



17 years, 62 Countries, **One** Company

This is who we are



Worldwide Waterway **Barrier** Experts

Debris Control

Never Looked so Good

Wildfires exact a heavy toll on reservoir operations. Post fire control measures include use of durable TUFFBOOM® log and debris booms to catch and corral the heavy amounts of debris that wash into reservoirs after the fires end. Shown here in 2017 is a massive debris flow being restrained by a standard TUFFBOOM® debris barrier.



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A GLOBAL REPUTATION

Integrity - Trust - Quality

Worthington was founded on the principles of quality, integrity and trust. We've never lost sight of that commitment. Since 2001, in more than 62-countries, the Worthington name has become synonymous with high quality, reliable and cost effective waterway barrier solutions. We invite you to explore our waterway barrier products on the following pages. Let us show you how we can use our experience to improve yours. You can always trust Worthington to provide expert advice and customer service.



Worldwide Waterway **Barrier Experts**

TUFFBOOM

Debris Control & Public Safety

TUFFBOOM & TUFFBUOY debris and safety barriers, MI (USA)



Worldwide Waterway **Barrier Experts**

TUFFBOOM

Now available in 2-sizes to meet all your debris and safety challenges.

2 Great TUFFBOOM Solutions

The same great TUFFBOOM barrier used in more than 62 countries is now available in 2 size ranges to meet your toughest challenges. Choose the standard 16" dia. x 10 ft long (41cm x 3.05m) float or for bigger debris, higher flows, larger waves, the robust TUFFBOOM-XL at 24" dia. x 15 ft (610 cm x 4.6m) delivers impressive performance.



	TUFFBOOM (standard)	TUFFBOOM-XL
Diameter:	16" (40.6 cm)	24" (0.61m)
Single Boom Length:	10 ft (3.05m)	15 ft (4.57 m)
C-C Length (assembled):	10.6 in (3.45m)	16.75 ft (5.1m)
Weight (dry):	141 lbs. (64 kg)	482 lbs. (219 kgs)
Buoyancy:	700 lbs. (317 kg)	2,250 lbs. (1020 kgs)
Freeboard:	12" (30.5 cm)	19" (47.6 cm)
Load Capacity (per unit)*1	90 kips (40,800 kgs)	150 kips (68,000 kgs)
Spacing Between Units:	11" (27.9 cm)	20" (50.8 cm)
Typical Connection Hardware:	Patented Shackle Free Connections	
Internal Foam Fill:	Closed cell USCG approved foam	
Water Absorption:	<3% per ASTM XXX	
Internal Strength Member:	Steel Channel Steel Beam	
Compatible with Debris Screens:	Yes	
External Shell:	LLDPE (linear low density polyethylene)	
Color Options:	Orange, Yellow, Brown, Green, Black, Tan, White	
Mold-In Graphics:	Optional	

