Lake View

SUMMER 2011 | SNAPSHOTS FROM THE MOSES LAKE IRRIGATION & RE-HABILITATION DISTRICT

Recreation & the Environment
Second Lake Forum, July 18

In a year-long series of four question and answer sessions with experts who understand the complex challenges facing Moses Lake, and who collaborate with the District on a wide range of lake rehabilitation projects, MLIRD and eight leading community organizations are sponsoring *Recreation & the Environment* at Connelly Park, 6:00-8:00 p.m., July 18. Please join us!

Please RSVP for a fun time at Airmen's Beach/ Connelly Park

Monday, July 18
6:00 – 8:00 p.m.

RSVP by July 13
(509) 765-8716

sponsored by the Second Lake Forum hosted by MLIRD

With summer in full swing, the goal of the Lake Forum at Connelly Park is to provide a fun family event, while also sharing professional know-how about the natural lake environment and the modern "adaptive management" projects MLIRD is using to effectively rehabilitate Moses Lake.

The first Lake Forum was held at Big Bend Community College in May to discuss the need, permits and equipment being used for dredging operations that have begun in Parker Horn.

More information is available in the enclosed special insert.

MLIRD MISSION

I R R I G A T I O N

R E C R E A T I O N

R E - H A B I L I T A T I O N

INSIDE:

A special edition insert about Moses Lake silt dredging

PARKER HORN PUMP STATION REPAIRED

"Pollution Dilution" Continues to Benefit Moses Lake

One can arguably track the first successful MLIRD "re-habilitation" project to 1982. That's when the EPA grant-funded $875,000 Parker Horn Pump Station began supplying "dilution" water to Pelican Horn. Thirty years ago, "over production of algae was the primary water quality problem in Moses Lake." By the 1960's and '70's, blue-green algae ("pollution scum") had begun to degrade water quality, clog waterways and stink up Moses Lake. Summer recreation and wildlife habitats were nearly ruined, and shoreline property values were threatened. The primary cause then was heavy inflows of nitrogen and phosphorus nutrients, along with excess sediment that is now finally being removed under the 2009 Moses Lake Sediment Management Plan.

Today, thanks to current management experience and project skills based on extensive research and a more comprehensive understanding of lake ecology, Moses Lake is much healthier. The original pump station, rebuilt by district staff last winter, was funded by an EPA pollution control grant in 1982. From then to now is a notable success story. From "pollution dilution" to today's *Milfoil* treatment and weed eradication projects, to the start of suction dredging in Parker Horn, District employees are focused on increasingly more complex and sophisticated ways to improve water quality and lake habitats. Today's rehabilitation efforts and multi-agency partnerships benefit lake health, rate payers and our local economy far beyond annual District assessments.

Weed eradication expands to include upper drainage lakes

Invasive species pose a threat to the environment, economy, and human health. As previewed on this page in the Spring edition of Lake View [mlird.org/about us/news], MLIRD has begun fee-paid administration of a special $104,000 grant project to protect native wetland species by attacking many noxious-invasive plants infesting Moses Lake and its upper drainage. The state-required survey and management plan was completed in June. Herbicide treatments begin in July. Upland management of non-native plants will help stop the current spread to areas surrounding Moses Lake, with benefits for irrigators, boaters, farmers, shorelines and wildlife habitats.

Invasive *Phragmites*, visible all around Moses Lake, grows in wetlands and wet areas, up to 15 feet tall.

