

## 2009 Wastewater Personnel Survey Summary

### Background

The main objective of the 2009 Wastewater Personnel Survey was to hear from front-line wastewater treatment personnel of what they expect and need from the Water Environment Federation (WEF). With the absence of a designated “training” committee, WEF staff started this initiative so to prioritize the development of training products under WEF’s new Distance Learning Program. At the same time, the House of Delegates formed an operator workgroup who also wanted to hear the needs of front-line operators and relationship between operators, Member Associations (MAs), and WEF. Launched at WEFTEC.09 in Orlando, the survey was open through December 31, 2009. It was featured in Highlights, several Water Logs, MA Leader, and was also a requirement of all Operations Challenge participants to complete.

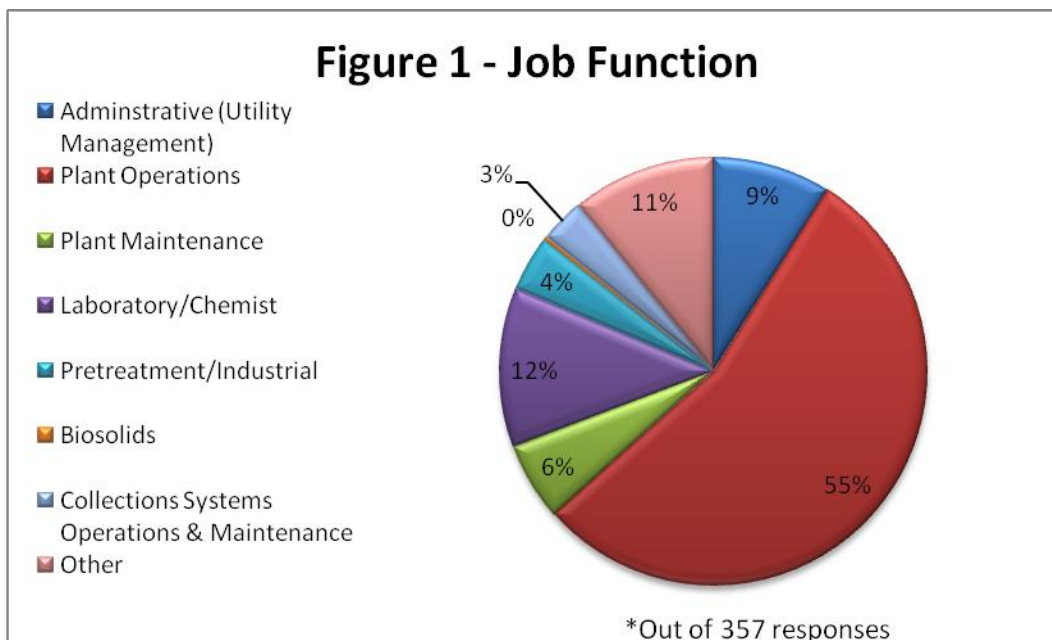
### Result Summary

We received 343 completed surveys and 55 partial surveys. The intended participants for the survey were utility personnel only – administrators, operations and maintenance personnel (both plant and collection systems), laboratory analysts, etc.

