Waste Water Advisory Council- Drinking Water Advisory Council
Joint Meeting
Draft Meeting Agenda
September 11, 2018, 10 a.m. – 12 p.m. ET
300 Sower Boulevard, Training Room C
Frankfort, Kentucky

- Introductions
- Announcements
    - DOW Reorganization
    - Water Infrastructure Work Group
        - Presented to IJC on Energy and Natural Resources
        - Anticipate legislation (resolution)
        - probably begin work in April on a defined scheduled
- Review Agenda
- Joint WWAC & DWAC June 2018 Meeting Minutes
- Sub-committees Assignments & Action Items
    - WWAC
        - Nutrients (Brian Bingham, Mark Sneve, Pete Goodmann)
            - Iowa Model presentation and path forward
            - How to proceed with WWAC?
        - Small Systems (Gary Larimore)
        - Compliance (Sarah Gaddis)
    - DWAC
        - Compliance/Regulations (Kim Padgett)
        - Source Water Protection (Jack Stickney)
    - Joint Sub- Committee: Water Reuse (Annette DuPont-Ewing)
    - Joint Sub- Committee: Infrastructure Sustainability (Donna McNeil)
    - Joint Sub- Committee: Operator Recruiting & Development (Melissa Melton)
        -
    - Sub-committee assignments
- Regulation Update (DOW)
    - Chapter 5 status
- HUB Utility discussion (Tim Krause, LWC)
- Other issues from Council members & staff
- Public Comments (at discretion of Chair)
- Next meeting- December 11, 2018

MEETING SIGN-IN SHEET

Joint Drinking Water & Wastewater Advisory Council Meeting		**Meeting Date:**	09/11/18
Facilitator:	Peter Goodmann	**Place/Room:**	300 Sower Blvd – TR C

Name (Please Print)	Company	E-Mail
Joe Burns	KRWA	j.burns@KRWA.org
David Moore	Division of Plumbing	davidj.moore@ky.gov
Floyd Schanz	" " "	floyd.schanz@ky.gov
Arianna Lagerman	KRWA	a.lagerman@krwa.org
John Dix	WCWD	JOHND@WARRENWATER.com
Josh Gabbard	Berea Utilities	jgabbard@bereaky.gov
Julie O. Roney	FPB rep. KWWOA	~~julieo~~ jroney@fewpb.com
Valerie Lucas	KY-TN WEA	valerie.lucas@KYTNWEA.org
Jennifer Burt	Dept. for Public Health	jennifera.burt@ky.g
Mark Sneve	ACEC-KY (Strand)	mark.sneve@strand.com
Roger Recktenwald	KAKO	Roger.Recktenwald@kako.org
Brian Bingham	Louisville MSD	brian.bingham@louisvillemsd.org
Russell Neal	DOW	russell.neal@ky.gov
Daniel Cleveland	OLS	daniel.cleveland@ky.g
ANGELA BILLINGS	DPH-EMB	ANGELA.BILLINGS@KY.G
John Webb	DOW	john.webb@ky.gov

MEETING SIGN-IN SHEET

Joint Drinking Water & Wastewater Advisory Council Meeting		Meeting Date:	09/11/18
Facilitator:	Peter Goodmann	Place/Room:	300 Sower Blvd – TR C

Name (Please Print)	Company	E-Mail
Kimberly Padgett	RCAP	khpadgett@capky.org
Mary Carol Wagner	NKWD	wagner@nkywater.org
Melissa A. Melton	RCAP	mam@capky.org
Sarah Jan Gaddis	DOW	sarah.gaddis@ky.gov
Russ Romine	ACEC-KY	russ@kyengcenter.org
Mike West	EEC - OLS	michael.west@ky.gov
Mike Gardner	BGMU	mgardner@bgmu.com
Tony Wilder	Ky Council of ADDs	twilder@kcadd.org
Joe Uliasz	KY DOW	joseph.uliasz@ky.gov
Rusty Cress	Dinsmore	Rusty.Cress@Dinsmore.com
Annette Durbin-Ewing	KMUA	adekmua@gmail.com

MEETING SIGN-IN SHEET

Joint Drinking Water & Wastewater Advisory Council Meeting		**Meeting Date:**	09/11/18
Facilitator:	Peter Goodmann	**Place/Room:**	300 Sower Blvd – TR C

Name (Please Print)	Company	E-Mail
Jack Stickney	KRWA	J.Stickney@KRWA.org
Jason Pennell	KRWA	j.pennell@krwa.org
Brian Rice	PSC	Brian.Rice@KY.gov
Jachin Charles	OLS	
Joey Becker	KDOW	joey.becker@ky.gov
Todd Powers	KDOW	Todd.Powers@ky.gov
Greg Goode	KDOW	greg.goode@ky.gov

Waste Water Advisory Council- Drinking Water Advisory Council
Joint Meeting
Draft Meeting Minutes
June 12, 2018, 10 a.m. – 12 p.m. ET
300 Sower Boulevard, Training Room C
Frankfort, Kentucky

- **Attendees:** Brian Bingham(MSD), Rob Blair(DOW), Carl Breeding(KLC), Jennifer Carey(LFUCG), John Dix(WCWD), Ed Fortner(BMU), Sarah Gaddis(DOW), Mike Gardner(BGMU), Greg Goode(DOW), Amy Kennedy(BT-ADD), Arianna Lageman(KRWA), Amanda LeFerve(DCA), Valerie Lucas(KY/TN WEA), John Lyons(PSC), Kimberly McCay(USDA-RD), Donna McNeil(KIA), David Peterson(CEA), Justin Reynolds(RCAP), Justin Sensabaugh(KYAW), Mark Sneve(ACEC-KY), Alan Todd(KWWOA), Mike West(OGC), Jessica Wilhoite(DCA)

- **Call to Order:** The meeting was called to order by Peter Goodmann at 10:06 a.m.

