of Engineers motto is 'Essayons!' which is French for 'Let us try.' MSAC could easily have the same motto."

From MSAC Reports Dec. 1, 2022.

Award-winning author writes historical narrative for Phase 2

YANKTON, SD - The history shaping Gavins Point Dam will be part of the Phase 2 report. MSAC looked to Michael Lawson, an award-winning author and historian based in Annandale, Virginia, to compile a historical narrative.

The narrative, beginning with 1944 and the compromise of the Pick and Sloan proposals, spans nearly 20 pages with more than 125 footnotes. It is subject to editing in the Phase 2 development process.

At the May 2021 MSAC Annual Meeting, Lawson presented a glimpse at the decades of his research which provided the factual basis for Congressional legislation establishing tribal recovery trust funds totaling \$385.8 million for five Sioux tribes (Cheyenne River, Crow Creek, Lower Brule, Yankton, and Santee). Dr. Lawson is the author of two books on the impact of the Missouri River Pick-Sloan dam projects on Sioux Reservations in the Dakotas and Nebraska.

In April of 2022, Lawson and Jeanne Kilen Ode of Pierre were recognized for their lifetime contributions to preserving the history of South Dakota. Both were named recipients of the Robinson Memorial award, which is named for former state historians Doane and Will G. Robinson and is one of the Governor's Awards for History.

"Michael and Jeanne, through their work with the State Historical Society, both have had enormous impacts on preserving our state's history, and are very deserving of this high honor," said Ben Jones, State Historian and Director of the State Historical Society.

Characteristics of "Involuntary Resettlement"

An Engineering Bias That:

- › Neglects Social Planning
- › Excessively Pressures the Environment
- › Underestimates Construction Costs
- › Underfinances Resettlement Expenses
- › Underestimates Population Impacts, and
- › Creates an Inflated Market for Replacement Resources

*From Lawson's presentation to MSAC membership in May 2021
"Pick Sloan Impact on Missouri River Sioux"
Recording available at MSAC's YouTube channel*

Lawson has been a supporter of, and contributor to, activities of the State Historical Society for more than 45 years. He has won the society's Schell Award, given annually to the author of the best article published the previous year in "South Dakota History," three times. After the Historical Society Press published his volume "Dammed Indians Revisited," it was chosen to be the One Book South Dakota selection for 2012. Lawson is a member of the Advisory Board of Editors for "South Dakota History" and the South Dakota Historical Society Press.

From MSAC Reports and www.news.sd.gov April 15, 2022.



In August of 2022, MSAC hired Pivotal Photo of Yankton to capture photos and video of the Niobrara, Running Water, Springfield and Bon Homme Cemetery areas. These images will be utilized in future education efforts. For more recent imagery and interviews related to the Lewis and Clark Lake region, see MSAC's website for the documentary, *The Impossible Takes a Little Longer*. (www.keepitwater.org) MSAC is working to add to its library of images to include a recent look at Missouri River reservoir regions upstream.

USD students collaborate with MSAC

as published Nov. 21, 2022 The University of South Dakota - www.usd.edu

VERMILLION - Coyote Business Consulting is a student-centered initiative at the USD Beacom School of Business designed to help businesses stay competitive in the state of South Dakota and throughout the region. The program enables student-teams, with the guidance of faculty advisors, to help businesses solve a critical problem for their organization. The program is available to all businesses, but a special emphasis is placed on small businesses.

"We are incredibly proud to have had three successful rounds of Coyote Business Consulting," said Mark Yockey, interim dean of the Beacom School of Business. "Each cohort brings about their own set of skills, and the businesses present unique and challenging problems for the students to solve. One thing remains the same each year, though, and it's that we are committed to South Dakota's businesses and helping them succeed. We're also dedicated to providing our students with hands-on learning opportunities that prepare them for the workforce."

Seventeen students participated this year, assisting 13 businesses throughout South Dakota in groups of two and three.

Participating businesses included the following.