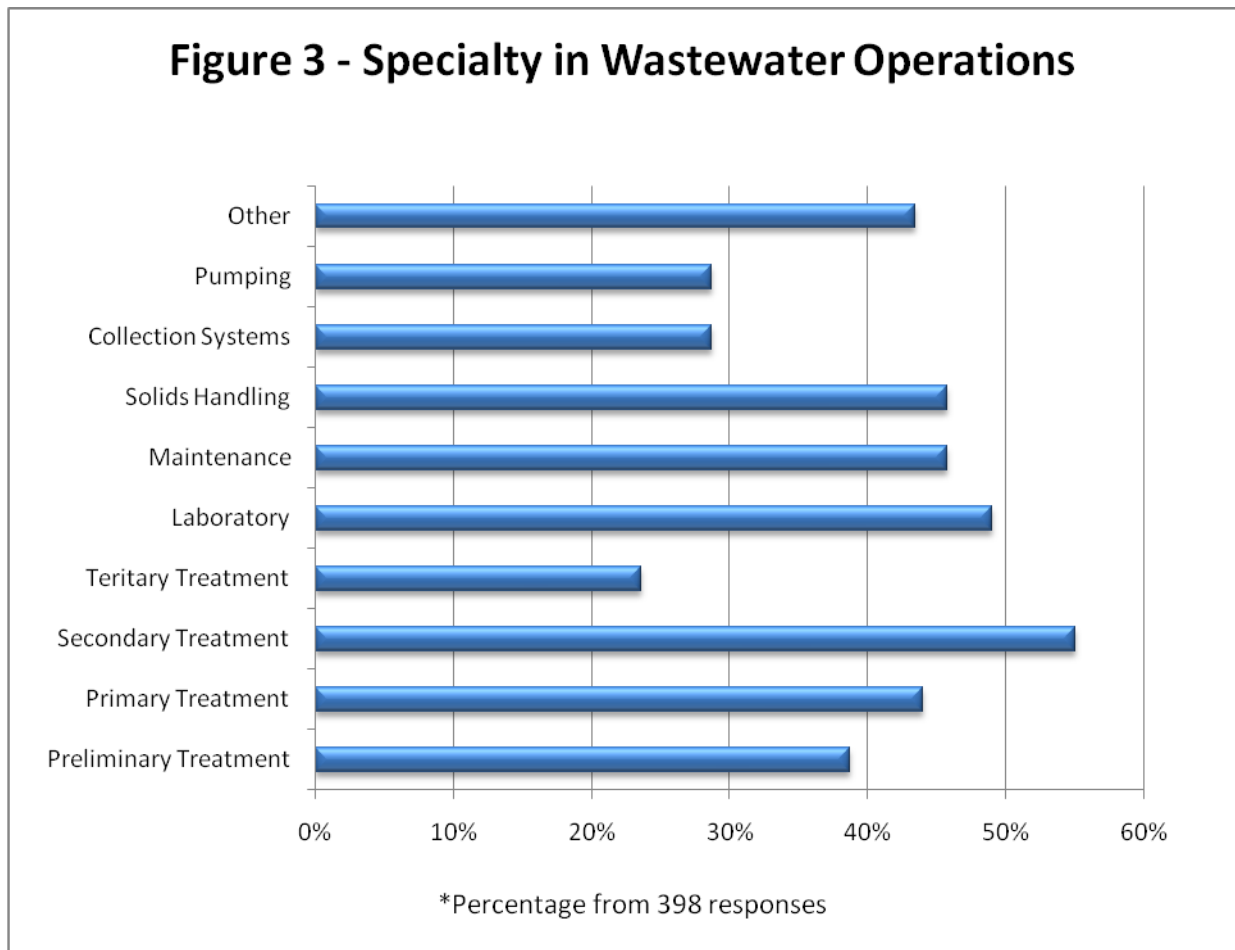
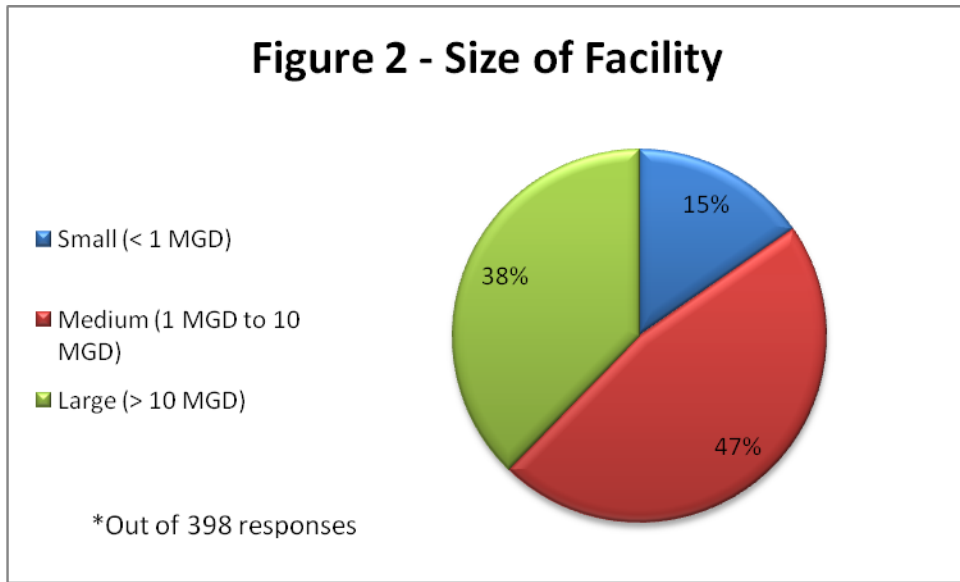
The survey can be divided into three main parts:

- [Demographics](#)
- [Certification and Continuing Education](#)
- [Relationship with WEF and MA](#)