- **Review Agenda:** The agenda was accepted by consensus

- **Approve Previous Meeting Minutes:** Joint WWAC & DWAC December 2017 minutes were approved by consensus & March 2018 Meeting Minutes was approved contingent upon Kim Padgett being added to the attendees list.

- **Sub-committees Report**
  - **WWAC**
    - **Nutrients** (Brian Bingham) Mr. Bingham stated nutrients committee will meet in the upcoming months and gave a small commendation to the Iowa program.
    - **Small Systems** (Gary Larimore) No Report
    - **Compliance** (Sarah Gaddis) No Report
  - **DWAC**
    - **Compliance/Regulations** (Kim Padgett) No Report
    - **Source Water Protection** (Jack Stickney) No Report
- **Joint Sub- Committee:**
  - **Water Reuse** (Annette DuPont-Ewing) Valerie Lucas provided this report to the council KY-TN WEA and KY/TN Section AWWA are sponsoring a Water Reuse Pilot Project for the August 2019 Water Professionals Conference in Louisville, KY. Effluent from Floyd's Fork will be put through the clean water processes to create a drinking water, direct potable water resource that will be supplied to local Louisville Breweries to make beer. This is a fun way to begin the conversation that all water is recycled and reused - even the water used to make beer! Louisville MSD and Louisville Water will be providing technical expertise and promoting the project. The University of Louisville Speed School will also be providing technical assistance. This important pilot project is looking for additional sponsors and project supporters.
  - **Infrastructure Sustainability** (Donna McNeil) The Capacity Development Workgroup has met 3 times in this quarter. The next meeting is scheduled for July 31st. The workgroup reviewed the critical Capacity Development questions for modifications and additions based upon regulation changes and current trends such as operator succession planning. The questions may then need revision for data management purposes for incorporation into the Water Resource Information System. The Workgroup recommends capturing the data electronically for analytical and resource efficiencies. Updates to the 2008 Capacity Development Strategy were discussed with a draft revision to be presented at the July 31st meeting. The goal is to have the draft strategy recommendations completed by September 2018.
  - **Operator Recruiting & Development** Amanda LeFevre was introduced as the new director of DCA and chairperson for the sub committee

- **Regulation Update (Peter Goodmann)**
  - Chapter 8 went into effect Sep 2017
  - Chapter 5 was filed May 15. Comments are currently being accepted through June 30
  - 2018 Triennial Review listening sessions are forthcoming in August

- **Legislation Update (Pete Goodmann)**
  - HB 513 will go into effect July 14

- By a show of consensus, a letter will be sent to EPA concerning the HUB Utility (Pete Goodmann)

- A stake holder workgroup will be implemented to address the Infrastructure Initiative. This group will be similar to the HJR56 workgroup. They will convene possibly this coming August through Jun 2019 (Pete Goodmann)

- Peter Goodmann gave an update on the PFOA National Leadership Summit and will provide the notes from Mr. A Roberson

- A workgroup will be formed under the Drinking Water Council Compliance and Regulation Committee to address Legionella

- Public Comments (at discretion of Chair)

- Announcement – EPA Small Drinking Workshop Aug 28 in Cincinnati, OH registration is now open.

- Next meeting- September 11, 2018

- Meeting Adjourned 12:13pm

Waste Water Advisory Council- Drinking Water Advisory Council
Joint Meeting
Final Meeting Minutes
December 12, 2017, 10 a.m. – 12 p.m. ET
300 Sower Boulevard, Training Room C
Frankfort, Kentucky

Attendees: Paulette Akers(DCA), Jory Becker(DOW), Brain Bingham(MSD), Rob Blair(DOW), Claude Carothers(DOW), Daniel Cleveland(EEC-OGC), John Dix(WCWD), Erin Donges(PSC), Annette Dupont-Ewing(KMUA), Ed Fortner(BMU), Tom Gabbard(DOW), Sarah Gaddis(DOW), Mike Gardner(BGMU), Peter Goodmann(DOW), Tony Hatton(DEP), Gary Larimore(KRWA), John Lyons(PSC), Donna McNeil(KIA), Russell Neal(DOW), Kim Padgett(RCAP), David Peterson(CEA), Jackie Quarles(EEC-OGC), Roger Recktenwald(KACo), Brain Rice(PSC), Russ Romine(ACEC-KY), Kay Sanborn(KY/TN AWWA), Bruce Scott(EEC), Charles Snavely(EEC), Mark Sneve(ACEC-KY), Greg Stacy(SD1), Jack Stickney(KRWA), Mary Carol Wagner(NKWD), Mike West(EEC-OGC), Jessica Wilhoite(DCA)

Announcements were accepted from the floor for those in attendance.

Agenda The agenda was presented and accepted by consensus.

Joint WWAC & DWAC September 2017 Meeting Minutes: The September minutes were accepted with the addition of adding Kay Sanborn(KY/TN AWWA) who was omitted from the submitted draft.

Regulation Update (DOW) Several Items were discussed, including but not limited to Stage 1 DBP rule, Chapter 4 possible revision beginning in April, Chapter 11 possible change.

HJR 56 Update (Pete Goodmann)

Lead Workgroup Update (Tom Gabbard) The Lead workgroup is preparing to address the EPA Cooperative Federalism effort in the upcoming weeks scheduled for early January offering a sixty (60) day window for comments through cooperative federalism (in which national, state, and local governments interact cooperatively and collectively giving comments.

Contingency Plans (Pete Goodmann & Tony Hatton) - The identification of environmental emergencies and/or an interruption of services were discussed. The use of emergency water sources and the protocol for the declaration for an emergency were addressed.