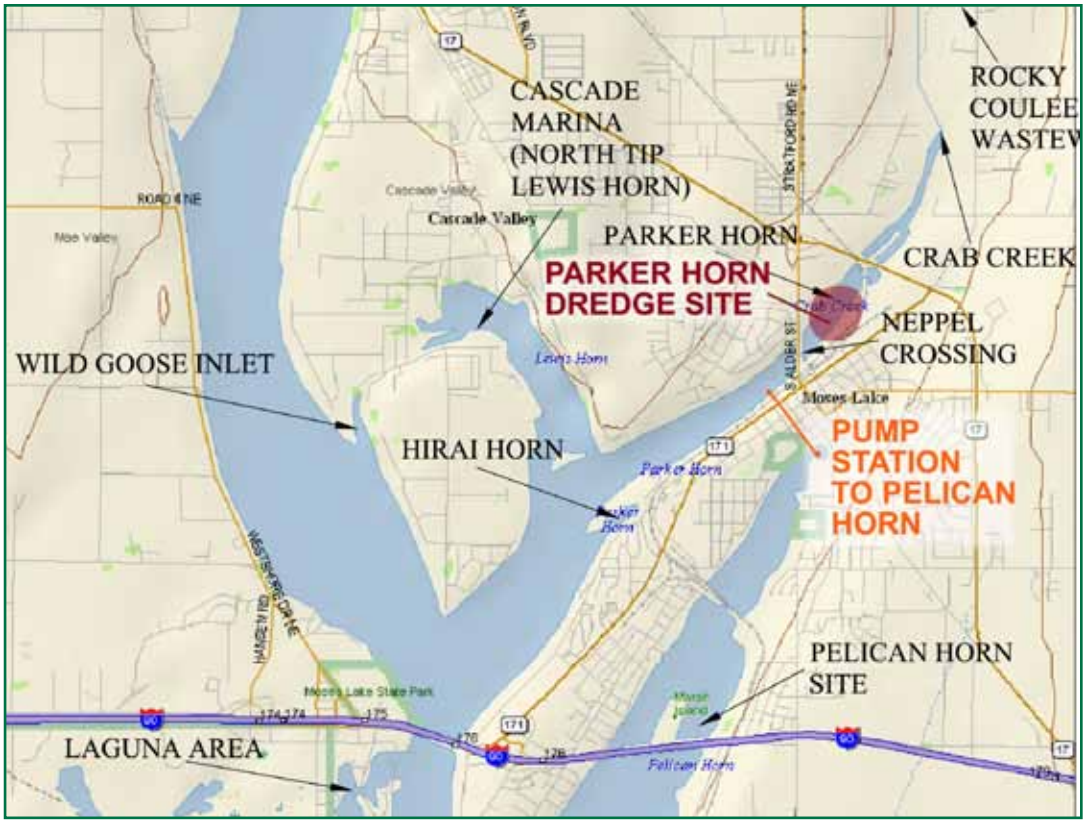
The District board and staff wish to commend our many partners who helped us complete a collaborative memorandum of agreement and begin treatment in under a year. Special thanks to: Todd Palzer, Wade Alonzo, Todd Brownlee, DNR; Dave Kluttz, Lakeland Restoration Services; Kathy Hamel, Ecology; Jerry Janke, Moses Lake Noxious Weed Board.

Parker Horn dredging preparation

Moses Lake recovery enters new era with dredging in Parker Horn

REHABILITATION OF MOSES LAKE HAS ENTERED A NEW ERA TO RESOLVE A FORTY-YEAR STRUGGLE WITH SEDIMENT. District employees have completed a dewatering pond and containment storage site for dredging operations in Parker Horn. As reported in the spring edition of Lake View, research estimates sediment accumulation at the mouth of Crab Creek in Parker Horn at 5,000+ cubic yards, every year! That's equal to 500 truck loads just in Parker Horn. Inaction is no longer an option.

Due to both natural and human causes, this "silt or sludge" accumulation, compounded by phosphorous-nutrient migration into the lake, clogs channels and blocks boat access. Excess plant growth is another consequence. Left unchecked, rate payer property values will decline, along with more closed channels, degraded water quality, and negative impacts for public access, shorelines and wildlife habitats. Suction dredging is the least expensive and only legal option, as approved by the MLIRD board of directors during four years of planning and permit negotiations. The first phase of the state-approved Moses Lake Sediment Management Plan (completed in 2009) begins this July below Rocky Ford Creek and Highway 17. A sediment "trap" will be established there this year using the District's pump dredge.