### Demographics



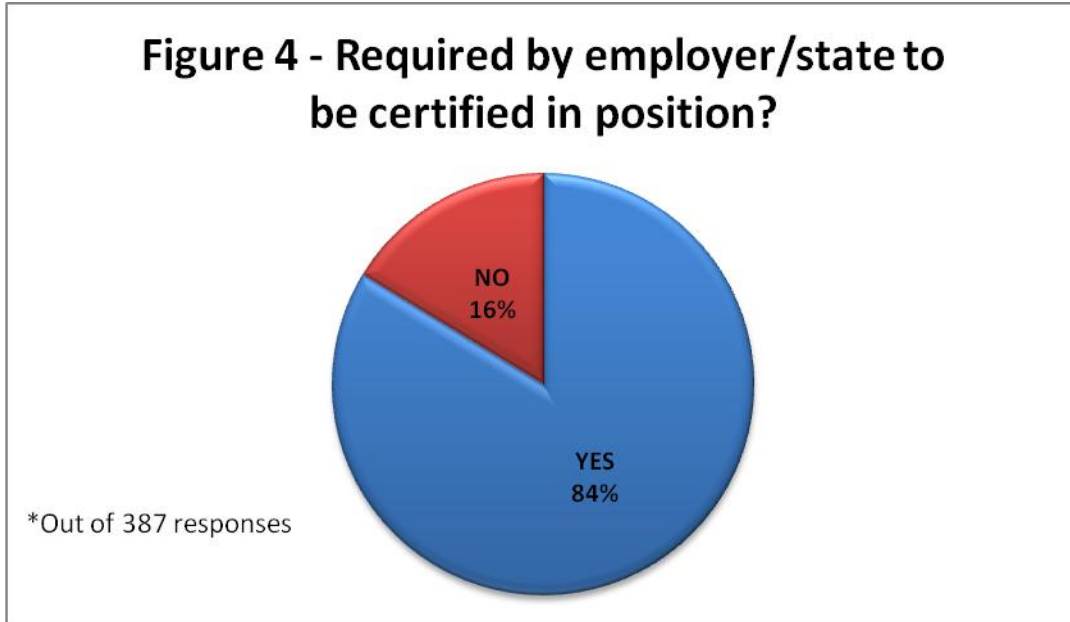
As seen in Figure 1 above, a majority of those who participated in the survey are plant operators. The “other” included a number of engineers and/or consultant designers.



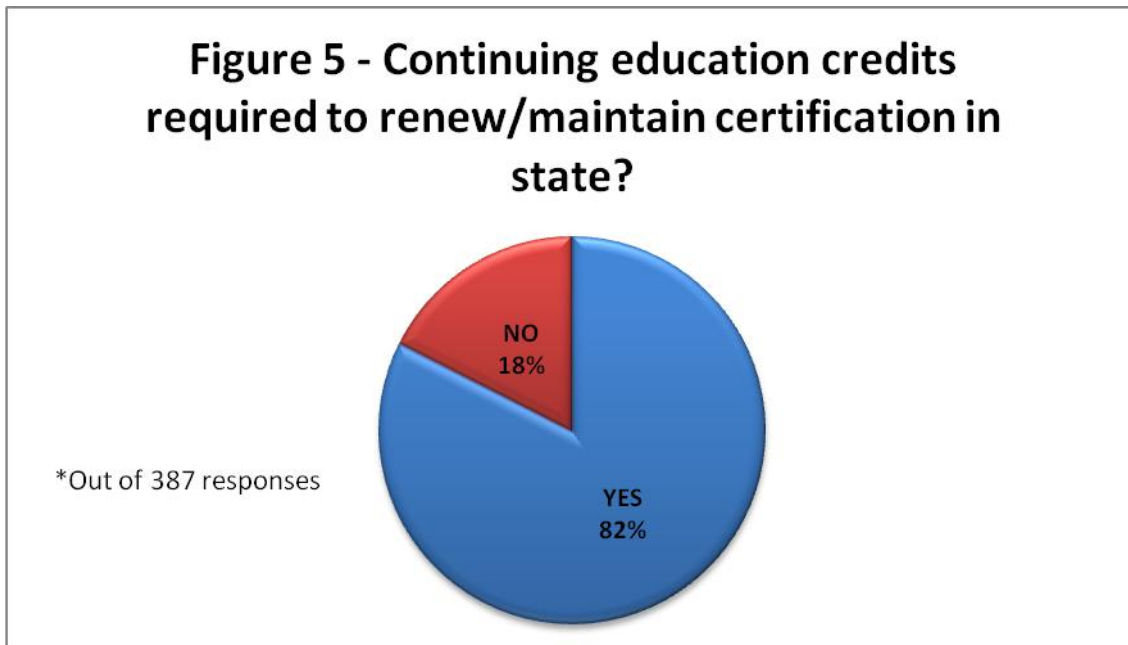
For Figure 3 above, participants were asked to “check all that apply”. Under “other”, participants were asked to specify what type of treatment they had and to add anything not on the list. Activated sludge was the most used specialized

treatment followed by biological nutrient removal (BNR). Other specialties listed included industrial pretreatment, administration/management, and small systems.

