

# *Yavapai* COLLEGE

---



## Water Operator Survey

Conducted Summer 2007

### **Chino Valley Campus**

John Morgan, Campus Dean

Jan Allbright, Science Lab

### **Institutional Research**

Tom Hughes, Director

Diane Mazmanian, Senior Research Analyst

Sandra Thurman-Jackson, Research Analyst

**Fall 2007**

# Water Operator Survey Conducted Summer 2007

## I. Introduction

This document provides the results from a survey conducted in summer 2007 for the purpose of investigating the interest in having training and educational opportunities provided in the fields of Water Treatment, Water Distribution, Wastewater Collections and Wastewater Treatment. The survey explored offering various levels and methods of this training. The names of the participants were selected from the Arizona Department of Environmental Quality's operator database as currently licensed operators in Arizona.

An introductory postcard was mailed to the survey recipients one week prior to the mailing of the survey to alert them to the upcoming survey and to request their input and participation. There were 961 surveys mailed; 67 surveys were returned as undeliverable; 272 surveys were completed and returned, which is a 30% return rate.

Method: Percentages may not equal 100% due to responses of "not applicable."

## II. Current Level of Certification

Survey respondents were asked their current level of certification in each of the four fields:

	<b>N=</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>
Water Treatment	199	33%	29%	14%	18%
Water Distribution	212	31%	32%	14%	18%
Wastewater Collection	157	25%	31%	13%	15%
Wastewater Treatment	179	20%	37%	16%	17%

## III. Future Goals (Two Years)

Respondents were asked what level they would like to be at in two years:

	<b>N=</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>
Water Treatment	217	12%	29%	24%	24%
Water Distribution	203	10%	26%	24%	28%
Wastewater Collection	174	10%	24%	26%	25%
Wastewater Treatment	195	9%	23%	25%	30%

#### **IV. Future Goals (Five Years)**

Respondents were asked what their plans were in the next five years. Seventy-nine percent of the survey respondents plan to continue in this same profession; 2% plan to change professions, and 19% plan on retiring in the next five years.

#### **V. Methods of Instruction for Educational Opportunities**

When questioned about various methods of instruction for educational opportunities, 82% of the respondents indicated they would have some or major interest in on-line based courses. Seventy-seven percent of the respondents had some or major interest in hybrid-type courses. Classroom-based courses were of some or major interest to 83% of the survey respondents. Ninety-five percent of the respondents had some or major interest in continuing education opportunities (professional development hours [PDH]).

#### **VI. Academic Interest in Certificate or Associate Degree Programs in Water or Wastewater Treatment**

When asked the interest level in certificate or associate degree programs in water or wastewater treatment, 87% of the respondents had some or major interest in a certificate program and 77% had some or major interest in an associate degree program.

#### **VII. Location of Classroom**

Respondents provided input on classroom locations:

<b>Classroom Location</b>	<b>N=</b>	<b>Little or No Interest</b>	<b>Some Interest</b>	<b>Major Interest</b>
Chino Valley	209	44%	26%	14%
Prescott	220	26%	28%	35%
Verde Valley	211	35%	23%	27%
Camp Verde	220	35%	25%	26%
Sedona	221	31%	24%	32%

Other classroom location suggestions included: Prescott Valley (11), Lake Havasu/Mohave County (8), Flagstaff (4), Cottonwood (3), and Bagdad (3).

## VIII. Future Training Possibilities

When asked about future training possibilities, survey respondents had the highest ratings (Major Interest) in the following five fields:

❖ Water Distribution Systems	62%
❖ Pumps - Operation and Maintenance	60%
❖ Operations Training Water Treatment	59%
❖ Potable Water, Sources and Treatment	58%
❖ Water Use and Reuse	56%

The following table depicts the level of interest in possible future training topics:

Topic	N=	Little or No Interest	Some Interest	Major Interest
Operations Training Wastewater Treatment	255	14%	31%	51%
Operations Training Water Treatment	257	10%	28%	59%
Pumps-Operation and Maintenance	258	7%	31%	60%
Activated Sludge Process Control	248	23%	29%	44%
Solids Handling	249	23%	39%	33%
Microbiology of Water and Wastewater	257	10%	33%	54%
Water Use and Reuse	250	8%	34%	56%
Water and Wastewater Laboratory Techniques	253	12%	40%	45%
Potable Water, Sources and Treatment	255	8%	31%	58%
Water Distribution Systems	258	10%	25%	62%
Wastewater Collection Systems	247	16%	36%	43%
Aerobic and Anaerobic Digestion	249	17%	35%	43%
Effluent Dependent Streams	244	25%	37%	33%
Constructed Wetlands for Water Treatment	248	20%	36%	40%

## IX. Job Satisfaction

Survey respondents were asked to rate their job satisfaction. The largest share (81%) rated their job satisfaction as satisfied or very satisfied.