Sub-committees Assignments & Action Items

- WWAC
  - Nutrients (Brian Bingham) – No Report
  - Small Systems (Gary Larimore) – No Report
  - Compliance (Sarah Gaddis) – A conference call was slated for Jan 10th for the subcommittee. The development of training videos broadcasted on You Tube is in the developmental phase. Upcoming field certification in Hawesville & KRWA Workshop Source Water Wokshop
- DWAC
  - Compliance/Regulations (Kim Padgett) – No Report

        - Source Water Protection (Jack Stickney) – No Report
    - Joint Committee: Water Reuse (Annette DuPont-Ewing) Met on Oct 13th
    - Joint Committee: Infrastructure Sustainability (Donna McNeil) Meeting slated for Feb 7 @ 9 a.m.
    - Joint Committee: Operator Recruiting & Development (Paulette Akers) – Meet Sep 12 provided information on the apprenticeship program in collaboration with DOL.

Public Comments at discretion of Chair – Several items were acknowledged. The Safe Water Drinking Act, Drinking Water Improvement act of 2017 and adding Lab Certification to agenda

Next meeting – March 13, 2018

Waste Water Advisory Council- Drinking Water Advisory Council
Joint Meeting
Final Meeting Minutes
March 13, 2018, 10 a.m. – 12 p.m. ET
300 Sower Boulevard, Training Room C
Frankfort, Kentucky

Attendees: Sara Anderson, Jory Becker, Angela Billings, Robert Blair, Chloe Brantley, Joe Burns, Claude Carothers, Carole Catalfo, Daniel Cleveland, John Dix, Erin Donges, Ed Fortner, Tom Gabbard, Sarah Gaddis, Mike Gardner, Greg Heitzman, Valerie Lucas, Charlie Martin, Kimberly McCay, Donna McNeil, Russell Neal, Kim Padgett, David Peterson, Roger Recktenwald, Brain Rice, Julie Roney, Kay Sanborn, Mark Sneve, Robin Snider, Joe Uliasz, Mary Carol Wagner

Call to Order: The meeting was called to order by Tom Gabbard at 10:06 a.m.

Review Agenda The agenda was accepted by consensus.

Approve Previous Meeting Minutes: The September 2017 minutes were provided. This was an error, the draft minutes for December 2017 were not available. The December Minutes will be approved at the next meeting.

Regulation Update (DOW) Tom Gabbard and Carole Catalfo provided updates on the following

- Chapter 8 status
- Chapter 5 schedule- the anticipating filing in April therefore comment period will possibly be May 1 – May 31 and ARRS in Aug 2018
- Triennial Review schedule and issues (Chapter 10) – Apr 15 – May 31 public preview, with informal comments accepted prior to the filing. The filing is aimed for July 2018

Legislation Update (DOW) Tom Gabbard and Carole Catalfo provided updates on the following

- HB 513 (HJR 56)
- SB 151

Lead Workgroup Recommendations (Greg Heitzman)

Sub-committees Assignments & Action Items Tom Gabbard requested that the subcommittee chairs provide notes to the council of their meetings and updates. Each Sub Committee Member list was updated with the subcommittee report.

- WWAC
  - Nutrients (Brian Bingham) - A meeting is forthcoming in May 2018 for this committee
  - Small Systems (Gary Larimore)
  - Compliance (Sarah Gaddis) – see attached note
- DWAC
  - Compliance/Regulations (Kim Padgett) – discussed the distribution of public notification
  - Source Water Protection (Rob Blair) -
- Joint Committee: Water Reuse (Jory Becker)
- Joint Committee: Infrastructure Sustainability (Donna McNeil) -
- Joint Committee: Operator Recruiting & Development (Amanda Leferve)

- Sub-committee assignments

Other Issues from Council Members & staff Questions in reference to DBP Sampling were addressed. Peter has the Letter concerning this matter.

No Public Comments

Meeting Adjourned @ 12:43 p.m.

Next meeting- June 12, 2018

Nutrient Committee Report

Consideration of a rational path forward

September 11, 2018

Outline

- A call for action
- Example state models
- Iowa nutrient model review
- Discussion

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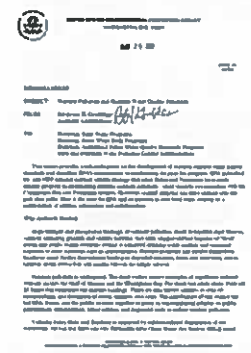
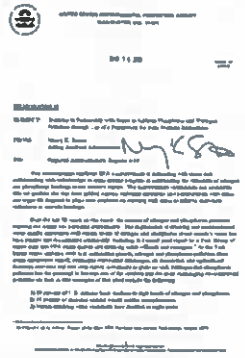
Nutrient Regulation is Part of our Future

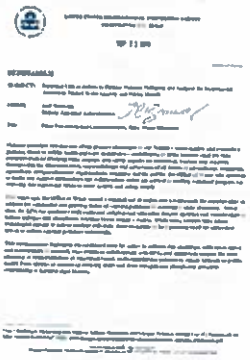
- USEPA will continue to push KDOW
- A proactive approach may offer better control of our destiny



