



Reservoir Dredging:

Sediment Accumulation in Reservoirs: The Role of Dredging, National and International Trends, and WEDA and WODA Working Groups

**Marcel Hermans - Michael Whelan,
John Shelley - Michael Beton**

Panel Program

1. *Marcel Hermans* on: **Reservoir Dredging as Sustainable Tool; WEDA & WODA Working Groups**
2. *Michael Whelan* on: **Specifics & Cost of Dredging Technology & Sediment Disposal for Reservoirs**
3. *John Shelley* on: **Pilot Project Water Injection Dredging for a Midwest Reservoir**
4. *Michael Beton* on: **Construction Considerations and Challenges for Reservoir Dredging**
5. *All of you & us.....*: **Q & A / Panel Discussion**

Reservoir Trends & Sustainability

- Worldwide many dams & reservoirs have been constructed over the past century
- Provide water storage for: hydropower, municipal/industrial use, irrigation, flood risk reduction, firefighting, recreation, etc.
- Reservoirs have been filling up steadily with sediments
- Society can't just abandon reservoirs and dam-sites or build new ones

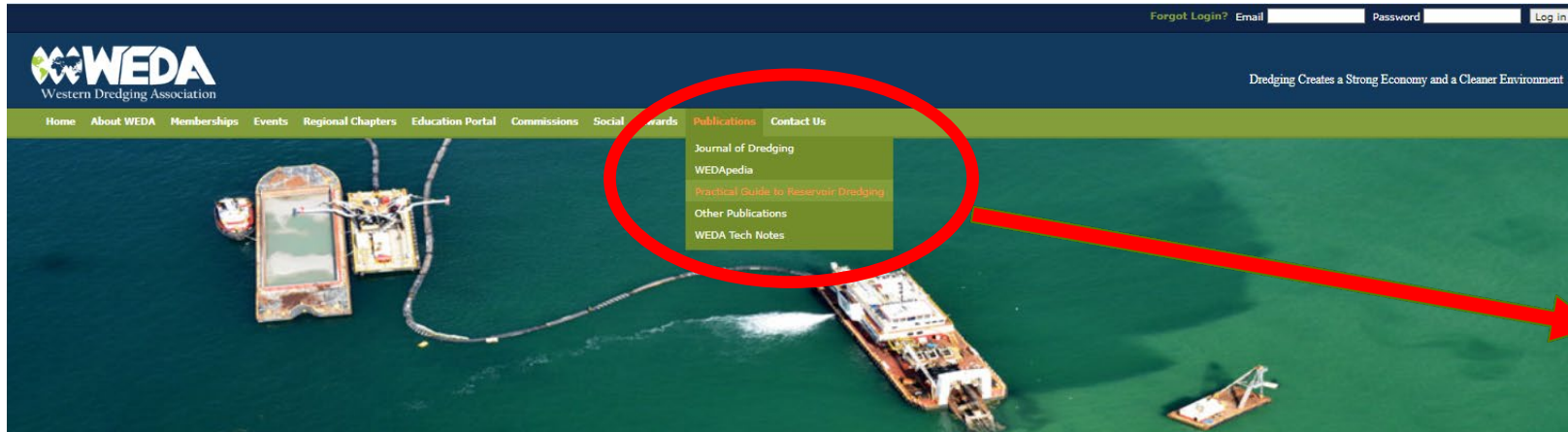
Sustainable reservoir management requires sediment removal !

WEDA's & WODA's role in Reservoir Dredging

- For most reservoirs, sediment management was not part of original focus
- With more reservoirs filling up, it's now an emerging and growing issue
- Sediment Removal = "Dredging"

- WEDA produced: "Reservoir Dredging: A Practical Overview" - 2020
- WODA Working Group: "Reservoir Dredging Guidebook", targeted for 2025

WEDA website: www.westerndredging.org



Upcoming Meetings & Webinars

Dredging Summit & Expo '23	Las Vegas, NV	July 17-20, 2023	Info.
2023 Eastern Chapter Meeting	Jacksonville, FL	Oct. 10-12, 2023	Info.
2023 Pacific Chapter Meeting	San Diego, CA	Oct. 25-27, 2023	Info.
2023 Gulf Coast Chapter Meeting	Galveston, TX	Nov. 6-8, 2023	Info.
CEDA Dredging Days	Rotterdam, NL	May 27-29, 2024	Info.