	<b>N = 267</b>	<b>Percentage</b>
Very Unsatisfied	16	6%
Unsatisfied	7	3%
Somewhat Satisfied	27	10%
Satisfied	125	47%
Very Satisfied	92	34%

## X. Demographics of Survey Respondents

The majority of survey respondents were male (90%) and between the ages of 50-64 (49%).

	<b>N = 271</b>	<b>Percent</b>
Male	243	90%
Female	28	10%

	<b>N = 268</b>	<b>Percent</b>
17-24	2	<1%
25-34	24	9%
35-49	98	37%
50-64	130	49%
65+	14	5%

## XI. Concluding Statements

- ❖ 79% of the survey respondents plan to continue in this same profession.
- ❖ 87% of the respondents have some or major interest in a certificate program.
- ❖ 77% of the survey respondents have some or major interest in an associates degree program.
- ❖ 82% of the respondents indicated they would have some or major interest in on-line based courses.
- ❖ 81% of survey respondents rated their job satisfaction as satisfied or very satisfied.

## **XII. Appendix**

# Water Operator Survey Summer 2007

Dear Water and Wastewater Professional:

Yavapai College is investigating providing continuing education, certification and other educational opportunities to water and wastewater operators. You were selected as a survey participant based on information contained in the operator license database maintained by AZ Dept. of Environmental Quality. We ask that you take the time to complete this brief survey. Your responses will be anonymous and the information from you will provide us with important insight into the educational opportunities you would most like to see offered.

**ABOUT YOU:**

1. My current level of certification in the following areas is:

	Level 1	Level 2	Level 3	Level 4	Not Applicable
Water Treatment	①	②	③	④	⑤
Water Distribution	①	②	③	④	⑤
Wastewater Collection	①	②	③	④	⑤
Wastewater Treatment	①	②	③	④	⑤

**FUTURE PLANS:**

2. In two years, I would like to be at what level of certification:

	Level 1	Level 2	Level 3	Level 4	Not Applicable
Water Treatment	①	②	③	④	⑤
Water Distribution	①	②	③	④	⑤
Wastewater Collection	①	②	③	④	⑤
Wastewater Treatment	①	②	③	④	⑤

3. In the next five years, I plan to:

① Continue in this same profession	② Change professions	③ Retire
------------------------------------	----------------------	----------

**POSSIBLE ACADEMIC INTERESTS:**

4. Please indicate your interest in the following academic educational opportunities.

	Little or No Interest	Some Interest	Major Interest	Not Applicable
On-line based educational opportunities	①	②	③	④
“Hybrid” educational opportunities (mostly on-line with a couple of class sessions)	①	②	③	④
Classroom-based educational opportunities	①	②	③	④
Continuing education opportunities (professional development hours)	①	②	③	④
A certificate program in water or wastewater treatment	①	②	③	④
An associate degree program in water or wastewater treatment	①	②	③	④

**CLASSROOM LOCATION:**

5. Please indicate at what locations you would be interested in meeting for classroom sessions.

	Little or No Interest	Some Interest	Major Interest	Not Applicable
Chino Valley	①	②	③	④
Prescott	①	②	③	④
Verde Valley	①	②	③	④
Camp Verde	①	②	③	④
Sedona	①	②	③	④
⑤ Other Yavapai County Location _____				

**FUTURE TRAINING POSSIBILITIES:**

6. What is your level of interest in training in the following topics?

	Little or No Interest	Some Interest	Major Interest	Not Applicable
Operations training wastewater treatment	①	②	③	④
Operations training water treatment	①	②	③	④
Pumps: operation & maintenance	①	②	③	④
Activated sludge process control	①	②	③	④
Solids handling	①	②	③	④
Microbiology of water and wastewater	①	②	③	④
Water use and reuse	①	②	③	④
Water and wastewater laboratory techniques	①	②	③	④
Potable water, sources and treatment	①	②	③	④
Water distribution systems	①	②	③	④
Wastewater collections systems	①	②	③	④
Aerobic and anaerobic digestion	①	②	③	④
Effluent dependent streams	①	②	③	④
Constructed wetlands for water treatment	①	②	③	④

Please use the following space for your suggestions on training topics:

---



---

**MORE ABOUT YOU:**

7. I would rate my job satisfaction:	①	Very unsatisfied	②	Unsatisfied	③	Somewhat satisfied	④	Satisfied	⑤	Very Satisfied
--------------------------------------	---	------------------	---	-------------	---	--------------------	---	-----------	---	----------------

8. My gender:	①	Male	②	Female
---------------	---	------	---	--------

9. My age:	①	17-24	②	25-34	③	35-49	④	50-64	⑤	65+
------------	---	-------	---	-------	---	-------	---	-------	---	-----

**Thank you for your input!**