- Catch the Wave - Wagner Pool Fundraising
- CSD of South Dakota
- Journey Group
- Missouri Sedimentation Action Coalition
- Mitchell Tennis Association
- NeighborWorks Dakota Home Resources
- Rapid City Club for Boys
- Sanford Underground Research Facility Foundation
- Springfield Historical Society
- USD Speech-Language and Hearing Clinic
- Watertown Area United Way
- YMCA of Rapid City
- Mitchell United Way

Meredith King, a senior sustainability major, was part of the team that worked with the Missouri Sedimentation Action Coalition (MSAC). Among their responsibilities, the team created a social media calendar and dissected economic projections.

"There was a lot of flexibility with this project, so we listened to our client and tried to help as much as we could," King said. "Our presentation will go over our findings and recommendations for MSAC, and I hope to show the importance of MSAC's work and bring more awareness to the non-profit. I also hope that the complexity of the issue is clearly conveyed because there is not one easy solution to address sediment build-up."

"... I hope to show the importance of MSAC's work and bring more awareness to the non-profit. I also hope that the complexity of the issue is clearly conveyed because there is not one easy solution to address sediment build-up."

Meredith King, senior sustainability major

Junior marketing major Joshua Reynolds was on the USD Speech-Language and Hearing Clinic team. Reynolds and his team partner worked on raising awareness of the clinic as well as getting more patients.

The USD Speech-Language and Hearing Clinic is an important service on campus and in the community, and it feels good to have completed the work," Reynolds said. "I'm looking forward to our presentation to be another voice for change and hopefully tip the scales in the clinic's favor."

Coyote Business Consulting Group is mutually beneficial for both the students and the business. The consulting services are offered at no charge to the businesses and students have the opportunity to receive academic credits, financial support and real-world experience.

"I took the work we did for MSAC seriously because we were creating deliverables for an actual company as opposed to a hypothetical class project," King said. "I got to practice communicating over Zoom and email, and I also had to take the initiative to be prepared for our meetings and ask questions."

"Working with a client and discerning their needs from a business perspective was both a challenge and a learning experience," said Reynolds. "It was eye-opening to see how the medical and business fields intersected. I had to become an expert in both marketing and audiology in order to properly serve the needs of the clinic."



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BUREAU OF RECLAMATION

How Bureau of Reclamation is Reframing Reservoir Sedimentation



Jennifer Bountry



Tim Randle

Presented by
Tim Randle, PhD, PE, D.WRE.
Jennifer Bountry, MS, PE
Bureau of Reclamation



Bureau of Reclamation speaks to MSAC membership in May

At the 2022 MSAC annual meeting, hydraulic engineers Tim Randle and Jennifer Bountry with the Bureau of Reclamation's Denver Sedimentation and River Hydraulics Group office provided a look at how their agency is reframing reservoir sedimentation. They spoke remotely from Denver to MSAC's group gathered in Yankton for its 21st Annual Membership meeting. Others joined remotely for this public meeting. The engineers presented several reservoir examples around the country and updated attendees on the Guardians of the Reservoir Challenge.

A recording of the meeting is available at MSAC's YouTube channel. The video features the special presentation and a series of Q&A including contributions from Paul Boyd, hydraulic engineer with the US Army Corps of Engineers - Omaha District. (May 20, 2022)

Also find an article at the *Yankton Press & Dakotan* website, (www.yankton.net) entitled 'Challenge' Contest Offers New Sediment Solutions.

The 2023 Annual Membership meeting is tentatively scheduled for May 19 in Yankton. More details to come.

From MSAC Reports - watch www.keepitwater.org for updates.

Bureau of Reclamation

Manages, develops, and protects water and related resources in an environmentally and economically sound manner in the interest of the American public.

Your membership contribution makes things happen.

MSAC relies on your

membership contribution to meet annual expenses such as insurance, accounting, office rent & expenses, professional assistance and part-time labor. It also makes applying for grant funds possible along with education and research efforts.



Webinar & Meeting Library

Look for MSAC's YouTube channel to catch past webinars listed above and meetings in recent years.

Contact us:

Call for an appointment.

Executive Director: Scott Kostal

Ph: 605.464.1067

e: msacdirector@keepitwater.org

Communications Coordinator: Sandy Stockholm

Ph: 605.661.1594

e: msacinfo@keepitwater.org

Office Address:

100 Douglas, Suite 103, Yankton, SD 57078

Mailing Address:

MSAC, PO Box 2, Springfield, SD 57062