LAKE FORUM - MAY 16, 2011

Experts explain dredging project

QUESTIONS FROM RESIDENTS ABOUT DREDGING WERE ANSWERED BY TWO WORLD-CLASS DREDGE DESIGN AND PERMIT EXPERTS during the first of four "Lake Forum" events this year. Keynote speakers, Glenn Grette and Vladimir Shepsis were contracted by MLIRD in 2008 to analyze conditions and evaluate options. They were joined by representatives from the District, City, State and Federal agencies involved with required permits for removing silt from Parker Horn. Future silt removal will target other areas of the lake.

FOR THE COMPLETE COLUMBIA BASIN HERALD ARTICLE, GO TO WWW.MLIRD.ORG/PROJECTS/DREDGING

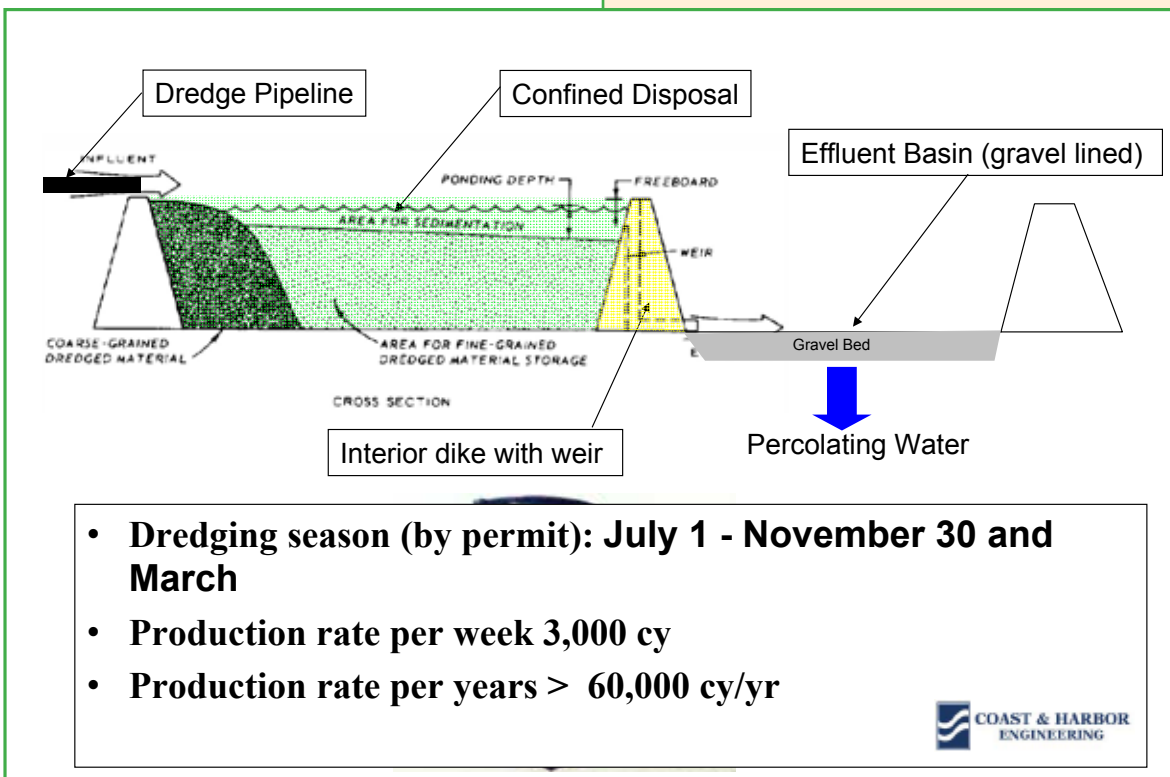
SYNOPSIS OF KEY DREDGING POINTS BY FORUM PANELISTS

"Instead of chasing sediments all over the lake...trap it in one location where it's easy to extract."
Glenn Grette, Senior Biologist,
Grette Assoc., Wenatchee, WA

"Cat work or "scraping" the lake bottom is 2-3 times more expensive, takes longer, and uses more labor, fuel and time."
Vladimir Shepsis, Engineer,
Coast & Harbor Engineering, Edmonds, WA

"This process is much more selective than other options. The idea is to maintain fish and wildlife habitat as you see it... impacts will be neutral."
Jeff Korth, Department of Fish & Wildlife