### ***Certification and Continuing Education***

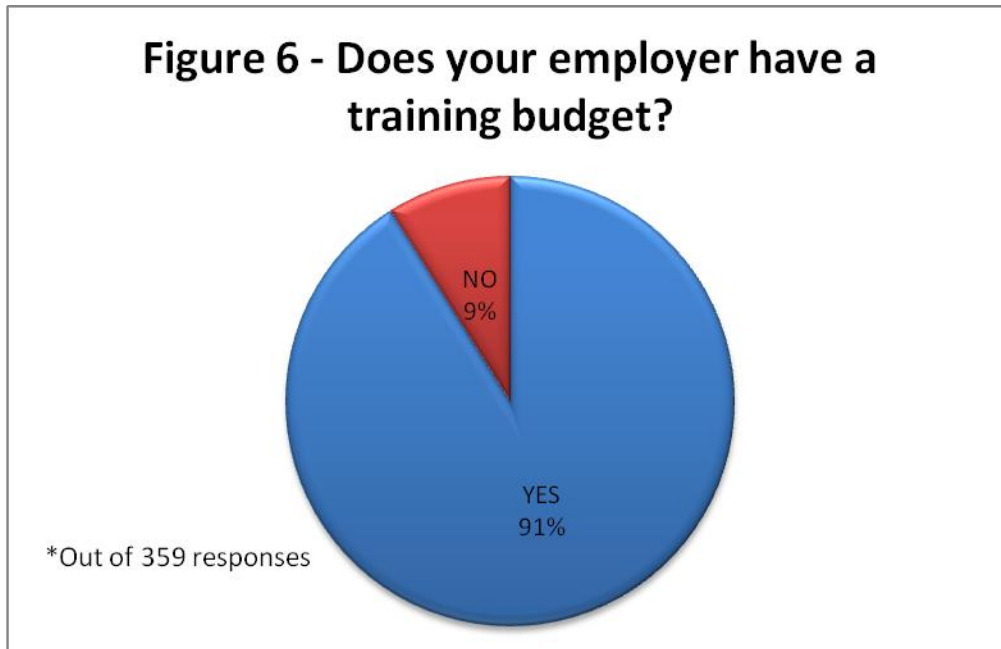


When asked why or why not certification is required for their position, a majority of responses indicated that plant operators are required to have certification. However, collection system operators and laboratory analysts were not required to have certification but encouraged to have a voluntary certification.

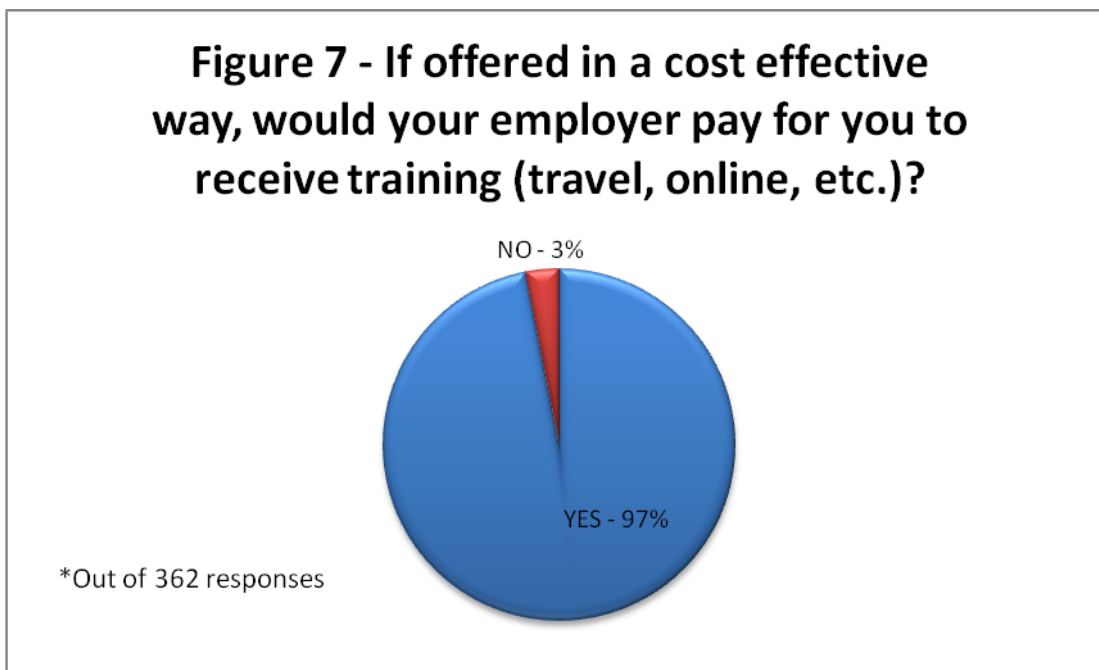


Though a majority of the responses said “yes” when asked if continuing education credits is required to maintain certification in the state, the written responses indicate that most people really do not know the requirements of their state in terms of continuing education. Several participants did say their state is considering having mandatory continuing education credits for plant operator certifications.