2007 Grumbles Memo



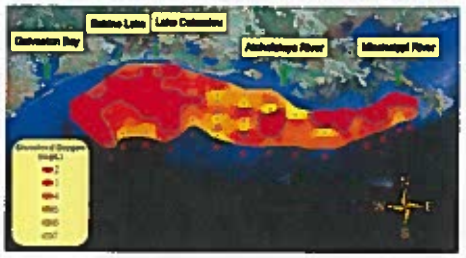
2011 Stoner Memo



2016 Beauvais Memo

3

Gulf of Mexico Hypoxic Zone



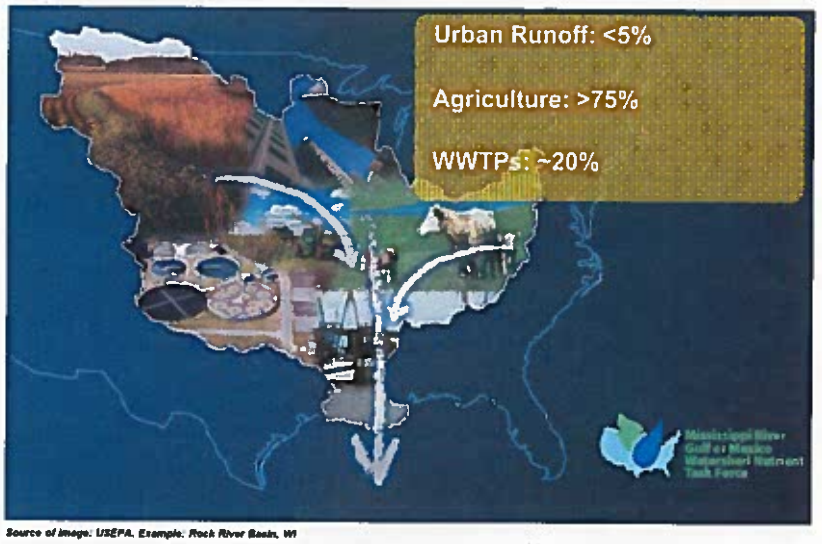
Source: USEPA

National concerns:

- Dead Zone
- Task force formed
- Mississippi River basin
- State specific Nutrient Reduction Strategies are being developed

Source: USEPA

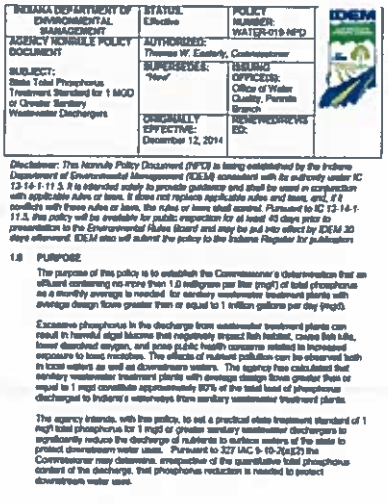
Where do Nutrients Come From?



Source of image: USEPA. Example: Rock River Basin, WI

Peer States Take Action - Indiana

- Indiana
  - Non Rule Policy in 2014
  - Phosphorus Limit of 1 mg/L
  - Every plant above 1 mgd
  - Silent on Nitrogen



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT	STATUS: Effective	POLICY NUMBER: WATER-019-NPD
AGENCY NONRULE POLICY DOCUMENT	AUTHORIZED: *Thomas W. Easterly, Commissioner*	
SUBJECT: State Total Phosphorus Treatment Standard for 1 MGD or Greater Sanitary Wastewater Dischargers	SUPERSEDES: "New"	ISSUING OFFICE(S): Office of Water Quality, Permits Branch
	ORIGINALLY EFFECTIVE: December 12, 2014	REVIEW/REVISE BY:

Disclaimer: This Nonrule Policy Document (NPD) is being established by the Indiana Department of Environmental Management (IDEM) consistent with its authority under IC 13-14-1-11.5. It is intended solely to provide guidance and shall be used in conjunction with applicable rules or laws. It does not replace applicable rules and laws, and, if it conflicts with those rules or laws, the rules or laws shall control. Pursuant to IC 13-14-1-11.5, this policy will be available for public inspection for at least 45 days prior to presentation to the Environmental Rules Board and may be put into effect by IDEM 30 days afterward. IDEM also will submit the policy to the Indiana Register for publication.

1.0 PURPOSE

The purpose of this policy is to establish the Commissioner's determination that an effluent containing no more than 1.0 milligram per liter (mg/l) of total phosphorus as a monthly average is needed for sanitary wastewater treatment plants with average design flows greater than or equal to 1 million gallons per day (mgd).

Excessive phosphorus in the discharge from wastewater treatment plants can result in harmful algal blooms that negatively impact fish habitat, cause fish kills, lower dissolved oxygen, and pose public health concerns related to increased exposure to toxic microbes. The effects of nutrient pollution can be observed both in local waters as well as downstream waters. The agency has calculated that sanitary wastewater treatment plants with average design flows greater than or equal to 1 mgd constitute approximately 80% of the total load of phosphorus discharged to Indiana's waterways from sanitary wastewater treatment plants.

The agency intends, with this policy, to set a practical state treatment standard of 1 mg/l total phosphorus for 1 mgd or greater sanitary wastewater dischargers to significantly reduce the discharge of nutrients to surface waters of the state to protect downstream water uses. Pursuant to 327 IAC 5-10-2(a)(2) the Commissioner may determine, irrespective of the quantitative total phosphorus content of the discharge, that phosphorus reduction is needed to protect downstream water uses.

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Peer States Take Action - Ohio

- Great Lakes
  - Phosphorus Limit of 1 mg/L
  - Silent on Nitrogen
- Ohio River
  - Every plant above 1 mgd must Develop study to achieve Phosphorus Limit of 1 mg/L (2018 initiative)
  - Silent on Nitrogen

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Peer States Take Action - Wisconsin

- 1972 – Great lakes basin 1 mg/l Phosphorus limits
- 1993 Statewide 1 mg/L Phosphorus Limits
- 2010 New Rule, in-stream water quality standards

Waterbody Type	Water Body Phosphorus Criterion, mg/L
Rivers (non-wadeable)	0.10
Streams	0.075
Reservoirs	0.03-0.04
Inland Lakes	0.015-0.04
Great Lakes	0.005-0.007

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Peer States Take Action - Iowa

- 2006 – Developed strategy
- 2011 - EPA endorsed reduction strategy
  - Focus on 104 major Municipal and 50 industrial dischargers
  - Achieve BNR equivalent
    - 66% total nitrogen removal
    - 75% total phosphorus removal
- 2018 – 5 year Review
  - Great participation from regulated communities
  - 89% required to prepare feasibility studies
  - 55% have completed feasibility studies
  - Results – 13 municipal plants - removed ~4M lb N/year
    6 municipal plants –removed ~0.7M lb P/rear
  - USEPA seems happy

