

another Dam newsletter



Ohio Dam Safety Organization, Spring 2005

Ohio Dam Safety Organization

by Joe Stock, Jr., P.E.,
Chairman

The Ohio Dam Safety Organization (ODSO) was formed in 1995 as a division of the Water Management Association of Ohio (WMAO). ODSO is also affiliated with the national Association of State Dam Safety Officials (ASDSO). Membership to ODSO is free and open to all who are members of the WMAO. It is ODSO's mission to promote dam safety in the State of Ohio by establishing a partnership between dam owners, operators, engineers and regulators. We do this by providing forums for education and discussion on dam safety related issues and providing a voice for all concerned in the formation and implementation of dam safety policy in the State of Ohio.

The Ohio Department of Natural Resources (ODNR)/Division of Water recently released revised dam safety regulations effective January 16, 2005.

Dam Safety Administrative Rules Update

The Ohio Department of Natural Resources, Division of Water has completed the five-year review and update of the rules for the Dam Safety Program. The updated rules became effective on January 16, 2005. You may view all the rules using any of the following methods:

1. On-line at www.dnr.state.oh.us/water/orclaw/dams_law_main.htm
2. Download a PDF version at www.dnr.state.oh.us/water/dsafety/dam_rules_1_16_04.pdf

Some of the changes to the rules were:

- Removed the word dikes from the rules since levees and dikes were used interchangeably
- Clarified registered professional engineers and surveyors requirements for projects.
- Clarified some definitions.
- Reorganized and clarified the Preliminary Design Report content requirements for dams and levees.
- Changed review period for repair projects from 30 to 45 days. Critical flood reviews may take up to 90 days.
- Clarified Final Design Report requirements for dams and levees.
- Clarified levee design requirements.
- Clarified construction reporting requirements.
- Clarified classification rules for dams and levees.

You may also obtain a printed copy of the rules by contacting the Division of Water at (614)265-6731 or at the following address:

Dam Safety Rules Request
Ohio Department of Natural Resources
Division of Water
2045 Morse Rd
Columbus, Ohio 43229-6693

Thank you for your consideration.
Please contact the Division of Water if you have any questions.
Phone: (614) 265-6731
Fax: (614) 447-9503

ODSO Dam Safety Workshop

ODSO will be having a one day workshop for dam owners and consultants in August 2005. The date and location will be determined in the near future. The course will include:

- Operation, maintenance and safety inspection of dams.
- Dam owner liabilities, public safety and security.
- Developing and implementing Emergency Action Plans.

For more information as it develops, please provide us with your name, address, phone and email address. Contact Dave Moore at dlmoore@burnip.com. Also, please check our web site for upcoming events. <http://www.wmao.org/div/odso/seminars.shtml>

Dam Safety: Lake Drains

A lake drain is a device to permit draining a reservoir, lake or pond. Division of Water Administrative Rule 1501:21-13-06 requires that all Class I, Class II and Class III dams include a lake drain.

Common types of drains include the following:

- A valve located in the spillway riser.
- A conduit through the dam with a valve at the upstream end of the conduit.
- A siphon system (Often used to retrofit existing dams).
- A gate, valve or stoplogs located in a drain control tower.

Uses of Drains

Emergencies: Should serious problems ever occur to threaten the immediate safety of the dam, drains may be used to lower the lake level to reduce the likelihood of dam failure. **Maintenance:** Some repair items around the lake and dam can only be completed or are much easier to perform with a lower than normal lake level. **Winter Drawdown:**

Cont.

Some dam owners prefer to lower the lake level during the winter months to reduce ice damage to structures along the shoreline and to provide additional flood storage for upcoming spring rains.