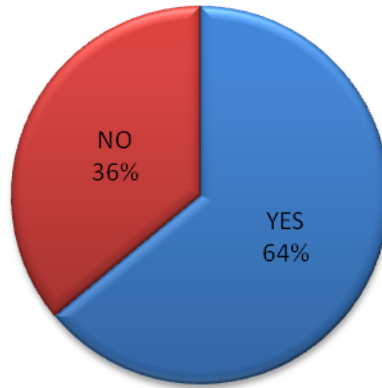
Participants were also asked what training (if any) is provided by the state. There were 290 responses to this question, and a majority of the response said their respective MA provided the proper training needed to prepare for certification examination and for every day job duties. Training included classroom type short courses, private training, and by attending local conferences/seminars.



Though a majority of the responses show that their employers do provide a training budget, we also asked the participants for a ballpark figure of the amount per year per person. Many responses only listed the total amount of training funds per year and did not give a breakdown per person. However, 10% of those who responded did. The highest amount of training funds per person per year is \$2000, and the lowest is about \$40. The average amount of funds is about \$620.



**Figure 8 -Would you pay out of pocket for training (travel, online, etc.)?**



\*Out of 225 responses

Most people indicated that they would rather have their employer pay for their training than to pay out of pocket themselves.

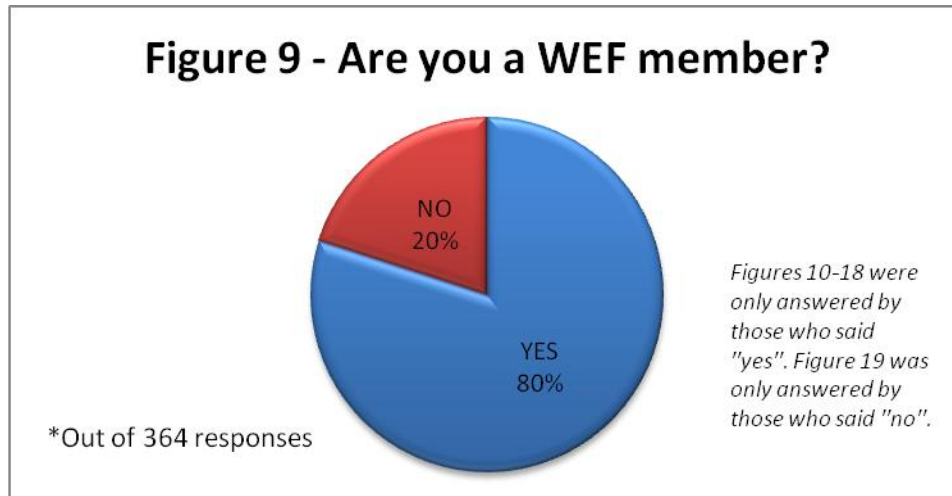
When asked “if given the opportunity to receive training, what top three topic would you like training”, 351 participants responded. After evaluating the various topics written, we were able to categorize 68 major topics including subtopics. Table 1 below shows the top 20 topics (with ties) of interest for training. Several of the major topics can be combined even further, but we wanted to keep the topics as specific as possible based on the responses.