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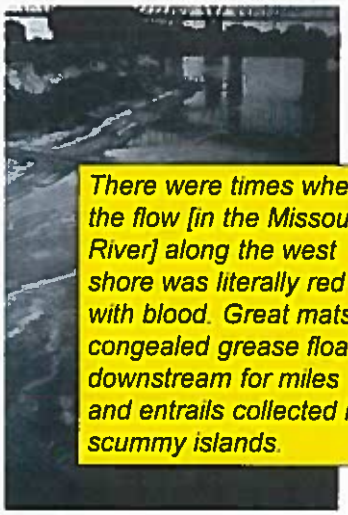
IOWA DEPARTMENT OF NATURAL RESOURCES

LEADING IOWANS IN CARING FOR OUR NATURAL RESOURCES

Presentation Goals

- Why we did what we did
- Permitting approach and why
- Progress to date – permitting, monitoring, nutrient reduction, next steps
- Questions-Discussion

When water quality was worse:



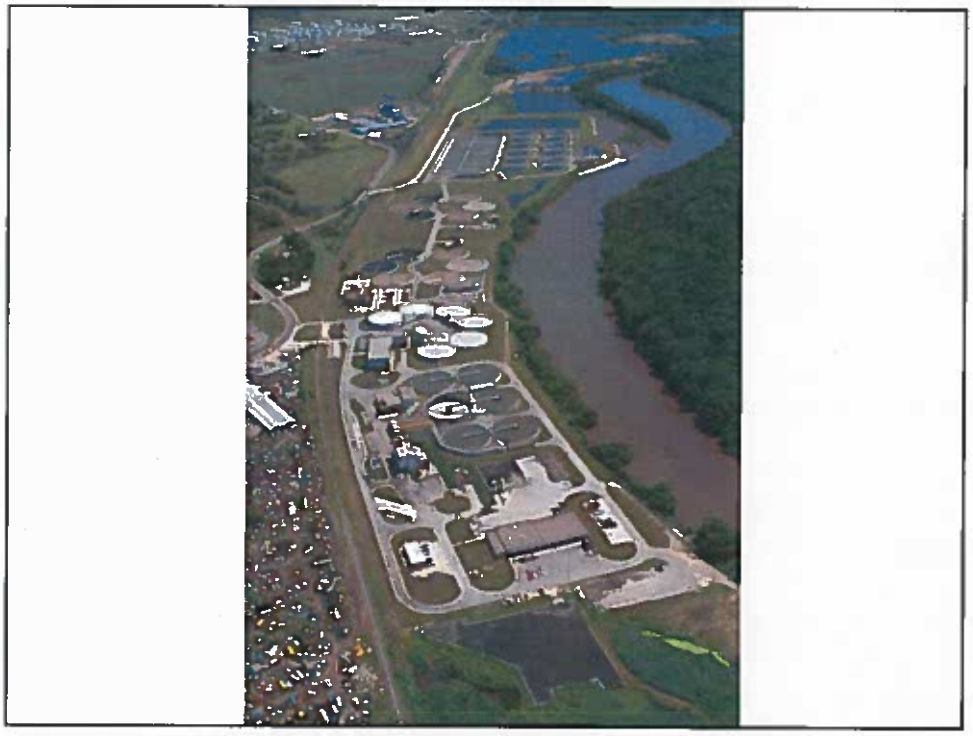
Packing house waste being discharged to the Floyd River in Sioux City, August 1952.

There were times when the flow [in the Missouri River] along the west shore was literally red with blood. Great mats of congealed grease floated downstream for miles and entrails collected in scummy islands.

Des Moines Register, November 19, 1969

Sewage Pre-Treatment Plant In Omaha Ends Bloody River

Omaha's primary treatment plant went into operation only four years ago [~1965]. Before that, it too dumped all its wastes untreated into the [Missouri] river.



Why this strategy?

- 2006
- Excessive nutrients can cause water quality problems
  - In state , downstream
- Numeric nutrient criteria development presents challenging problems
  - Difficult to pin down cause & effect relationship
  - Difficult to comply with permit limits and costly to try
  - Possibly every water body impaired
- A different approach needed (IAWEA, ABI, & ILOC)

PS and NPS Common Threads

- Acknowledgement of the problem
- Recognition that traditional approaches are not workable (e.g. cost, technically)
- Willingness to want to do something now to make progress
- Needs to be practical in its implementation

Iowa Strategy General Approach

1) Achieve nutrient load reductions through performance-based actions, while
2) Continuing to assess and evaluate the nutrient water quality standards

PS/NPS Collaboration

- PS account for 8% of the TN and 20% of the TP annually
- NPS account for 92% of the TN and 80% of the TP annually
- **Both NPS and PS play important roles on an annual and seasonal basis for Iowa water quality**

Point Source Strategy

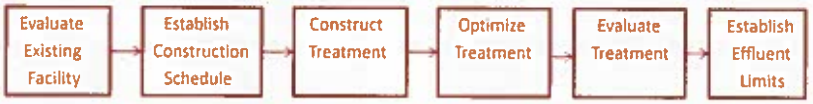
- Working closely with CWA regulated community
- Use existing rules (Chapter 567 IAC Chapter 62)

  62.8(5) *Effluent limitations for pollutants not covered by effluent or pretreatment standards.* An effluent limitation on a pollutant not otherwise regulated under 62.3(455B) to 62.6(455B) (e.g., polybrominated biphenyls, PBBs) may be imposed on a case-by-case basis. Such limitation shall be based on effect of the pollutant in water and the feasibility and reasonableness of treating such pollutant.

- Use performance-based limits in lieu of nutrient criteria

Normal Permitting Process

Nutrient Strategy Permitting Process



Implementation Flexibilities

- Regulatory certainty – 10 year assurance
- Affordability considerations
- Ability to fine tune limits
- Annual average mass permit limits

Who?