Operation and Maintenance Tips

- A.** All gates, valves, stems and other mechanisms should be lubricated according to the manufacturer's specifications. If you do not have a copy of the specifications and the manufacturing company cannot be determined, then a local valve distributor may be able to provide assistance.
- B.** The lake drain should be operated at least annually to prevent the inlet from clogging with sediment and debris, and to keep all movable parts working easily. Most manufacturers recommend that gates and valves be operated at least four times per year. Frequent operation will help to ensure that the drain will be operable when it is needed. All valves and gates should be fully opened and closed at least twice to help flush out debris and to obtain a proper seal. If the gate gets stuck in a partially opened position, gradually work the gate in each direction until it becomes fully operational. Do not apply excessive torque as this could bend or break the control stem, or damage the valve or gate seat. With the drain fully open, inspect the outlet area for flow amounts, leaks, erosion and anything unusual.
- C.** All visible portions of the lake drain system should be inspected at least annually, preferably during the periodic operation of the drain. Look for and make note of any cracks, rusted and deteriorated parts, leaks, bent control stems, separated conduit joints or unusual observations.
- D.** A properly designed lake drain should include a headwall near the outlet of the drain conduit to prevent undermining of the conduit during periods of flow. A headwall can be

easily retro-fitted to an existing conduit if undermining is a problem at an existing dam. A properly designed layer of rock riprap or other slope protection will help reduce erosion in the lake drain outlet area.

- E.** Drain control valves and gates should always be placed upstream of the centerline of the dam. This allows the drain conduit to remain depressurized except during use, therefore reducing the likelihood of seepage through the conduit joints and saturation of the surrounding earth fill.
- F.** For accessibility ease, the drain control platform should be located on shore or be provided with a bridge or other structure. This becomes very important during emergency situations if high pool levels exist.
- G.** Vandalism can be a problem at any dam. If a lake drain is operated by a crank, wheel or other similar mechanism, locking with a chain or other device, or off-site storage may be beneficial. Fences or other such installations may also help to ward off vandals.
- H.** The recommended rate of lake drawdown is one foot per week or less, except in emergencies. Rapid drawdown causes a build-up of hydrostatic pressures in the upstream slope of the dam which can lead to slope failure. Lowering the water level slowly allows these pressures to dissipate.

Conclusion

An operable lake drain accomplishes the following:

1. Makes for a safer dam by providing a method to lower the lake level in an emergency situation.
2. Allows the dam owner to have greater control of the lake level for maintenance, winter drawdown and emergency situations.
3. Meets the requirements of the Ohio Dam Safety Laws.

For additional information please contact:

The Ohio Department of
Natural Resources
Division of Water
Dam Safety Section
2045 Morse Rd., Bldg. E-3
Columbus, Ohio 43229-6693
Phone (614) 265-6731
Fax (614) 447-9503
E-mail water@dnr.state.oh.us

Nomination Committee News

by **Tim Granata, Pedro Amaya
& Dick Lorenz**

The Committee is taking nominations for the following three Executive Board seats:

1. Industrial Dam Owners;
2. Engineering Consultants; and
3. Conservation Districts.

Terms will start on November 2, 2005 and will last until November 2, 2007. We request the nominee's name, qualifications, and email address be sent by July 31, 2005 to the following email address: granata.6@osu.edu.

The Committee will review the nominations and try to place at least two names on the ballot in each category. Mail-in ballots will be attached to the Fall WMAO newsletter. Voting will take place on November 2, 2005 at the ODSO session of the WMAO Conference.

Fall Conference – ODSO Program Committee

by **Dave Moore & Joe Stock**

Once again, this year the Ohio Dam Safety Organization (ODSO) Fall Conference will be held jointly with the Water Management Association of Ohio (WMAO) Annual Conference. The 34th Annual WMAO Fall Conference will be held November 2-3. The conference

location is the Holiday Inn East in Columbus, Ohio (<http://www.hicolumbuseast.com/>).

The dam safety session of the program has not been finalized, but will include presentations by dam safety professionals on current state of the practice issues such as; dam failure analysis, dam safety monitoring, environmental impacts and issues of dam ownership, dam rehabilitation and other dam safety topics. WMAO will be sending out a call for abstracts soon. Please respond to the WMAO call for abstracts as this includes dam safety related topics.

ODSO Executive Board by Joe Stock, Jr., P.E., Chairman

ODSO is governed by an Executive Board of representative dam owners elected at our annual Fall meeting. The Executive Board consists of one member representing each of the following seven areas of dam safety interest:

- Academia
- Conservancy Districts
- Dam Construction Contractors
- Engineering Consultants
- Industrial Dam Owners
- Municipal Dam Owners
- Private Dam Owners

The Executive Board's Officers are Joe Stock-Chairman from Buckeye Engineering, representing Engineering Consultants, Warren Baas-Vice Chairman from Ohio Ready Mixed Concrete Association, representing Construction Contractors and Tim Granata-Secretary/Treasurer from the Ohio State University, representing Academia.