**Table 1 – Major Topics of Interest for Training**

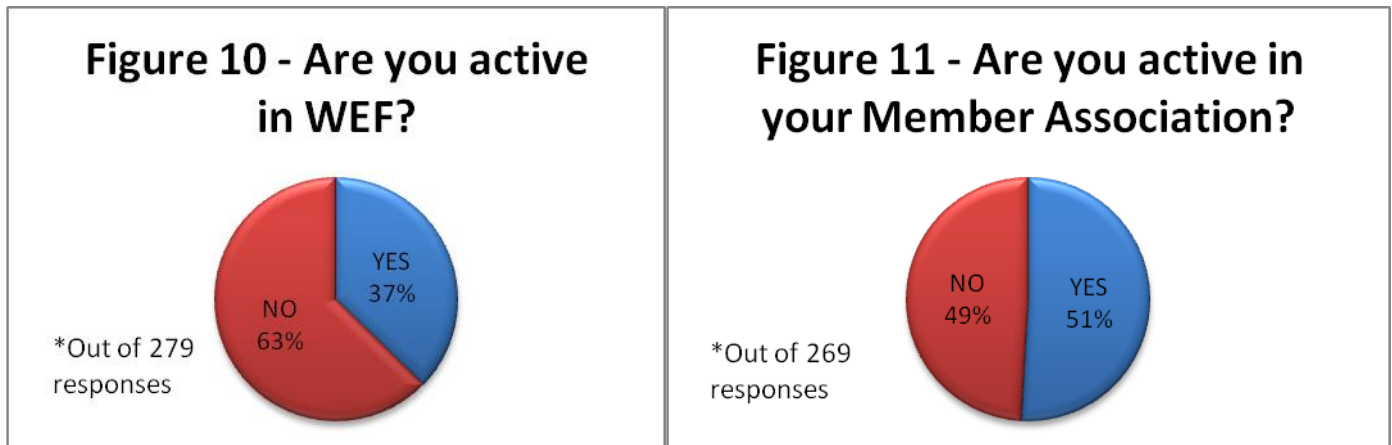
Rank	Topic
1	<b>Laboratory</b> - procedures, techniques, operation, certification, methods, QA/QC, microbiology, etc.
2	<b>Biosolids/residuals</b> – handling, management, beneficial use, etc.
3	<b>Collection systems</b> - O&M, rehabilitation, asset management, design, pump stations, cleaning and inspection, etc.
3	<b>Management</b> – employee relations, staffing, financial/budgeting, leadership, etc.
4	<b>Plant Operations</b> – sampling collection, basic operations, etc.
5	<b>Nutrient removal</b> – phosphorus and nitrogen removal
6	<b>Safety</b> – general, confined space, OSHA compliance
7	<b>Activated sludge</b> – process control and troubleshooting, SBRs, advanced operations
7	<b>Plant Maintenance</b> – preventive, equipment (pumps, drives, etc.)

Rank	Topic
8	<b>Process control</b>
9	<b>Regulatory</b> – updates from EPA, emerging issues, requirements, compliance, permits, laboratory requirements
10	<b>Advanced treatment technologies</b>
11	<b>Electrical/Instrumentation</b> – basic, ladder logic, PLCs, VFDs, generators, etc.
12	<b>Computers</b> – SCADA, GIS, basic software (Excel, Word, etc.), data collection and storage
13	<b>Biological Nutrient Removal (BNR)</b> – lab tests, control, operations, treatment
14	<b>Pumping</b> – O&M, hydraulics, stations, meters, motors
15	<b>Energy</b> – efficiency, conservation, recovery, management
16	<b>Wastewater Treatment Basics</b> – characteristics, biology, etc.
17	<b>Training</b> – hands-on type training, tours, case studies, site visits
18	<b>Disinfection</b> – alternative methods, UV
18	<b>Pretreatment</b> – regulations, technologies
19	<b>Anaerobic digestion/digesters</b> – grease/food waste
19	<b>Asset management</b>
19	<b>Communications</b> – dealing with the public, customer service, educating councils and elected officials
19	<b>Membrane technology</b> – MBRs, alternatives
20	<b>Certification</b> - preparation, requirements, advancements
20	<b>Troubleshooting</b>

## Relationship with WEF and MA



When asked to which Member Association the participant belongs, 243 responded. About 33% of the participants who responded are members of the Ohio WEA, 26% of New England WEA, and 10% from the Pacific Northwest CWA. Though few in number, other participants belong to the following MAs: Alaska WWMA, British Columbia W&WA, California WEA, Central States WEA, Chesapeake WEA, Florida WEA, Georgia WPCA, Hawaii WEA, Illinois WEA, Indiana WEA, Iowa WPCA, Kansas WEA, Louisiana WEA, Michigan WEA, Missouri WEA, Nebraska WEA, Nevada WEA, New Jersey WEA, New York WEA, North Carolina WEA, Oklahoma WEA, Pennsylvania WEA, Rocky Mountain WEA, Virginia WEA, WEA of Ontario, WEA of South Carolina, WEA of Texas, and WEA of Utah.



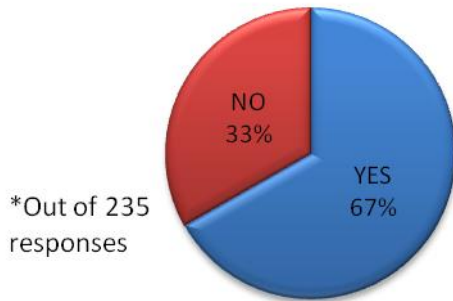
As illustrated in the figures above, a lot of people who participated in the survey are not active in either WEF or their respective MA. Major reasons why people are not active included: no time; no money; employer won't allow time; "I don't know how to get involved".