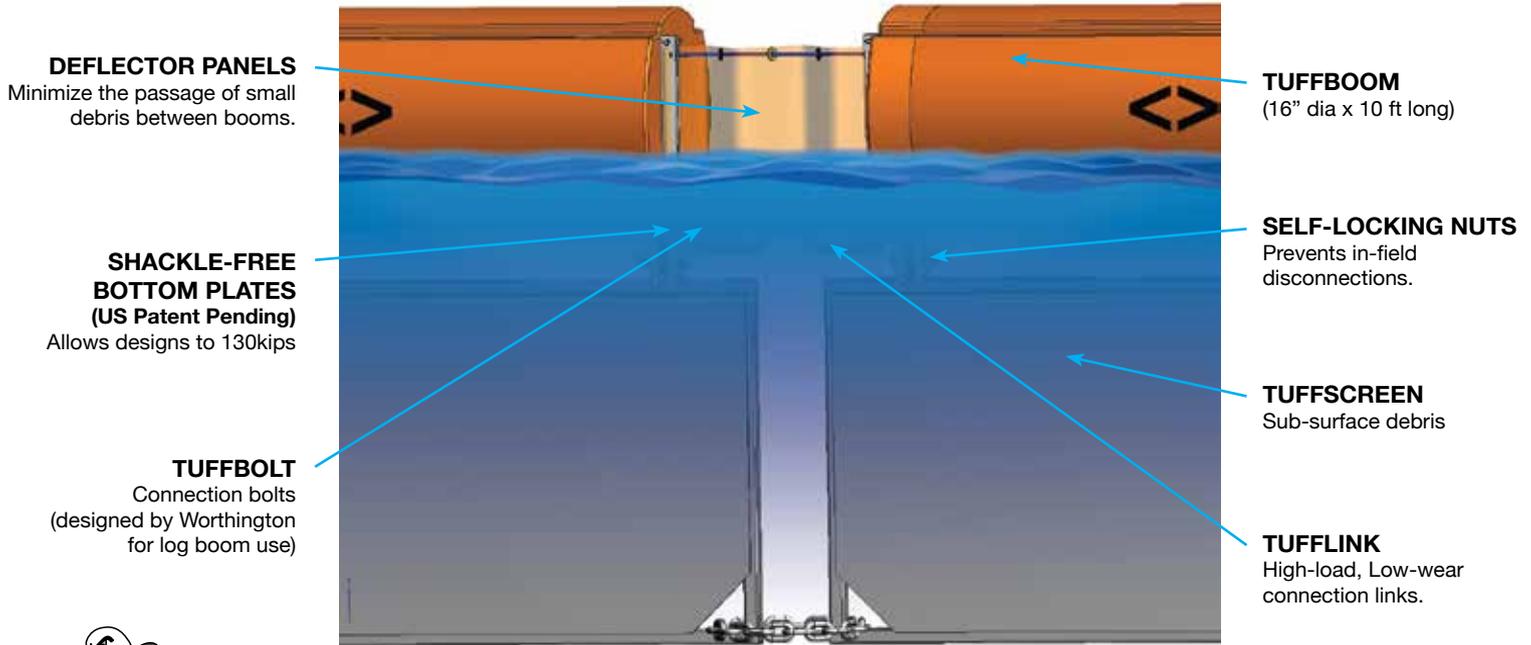
*1: Based on shackle-free connections with additional factor of safety. Ultimate loading may be higher.



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TUFFBOOM

Now with the strongest, most reliable **SHACKLE-FREE** connections available.



* 2017 US Patent Pending

TUFFBOOM-XL

The Longest, Largest, Strongest TUFFBOOM ever!

The engineers at Worthington did not mess around when they developed TUFFBOOM-XL. Designed for high flows, huge loads and massive challenges, the XL truly ups the ante when it comes to serious debris control. Check out these impressive stats:

15-feet Long / 24-inch Diameter / 2,250-lb Buoyancy

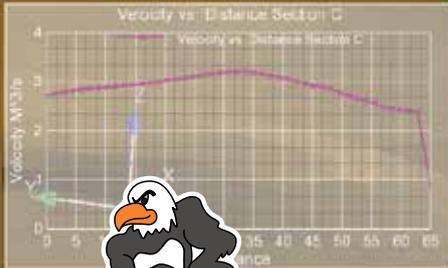
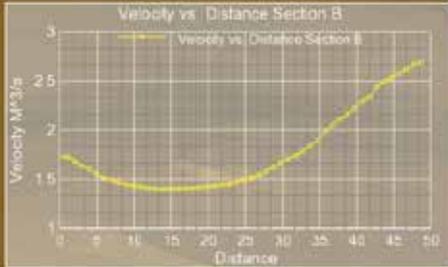
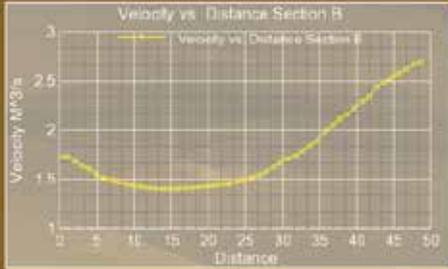
150,000 lb
design load capacity

The XL interboom connection was even designed to accommodate extreme loading and features Worthington's **Shackle Free Design** to assure years of trouble and maintenance-free operation. XL incorporates several new innovations in boom design including our patent-pending safety hand-holds built right into the boom. Now you can achieve effective debris control while also satisfying your Public Safety Arounds Dams obligations.



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ENGINEERING



We've invested heavily into cutting edge software and tools to allow our engineering staff the ability to design boom systems right the first time. Tools such as Flow-3D modeling software, high speed processors and 3D printers give us capabilities for your most complex project.