The Advisory Committee members are Dick Lorenz (immediate past Chairman) from the City of Westerville, representing Municipal Owners, Pete George from ODNR/Division of Water and Art Brate from Natural Resources Conservation Service (NRCS).

This year's Executive Board consists of two newly elected members Jeff Brooks from the City of Columbus/Water Division, representing Municipal Dam Owners; and Tom Moe of Fairfield County EMA representing Private Dam Owners. Additional Board members include Pedro Amaya for American Electric Power, representing Industrial owners. Further information is available on our website: www.wmao.org/div/odso/.

Dam Safety Awards by Dan Hill

Best Maintained Dams

Congratulations to the winners of last year's annual ODSO Dam Safety Awards for best maintained dam. The 2004 winners (by ownership category) as recognized at the Annual Meeting last October are:

Private: Jack Towne Dam, Jim & Gail Cowan

Industrial: Lincoln Heights Upground Reservoir, Southwestern Ohio Water Company

Conservancy District: Hunters Run Structure No. 8, Hunters Run Conservancy District

State: Jackson Lake Dam, ODNR Division of Parks & Recreation

Photos of the above dams can be viewed at the ODSO web site: www.wmao.org/div/odso. Click on Awards and then click on the name of the dam.

Nominations for the 2005 awards are now being sought. Eligibility is based on two simple requirements: (1) the dam must be at least 5 years old; and (2) it must be in compliance with all of the Department of Natural Resources' dam safety regulations.

This year's awards will be presented in conjunction with the Ohio Dam Safety Organization/Water Management Association of Ohio annual conference in

early November. To make a nomination for this year's awards, fill out the form in this newsletter and return it by September 1, 2005 to:

Dan Hill, Chair
ODSO Awards Committee
1433 Inglis Avenue
Columbus, OH 43212

Community Service

ODSO also presented two awards at the last Annual Meeting to recognize extra efforts that had been made in the interest of dam safety. These awards are not made annually; they are only given by the ODSO Board regarding special actions such as averting dam failure, drafting or sponsoring legislation, etc. The two recipients recognized last October are:

Group: Beaver Creek, Guilford Lake, and Jefferson Lake Regional State Park staff

Individual: Bill Catlett

Membership Application

Please complete this form and include it with your payment (made payable to WMAO) to:

Water Management Association of Ohio
601 Dempsey Road
Westerville, Ohio 43081-8978

NAME _____

ORGANIZATION _____

TITLE _____

MAILING ADDRESS _____

OFFICE PHONE _____

EMAIL _____

MEMBERSHIP	ANNUAL DUES	BENEFITS
Individual	\$65.00	1 member
Organizational	\$180.00	3 members, additional members \$60 each
Sustaining	\$400.00	6 members, additional memnbers \$60 each; business card advertisement space in 4 Ohio Water Table issues (Please provide complete information on each individual)
Student	\$10.00	1 member
Emeritus	\$25.00	1 member; must be 65 years of age with 5 years membership in WMAO or be approved by the executive board.

MEMBERSHIP TYPE _____

AREAS OF INTEREST (Check all that apply)

- | | | |
|--|--|---|
| <input type="checkbox"/> Agriculture | <input type="checkbox"/> Floodplain Management | <input type="checkbox"/> Research & Data Management |
| <input type="checkbox"/> Dam Safety (ODSO) | <input type="checkbox"/> Groundwater | <input type="checkbox"/> Stormwater Management |
| <input type="checkbox"/> Education | <input type="checkbox"/> Recreation & Navigation | <input type="checkbox"/> Water & Wastewater |

Thank you to our advertisers.

These firms provide dam safety services.