However, when asked how they are active in either, the responses indicated that a majority of people do not know the difference between WEF and the MA. There were also a handful of responses asking, "What is an MA?" For those who do know the difference, people answered they are active via Operations Challenge, attend WEFTEC and WEFMAX meetings, and/or read WEF journals and buy WEF publications. On the MA level, people attend the local annual conference and some seminars/training around the state.

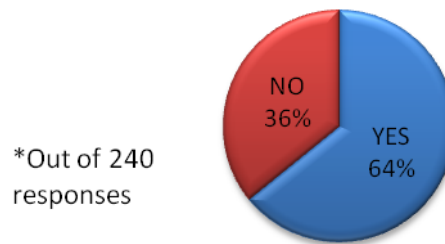
We also asked if those who are not currently active has an interest to get involved with WEF. Out of 269 responses, 64% said "no". The major reasons were the same why they are not active in WEF currently. However, when asked if they

would like to participate in WEF's Distance Learning Program, 73% said yes (out of 250 responses). Unfortunately we do not have an explanation to what level they would be willing to participate.

**Figure 12 - Do you feel WEF has offerings best suited for you?**



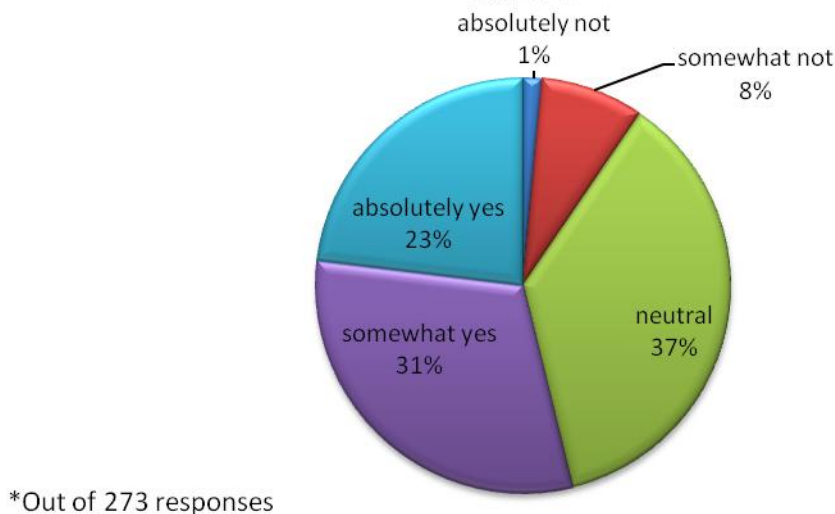
**Figure 13 - Do you feel your MA provides better offerings for you than from WEF?**



Referring to Figure 12 above, those who answered “yes” say they like WEF’s specialty conferences, old CD-ROM courses, and Operations Challenge. However, those who answered “no” were more vocal. Major reasons include: offerings are too expensive; information not specific to needs in regional area; many offerings are not for the “ground level” man or front-line operator; WEF is more engineer focused than plant personnel; and WEF is focused for “big pipe” more than “small pipe” communities.

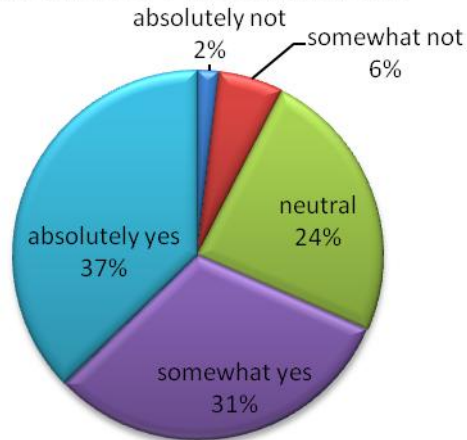
Referring to Figure 13 above, those who answered “yes” say their MA offerings are more affordable, easily accessible (location wise), and focused on what is important for their respective region. There was a mix of responses on whether or not the MA is more operator focused. Some MAs are, some aren’t.