When you combine our nearly 20 years experience with the sophisticated technology of today, the result is long term boom performance.

Talk to Worthington. It can be as simple as needing the boom line tension or a complete site survey. We have the tools and resources to get the project completed.

Velocity (m/s)

4.000

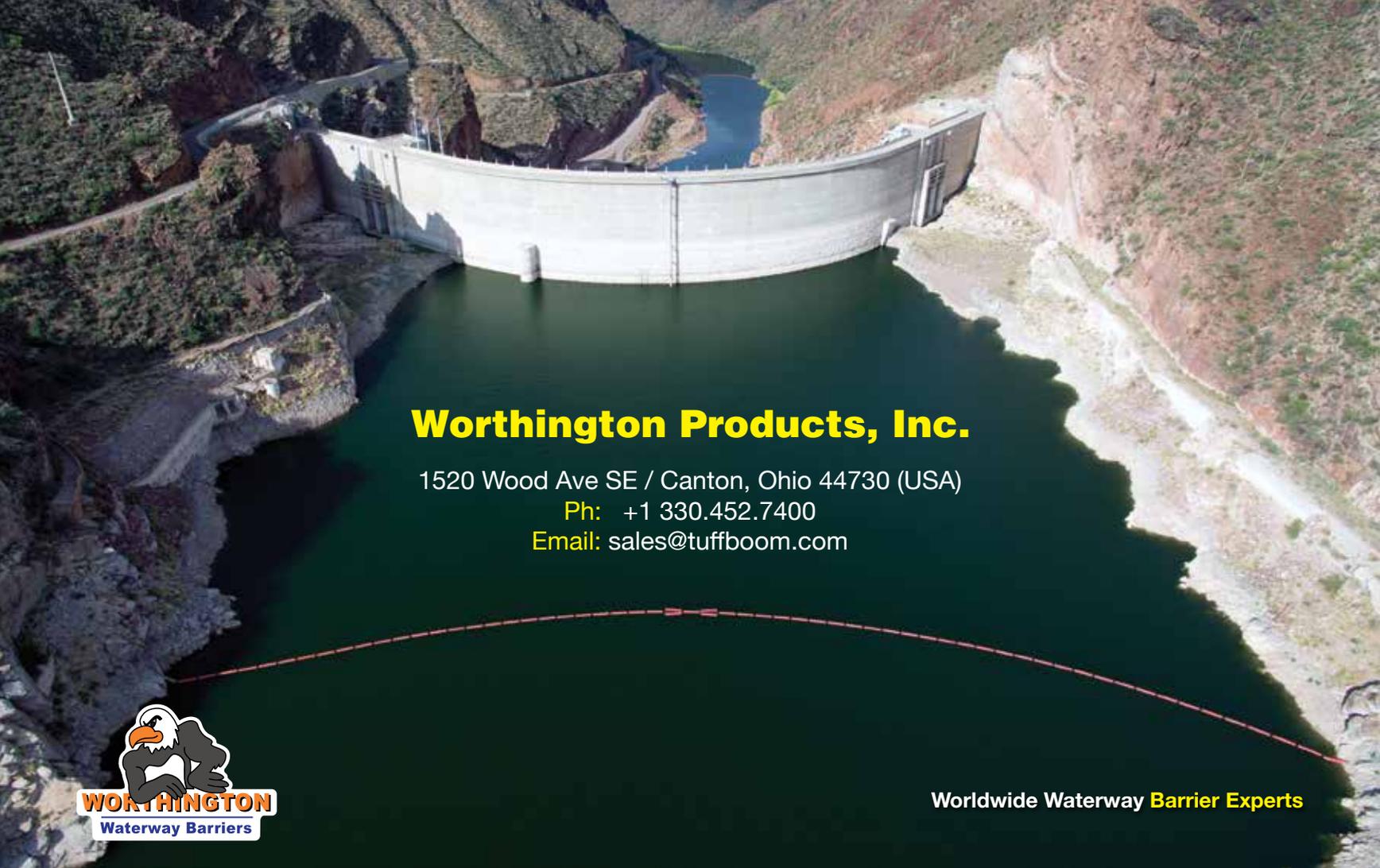
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