Joe Stock, Jr., P.E.
Director of Water Resources

BUCKEYE ENGINEERING

Dam Safety ♦ Hydrologic/Hydraulic Studies ♦ Spillway Repair Design
OM&I Manuals ♦ Emergency Action Plans ♦ Flood Inundation Studies

(740) 548-8252 Phone
(614) 402-6147 Mobile
(740) 548-7802 Fax

P.O. Box 26012
Columbus, OH 43226

BuckeyeEng@insight.rr.com www.Buckeye-Eng.com

Assisting lake owners throughout Ohio



Fuller
Mossbarger
Scott &
May

Lexington, Kentucky
(859) 422-3000
(859) 422-3100 (fax)

Louisville, Kentucky
(502) 212-5000
(502) 212-5055 (fax)

Cincinnati, Ohio
(513) 860-1070
(513) 860-1073 (fax)

Columbus, Ohio
(614) 846-1400
(614) 846-9566 (fax)

St. Louis, Missouri
(314) 878-6800
(314) 878-6801 (fax)

Water Resources • Environmental
Management and Planning • GIS Applications
Geotechnical • Waste Management
Materials Testing • Construction Monitoring
Mining • Stream Restoration
Commercial Diving • Surveying and Mapping
Civil and Seismic Engineering • Drilling, Sampling
www.fmsm.com



BURGESS & NIPLÉ

Burgess & Niple, Inc.

5085 Reed Road ■ Columbus, OH 43220
614.459.2050 ■ 614.451.1385 Fax
Contact Pat Conroy: pconroy@burnip.com
or David Moore: dlmoore@burnip.com

Other Ohio Offices: Akron, Cincinnati, Cleveland & Painesville
15 offices nationwide burgessniple.com

Complete Dam Engineering & Environmental Services



Gannett Fleming

Celebrating 90 years of Excellence

www.gannettfleming.com
gfohio@gfnet.com

**GIS
Planning
Design/Build
Geotechnical
Environmental
Transportation
Water Resources
Program Management
Construction Services**

Columbus, OH • (614) 794-9424
Akron, OH • (330) 864-1943

listen. think. deliver.®



Columbus office
8800 Lyra Dr. Suite 500
Columbus, OH 43240
Tel. 614 847-8340
Fax 614 847-1699

Cleveland office
1100 Superior Ave., Suite 620
Cleveland, OH 44114
Tel. 216 579-1015
Fax 216 579-0414

Cincinnati office
8805 Governor's Hill Drive, Suite 260
Cincinnati, OH 45249
Tel. 513.583.9800
Fax 513.583.0090

Contact for Ohio Offices
Francois Bernardeau, PE
Mohamed Abdel-Latif, PhD, PE
(614) 847-8340

www.cdm.com

consulting • engineering • construction • operations



LEWIS LAND PROFESSIONALS^{LLP}

Civil Engineering & Land Surveying
David H. Lewis, P.E.
PRESIDENT
dlewis@neobright.net
8691 Wadsworth Rd. Ste. 100, Wadsworth, Ohio 44281
Ph. (330) 335-8232 Fax (330) 335-0242



EDP Consultants, Inc.

Alan J. Esser, P.E.
Senior Principal

9375 Chillicothe Road, Kirtland, Ohio 44094-8501
Phone (440) 256-6500 • Cleveland (440) 585-1320
Fax (440) 256-6507 • www.edpconsultants.com
ajesser@edpconsultants.com

Geotechnical • Environmental • Construction Materials Consultants

If you would like to advertise in the next newsletter,
please contact Joe Stock at (740) 548-8252 or jstock@insight.rr.com

ODSO 2005 Best Maintained Dam Nomination Form

Categories (*check one*):

<input type="checkbox"/> Industrial	<input type="checkbox"/> Private	<input type="checkbox"/> Property Owner Association
<input type="checkbox"/> Municipal	<input type="checkbox"/> State	<input type="checkbox"/> Conservancy District

Name of Dam: _____ ODNR File No. (if known) _____

Owner: _____

Address: _____

Telephone No.: _____

Nominator (optional): _____

Address: _____

Telephone No.: _____

Non-Profit Org.
 U.S. Postage
PAID
 Columbus, Ohio
 Permit No. 6256

Ohio Dam Safety Organization
 Water Management Association of Ohio
 601 Dempsey Road
 Westerville, Ohio 43081-8978
 (614) 882-5489