**Figure 14 - Do you feel welcome within WEF?**



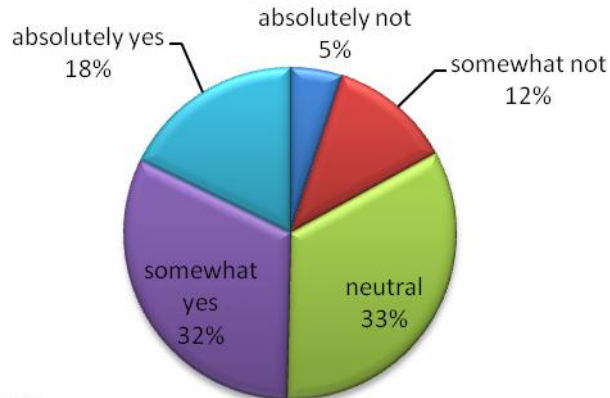


**Figure 15 - Do you feel welcome within your Member Association?**



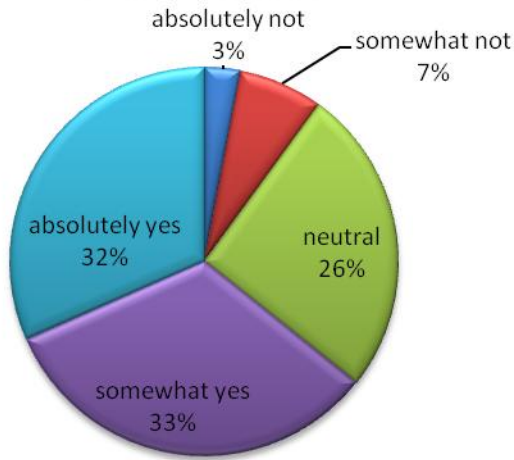
\*Out of 266 responses

**Figure 16 - Do you feel WEF values front-line wastewater treatment personnel and their needs?**



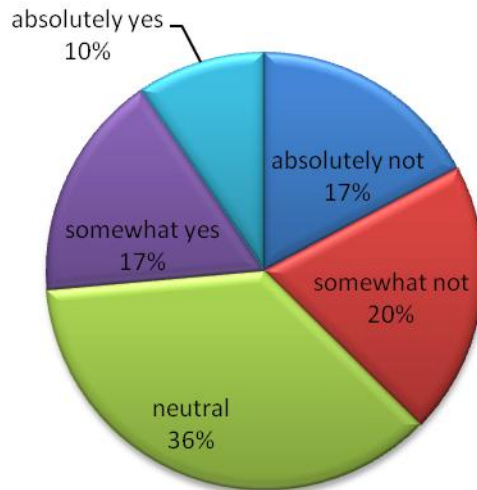
\*Out of 276 responses

**Figure 17 - Do you feel your MA values front-line wastewater treatment personnel and their needs?**



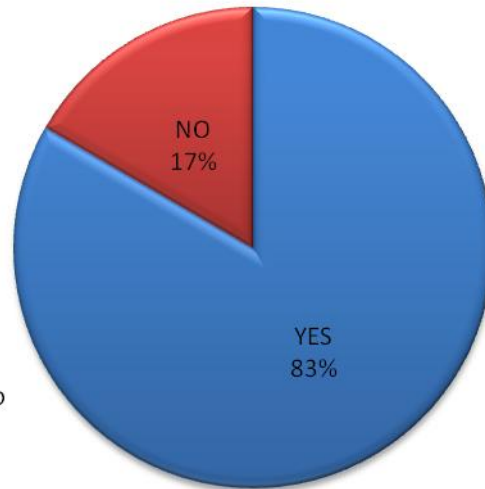
\*Out of 269 responses

**Figure 18 - "I want to contribute to WEF but my employer cannot provide financial support or time off work."**



\*Out of 284 responses

**Figure 19 - Would you consider joining WEF if it met your needs?**



\*Out of 72 responses who are not members of WEF

Reasons why people are not members of WEF include lack of time, money, and no support from their employer. There were also a couple of comments saying they were once members of WEF, but then WEF became too political so they dropped. People would join WEF if the costs were brought down, if their employer paid for membership and gave support, and if they had time. A few people even said they would join WEF if they focused on the small communities more.

We also asked what other organizations people are members of related to their profession. Out of 174 responses, 30% are members of the American Water Works Association (AWWA). Other associations people are members of include American Chemical Society (ACS), American Society of Civil Engineers (ASCE), American Public Works Association (APWA), National Association of Clean Water Agencies (NACWA), National Onsite Wastewater Recycling Association (NOWRA), and Rural Water Association (RWA).

## Recommendations

Several participants provided additional comments at the end of the survey. A number of them were happy to see this type of survey being done. Some of the other comments seemed more like a “venting session” more than anything, but other comments were constructive. Suggestions to WEF included: finding a way to make it easier for the states to approve continuing education credits from WEF; WEF working with the MA and local sections to produce more training opportunities; and seeing some action as a result of this survey.

With the latter comment, here are recommendations moving forward:

- Provide better understanding of the difference between WEF and the MAs
- Provide better advertisement of how front-line operators can get involved with WEF/MA activities – provide estimated time commitment to activities, what are the benefits of being a volunteer
- Prioritize training products based on listing in Table 1
- Find a way to subsidize costs for front-line personnel to attend WEF conferences and/or to get training from WEF