"This (project) won't raise taxes, but will improve property values...help bring dollars and people into the community for recreation. We have the equipment and staff will do the work."
Curt Carpenter, District Manager, MLIRD



- **Dredging season (by permit): July 1 - November 30 and March**
- **Production rate per week 3,000 cy**
- **Production rate per years > 60,000 cy/yr**

COAST & HARBOR ENGINEERING

"ADAPTIVE MANAGEMENT" KEY TO CURRENT REHABILITATION OF MOSES LAKE

MOSES LAKE HAS BEEN A "MANAGED LAKE" SINCE 1928, originally, a single mission to service rate payers with "irrigation" water from the District's 50,000 acre foot water right. In 1964, rate payers approved a wider vision to improve water quality, and the board of directors persuaded state legislators to modify the irrigation statute. Irrigation district law was changed to add "re-habilitation" to the mission. Finally, with the 1968 purchase of the "Airmen's Beach" site, now Connelly Park, MLIRD also became legally bound to provide "recreation" services. That's how the three-part mission evolved over 40 years.

And yet, dangerous algae blooms and noxious plant growth dominated by the 1980's. Vast amounts of sediment and phosphorous continued to settle in the lake, partly due to Grand Coulee Dam irrigating thousands of acres "upstream" of Moses Lake. Many "trial and error" projects were started and the lake began to recover; however, the silt problem was never resolved. Today, new science and adaptive management help provide better "irrigation, rehabilitation and recreation" services. Silt suction dredging is now the only legal solution permitted.

Benefits from silt dredging and removal

- **Restore** ACCESS TO BOATING, FISHING, SWIMMING, HUNTING, ALL RECREATION USERS
- **Remove** NUTRIENT-LOADED SEDIMENT, POSSIBLY RE-USE
- **Reduce** ALGAE & AND INVASIVE AQUATIC PLANTS
- **Improve** SHORELINES, FISH & WILDLIFE HABITAT
- **Increase** WATER STORAGE AND WATER QUALITY

SILT SUCTION DREDGING IS NOW THE ONLY LEGAL SOLUTION PERMITTED.

THEN & NOW – BOAT WAKES

Prior to sediment removal from Parker Horn, other lake re-habilitation progress is most visible in water clarity, algae control, aquatic plant harvesting and eradication of Milfoil, begun in 2010. Less obvious improvements are due to the Parker Horn Pump Station, dam and pump repairs. District staff will continue annual operations and maintenance of all these programs.

What's ahead for Laguna, Wild Goose, Hirai, Pelican and other areas?

SILT REMOVAL WILL EXPAND TO OTHER PROBLEM AREAS. After results of the Parker Horn operation are evaluated, MLIRD will adapt the dredging process to also manage sediment in other problem areas. These include Laguna, Wild Goose, and Hirai, Lewis and Pelican Horns, near Marsh Island and Drumheller Dam. Additional permits will be needed for each phase of dredging operations. Future adaptive management options may also allow transport of extracted silt to build habitat islands for waterfowl.

The District's 2009 sediment management plan is predicated on insuring in-lake habitats retain their natural complexity and continue to support multiple uses. In general, all of the important values and functions of the lake, from fishing to boating to fish and wildlife habitat, can be protected and managed from this perspective. Considerations include the proper balance of open water, plus emergent and submerged vegetation habitats.

Background

Dredging is an excavation process used around the world in shallow water to gather up bottom sediments for disposal or reuse somewhere else. The Columbia River would not be navigatable without dredging to remove naturally occurring silt that migrates from upstream. Since most world commerce moves by ship, many ports rely on dredging to remain open. Numerous fresh water lakes also dredge to deal with elevated phosphorous levels and the accelerated aquatic plant growth that results from too much fertilizer. In effect, dredging of Moses Lake is no different, using properly sized equipment and permits to protect water quality, while also keeping the lake from silting up.