Focus on:

- **~100** major municipal wastewater treatment plants
- **~50** industries with biological treatment for process waste
- **Total of ~150**

Goal:

- To achieve BNR equivalent nutrient removal at each plant
  - **TN removal ~66%**
  - **TP removal ~75%**

Cost and Affordability

Estimated Costs for BNR Improvements for Muncipal Majors (Target Effluent TN = 10 mg/L, Target Effluent TP = 1 mg/L)

Treatment Type	# of Facilities	Combined Design AWW Flow (MGD)	Combined Annual Average Flow[2] (MGD)	Total Capital Cost ($M)	Total Annual O&M Cost ($M)	Total Present Worth Cost ($M)[2]	Total Annual Cost ($M)	$/1,000 gallons Treated[3]	Weighted Monthly Cost/Household[4]	Weighted % of MHI[4]
Activated Sludge	56	533	355	348	25	686	51	0.39	7.75	0.18%
Fixed Film	37	101	67	430	7	524	39	1.59	25.83	0.73%
Aerated Lagoon	9	11	8	110	3	147	11	3.92	85.16	2.13%
Totals	102	645	430	887	35	1,358	101	0.64	11.85[5]	0.29%[5]

Estimated Costs for BNR Improvements for all Industries with Biological Treatment (Target Effluent TN = 10 mg/L, Target Effluent TP = 1 mg/L)

Treatment Type	# of Facilities	Combined Design Flow (MGD)	Total Capital Cost ($M)	Total Annual O&M Cost ($M)	Total Present Worth Cost ($M)[2]	Total Annual Cost ($M)	$/1,000 gallons Treated[3]
Activated Sludge	20	44.2	29.3	2.0	56.1	4.2	0.26
Fixed Film	1	0.6	2.7	0.04	3.3	0.2	1.06
Aerated Lagoon	7	5.8	86.5	2.20	116.0	8.6	4.05
Totals	28	50.7	118.5	4.2	175.5	13.1	0.71

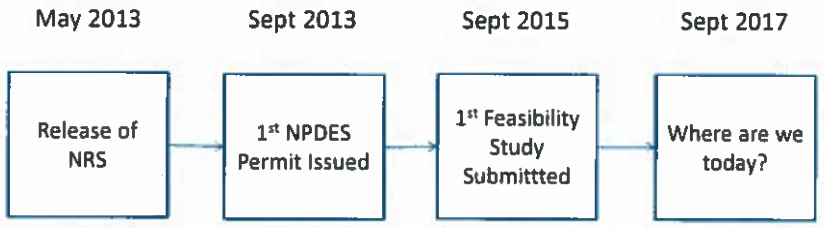
Total Present Worth Cost
= 1.53 ($B)

Total Capital Cost
= 1.00 ($B)

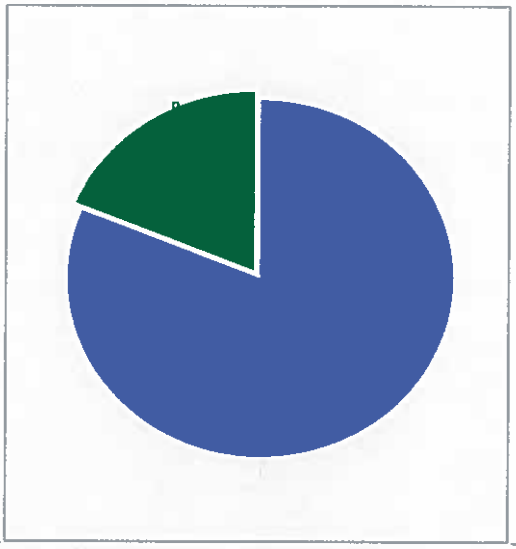
Gulf Restoration Network v. EPA

- Recent decision in December 2016
- **Upheld EPA denial petition for rulemaking to establish numeric nutrient criteria for states within the Mississippi basin**
- Court found that "the most effective and sustainable way to address widespread and pervasive nutrient pollution in the Mississippi-Atchafalaya River Basin and elsewhere would be to build on its earlier efforts and to continue to work cooperatively with states and tribes to strengthen nutrient management programs" is a valid legal basis to decline to make a necessity determination
- Court also noted that the use of nutrient reduction frameworks **may only buy EPA so much time** if they can't prove they're working

Iowa NRS Point Source Progression

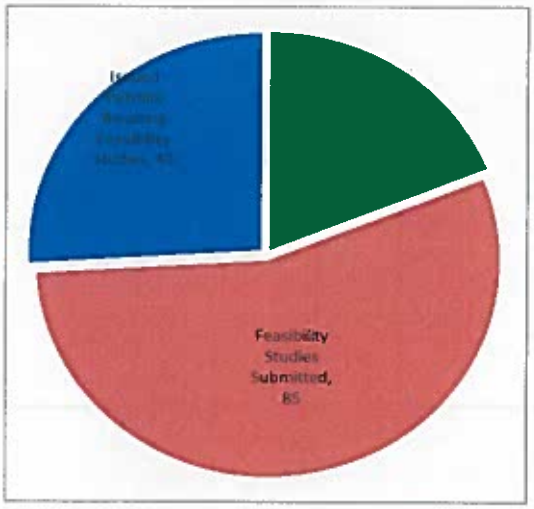


Iowa Progress to Date on Point Sources



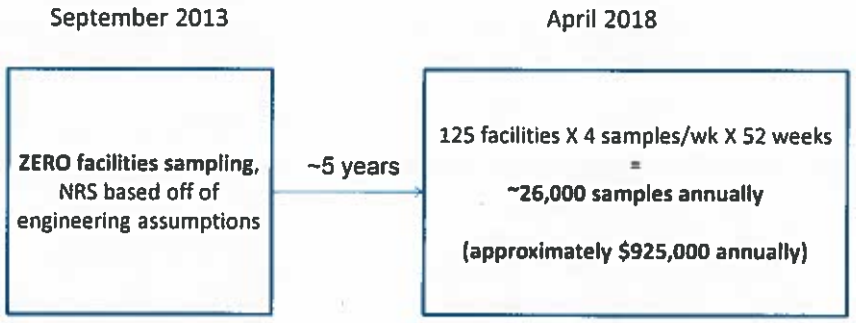
*84 of 104 Major POTWs, 41 of 50 Industries; 89% of the wastewater permitted