Short Courses

Dredging 101	Las Vegas, NV	July 17, 8 AM	Info.
Dredge Pumps Mechanical	Las Vegas, NV	July 17, 8 AM	Info.
Dredging 201	Las Vegas, NV	July 17, 1 PM	Info.
Soil Characteristics	Las Vegas, NV	July 17, 1 PM	Info.
Trailing Suction Hopper Dredger	Las Vegas, NV	July 18, 9:40 AM	Info.
Cutter Suction Dredger	Las Vegas, NV	July 19, 10 AM	Info.
Hydraulic Sand Fill	Las Vegas, NV	July 20, 8:30 AM	Info.

Recent Meetings, Webinars & News



WEDA Events Calendar

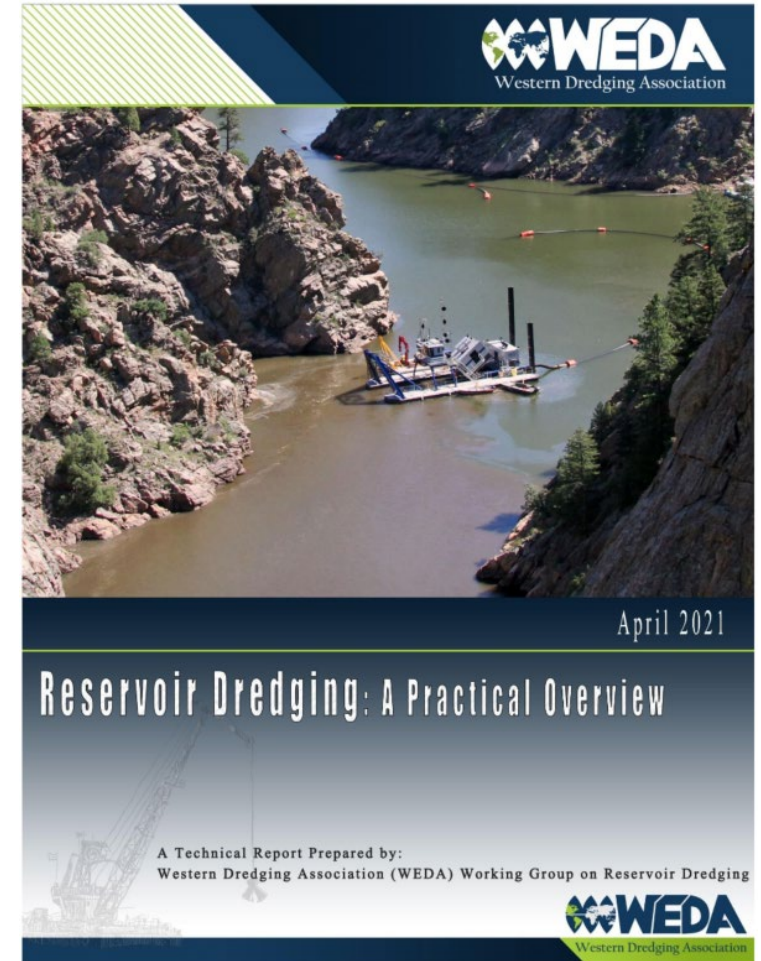
July 2023						
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MEMBERSHIP
Join/Renew

Become a Member!

Join today and become a part of this growing worldwide industry!

- Member shall mean and refer to every person or entity that holds membership in WEDA, as provided for in the **Articles of Incorporation**, and the **WEDA Bylaws**.
- Student Member Student interested in and pursuing studies related to dredging (non-voting)



Impacts of Reservoir Sedimentation

- Reduced storage capacity
 - Hydropower loss
 - Drinking/irrigation water availability
 - Flooding risk
- Downstream erosion
- Increased wear and tear on piping/equipment

Addressing Reservoir Sedimentation

- Reducing sediment inflow
- Route sediments through/around the dam
- Remove sediments by dry excavation
- Remove sediments by **dredging**

Reservoir Sediment Management Sustainability

Sediment Removal from Reservoir

=

Average Sediment Inflow into Reservoir

The ideal dredging/sediment-removal frequency will vary by situation specifics; may be annually, or every 5? / 10? / ..? years on average

Sustainability factors for Reservoir Dredging

- Cost of dredging < Value of increased life and usability of reservoir
- Beneficial use of sediments further adds to Sustainability
 - Soil augmentation
 - Construction fill
 - Aggregate
 - Wetland habitat/shoreline beaches
- Match downstream sediment load to what the ecosystem needs
 - volume, gradation, quality

Panel Program/AGENDA

Panel Program

And now on to.....:

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