As the primary agency responsible for planning and implementation to rehabilitate Moses Lake, District management recruited a professional environmental firm with skilled scientists and a successful track record designing and permitting dredging projects throughout the northwest. Grette Associates is known world-wide for aquatic habitat expertise and technical soundness. District management and the consultants designed the Sediment Management Plan to fully comply with the state Shoreline Management Act and to be integrated into the City's Restoration plan. Now that the regulatory review process is complete, and all required permits have been acquired, the first phase of suction dredging in Parker Horn will begin to deal with accumulated sediment as deep as 7-11 feet in some places. The future health of Moses Lake has never looked brighter.

Why begin dredging in Parker Horn?

Sediment control in Parker Horn is a paramount concern due to the need to:

- Intercept "trap" sediment before it is transported further into the lake
- Maintain open water for boating, fishing, and access to docks south of Neppel Crossing
- Limit sediment migration from north of Neppel Crossing
- Protect waterfowl habitat complexity along the bar north of the crossing
- Maintain fish habitat resources both north and south of the crossing
- Remove accumulated sediment around the District water intake pump
- Prevent sediment laden water from being pumped into Pelican Horn

The primary Parker Horn project area is north of Neppel Crossing, with minor dredging south of the crossing at the District's existing water pump intake.

FOR MORE INFO:
WWW.MLIRD.ORG

MLIRD

Fifth Year
Water Quality Institute

This is the fifth summer that local students will be on the waters of Moses Lake for 'hands-on" learning about how water quality, fish and shoreline habitats are impacted by what flows into, grows, lives and dies in the lake. Everything that happens in and upstream of the lake has immediate or long-term affects on lake health, local recreation and tourism, and our regional economy.

Middle School Water Quality Institute participants celebrate a job well done.

It won't be long now before the first graduates of the district's "outstanding" Water Quality Institute (WQI) will leave college and make decisions about careers and where to live. Those WQI students who return home are better prepared to make informed choices about the future of our community and the beautiful lake that helps support us all in many ways. So, thanks to our private scholarship donors and the rate payers who continue to support District projects as investments to protect that future.

Spring events draw crowds, boost lake awareness

In step with the District's recreation and rehabilitation obligations, three spring events once again attracted new participants to the shores and waters of Moses Lake. Every year, each new volunteer and visitor represents a vote of confidence in the future of our most precious natural asset. A BIG THANK YOU to everyone who took part!

Lakeshore Cleanup Day A huge success – 150 citizens picked up 1.5 tons of garbage and debris in this annual community-wide effort coordinated by MLIRD. Eliminating trash along our shorelines, before the District raises the water level each spring, helps stop pollution and other junk from entering the lake.

"Solar Cup" Hydroplane Races For 10 years now, MLIRD has hosted inboard hydroplane races at Connelly Park each April. This year 50 boats, crews and families came to race, attracting even more spectators and tourists to Moses Lake. Inboard hydroplane racing is a fast-growing recreation and tourist pastime that not only boosts local business, but also helps promote the growing diversity and appeal of living here.
(Special thanks to the "Solar Cup" Committee established this year, and to our local sponsors who provided prize money for the first time this year.)

Third Annual Kid's Fishing Derby Hosted by MLIRD in April, this year's derby greeted 272 participants and more than 100 volunteers. Approximately $2,500.00 in prize valuation for our very excited derby winners was arranged by Dave Graybill, "the Fish'in Magician."

September Forum will focus on Moses Lake role in the economy

Using questions from the audience, the third Lake Forum will shift gears from lake rehabilitation projects, to the larger role the lake itself plays in our local economy.

Please join us!

Third Lake Forum

Water & the Regional Economy

Monday, September 19
6:00 - 8:00 pm
Masto Conference Center - atec

INVITED PANEL: Legislators, economic development and community leaders with different perspectives on how Moses Lake supports local jobs, recreation and tourism, and our business community.

STEERING COMMITTEE: EDC, MLBA, Chamber, MLIRD, Vision 20/20, Big Bend Community College, Columbia Basin Herald, City and Port of Moses Lake.

Lake View

SNAPSHOTS FROM THE MOSES LAKE IRRIGATION & RE-HABILITATION DISTRICT

MOSES LAKE IRRIGATION & RE-HABILITATION DISTRICT
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LOOK INSIDE FOR OUR SPECIAL INSERT ABOUT MOSES LAKE SILT DREDGING