Iowa Progress to Date on Point Sources



*46 of 104 Major POTW & 22 of 50 Industrial permits have been amended

Iowa Point Source Monitoring



Performance by all facilities with 10 or more months of data

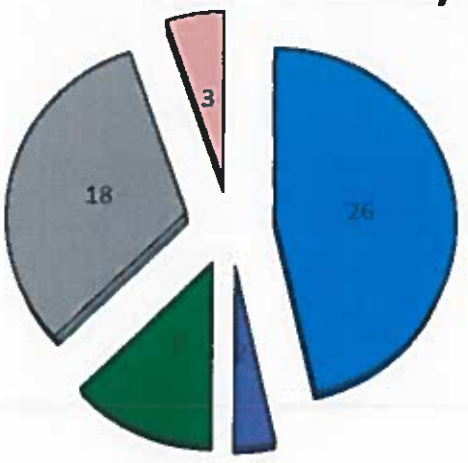
	Estimate (Target)	POTW	Industry
Total Nitrogen (average)			
number of facilities		63	9
raw waste (mg/L)	25	29.7 (range 11.9 – 83.6)	79.6 (range 16.5 – 314.6)
final effluent (mg/L)	10	16.6 (range 2.1 – 58.3)	21.7 (range 4.5 – 79.9)
% removal	66%	41.8% (range -10.0% - 91.9%)	69.0% (range 20.9% - 89.3%)
Total Phosphorus (average)			
		63	14
raw waste (mg/L)	4	5.1 (range 1.9 – 31.8)	20.6 (range 2.5 – 51.5)
final effluent (mg/L)	1	3.1 (range 0.7 – 24.9)	12.8 (range 0.8 – 73.0)
% removal	75%	40.5% (range -14.7% - 82.8%)	48.8% (range -41.9% - 84.8%)
Annual Load Reduction (2015-2016)			
Total nitrogen (tons)	-	5,069	517
Total phosphorus (tons)	-	937	273

Note: Up from 43 POTWs and 9 industries in December 2016

Performance by treatment type for facilities with 10 months or more of data for 2016-2017 reporting cycle.

Treatment Type	No.	Total Nitrogen			Total Phosphorus		
		Raw (mg/L)	Final (mg/L)	%R	Raw (mg/l)	Final (mg/L)	%R
POTW	63						
Aerated Lagoon	3	22.5	10.6	53.8%	3.9	2.2	44.3%
Activated Sludge	25	33.6	20.0	39.1%	6.0	3.4	45.0%
Rotating Biological Contactor	6	21.3	12.3	40.3%	3.2	2.3	29.8%
Sequencing Batch Reactor	9	28.4	9.5	69.0%	5.2	2.4	55.3%
Trickling Filter	20	29.2	17.6	31.6%	4.9	3.4	30.8%
Industry	9						
Aerated Lagoon	2	167.9	42.2	76.7%	19.8	3.9	78.2%
Activated Sludge	6	52.4	17.2	63.1%	18.9	9	55.6%
Rotating Biological Contactor	0	-	-	-	-	-	-
Sequencing Batch Reactor	1	66.8	7.2	89.3%	51.5	73.0	-41.9%
Trickling Filter	0	-	-	-	-	-	-

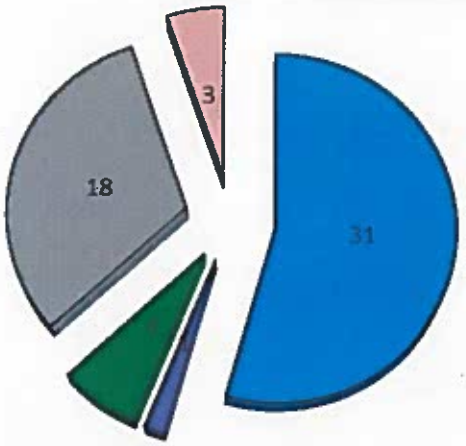
Nitrogen Municipal Commitments From Feasibility Studies



Total Feasibility Studies Submitted: 44

Total Permits Amended: 25

Phosphorus Municipal Commitments From Feasibility Studies



- Construct
- Optimize
- Meets Goals; add limits
- New FS
- FS still under review

Total Feasibility Studies Submitted: 44

Total Permits Amended: 25

2017 reporting year (5/1/2016-4/30/2017) percent removal (concentration)

	Facility	%
Municipal		
Nitrogen	ATLANTIC CITY OF STP	78.1
	CLEAR LAKE SANITARY DISTRICT	72.2
	ELDRIDGE, CITY OF SOUTH SLOPE	68.3
	ESTHERVILLE CITY OF STP	72.0
	IOWA CITY, CITY OF (SOUTH) STP	73.5
	MOUNT PLEASANT CITY OF STP (MAIN)	85.8
	OELWEIN CITY OF STP	91.9
	SIOUX CITY CITY OF STP	75.2
	WASHINGTON CITY OF STP	73.9
	WEST BURLINGTON CITY OF STP	72.6
	WEST LIBERTY CITY OF STP	79.3
Phosphorus	CORALVILLE CITY OF STP	80.9
	IOWA CITY, CITY OF (SOUTH) STP	82.8
	MOUNT VERNON CITY OF STP	80.9
	SIOUX CITY CITY OF STP	75.2
	WEST LIBERTY CITY OF STP	79.3

2017 reporting year (5/1/2016-4/30/2017) percent removal (concentration)

	Facility	%
Industrial		
Nitrogen	ARCHER DANIELS MIDLAND CORN	66.1
	ASSOCIATED MILK PRODUCERS	78.8
	GRAIN PROCESSING CORP.	88.5
	MANILDRA MILLING CORPORATION	73.3
	OSI INDUSTRIES (OAKLAND FOODS)	89.3
	REMBRANDT ENTERPRISES, INC.	74.6
	SWISS VALLEY FARMS	66.0
Phosphorus	DAIRICONCEPTS	84.8
	MANILDRA MILLING CORPORATION	80.4
	REMBRANDT ENTERPRISES, INC.	83.6

Municipal Nitrogen Data Through April 2017

			Nitrogen Raw Waste Data				Nitrogen Final Effluent Data				Nitrogen % removal		Average lbs of N removed
			conc (mg/l)	mass (lbs/day)			conc (mg/l)	mass (lbs/day)					
Sorted by avg conc % remvl	Facility Name	Treat Type	Avg mg/l	Avg lbs/d	Sum of raw lbs/d data	Est. Avg raw lbs in 1 year	Avg mg/l	Avg lbs/d	Sum of final lbs/d data	Est. Avg lbs discharged in 1 year	Avg conc mg/l	Avg mass lbs/d	Est. lbs removed in 1 year (avg raw-avg final)
1	DELWEIN	ACT SLUDGE	27.3	208.0	25,792	75,920	2.7	23.3	2,890	8,506	90.1%	88.8%	67,415
2	WEST LIBERTY	ACT SLUDGE	37.4	461.2	87,624	168,331	6.7	86.0	16,334	31,378	81.9%	81.4%	136,953
3	ATLANTIC	SBR	21.9	195.1	34,729	71,214	4.5	45.5	8,096	16,602	79.6%	76.7%	54,612
4	MOUNT PLEASANT (MAIN)	SBR	25.9	256.9	42,652	93,783	6.0	65.0	10,784	23,712	76.9%	74.7%	70,072
5	SIOUX CITY	ACT SLUDGE	77.3	7,779	1,695,901	2,839,467	17.9	1,827	398,194	666,701	76.8%	76.5%	2,172,766
6	GRUNDY CENTER	SBR	20.9	91.4	14,631	33,376	5.2	24.8	3,968	9,052	74.9%	72.9%	24,324
7	IOWA CITY SOUTH	ACT SLUDGE	40.7	3,174	806,131	1,158,416	10.6	833.7	211,768	304,312	74.0%	73.7%	854,104
8	WASHINGTON	SBR	20.8	244.3	14,899	89,152	5.4	67.6	4,123	24,688	73.8%	72.3%	64,483
9	CLEAR LAKE SD	SBR	19.1	374.2	17,215	136,594	5.3	115.8	5,329	42,281	72.2%	69.0%	94,313
10	WEST BURLINGTON	ACT SLUDGE	28.8	180.2	21,264	65,774	8.5	52.5	6,179	19,169	70.3%	70.9%	46,606
11	ELDRIDGE SOUTH SLOPE	SBR	23.3	100.5	16,983	36,680	7.2	33.3	5,626	12,151	69.3%	66.9%	24,528
12	ESTHERVILLE	TRICK FILTER	87.8	951.5	93,248	347,300	27.8	306.5	30,042	111,889	68.3%	67.8%	235,411
13	NEW HAMPTON	TRICK FILTER	56.3	541.0	38,413	197,474	18.2	197.0	13,989	71,916	67.7%	63.6%	125,558

IOWA DEPARTMENT OF NATURAL RESOURCES
CHUCK GIPP, DIRECTOR

Municipal Phosphorus Data Through April 2017

			Phosphorus Raw Waste Data				Phosphorus Final Effluent Data				Phosphorus % removal		Average lbs of P removed
			conc (mg/l)	mass (lbs/day)			conc (mg/l)	mass (lbs/day)					
avg conc % remvl	Facility Name	Treat Type	Avg mg/l	Avg lbs/d	Sum of raw lbs/d data	Est. Avg raw lbs in 1 year	Avg mg/l	Avg lbs/d	Sum of final lbs/d data	Est. Avg lbs discharged in 1 year	Avg conc mg/l	Avg mass lbs/d	Est. lbs removed in 1 year (avg raw-avg final)
1	CARROLL	ACT SLUDG	4.1	62.4	250	22,767	0.3	3.8	99	1,390	92.0%	93.9%	21,377
2	WEST LIBERTY	ACT SLUDG	5.0	60.6	8,417	22,102	1.0	11.8	1,641	4,309	80.8%	80.5%	17,793
3	CORALVILLE	SBR	5.5	129.4	12,945	47,249	1.1	24.1	2,406	8,783	80.1%	81.4%	38,466
4	IOWA CITY SOUTH	ACT SLUDG	5.8	453.6	112,937	165,550	1.2	99.6	24,795	36,346	79.2%	78.0%	129,204
5	MOUNT VERNON	ACT SLUDG	7.0	23.9	2,531	8,714	1.5	5.2	549	1,890	79.1%	78.3%	6,824
6	SIOUX CITY	ACT SLUDG	18.4	1865.6	203,346	680,930	4.3	470.5	51,284	171,731	76.4%	74.8%	509,199

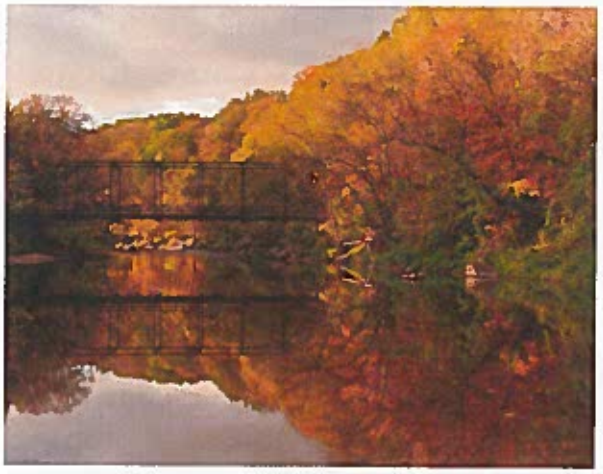
Examples of point source progress

- Cedar Rapids
- Des Moines WRA
- Sioux City
- Tyson Fresh Meats - Perry and Storm Lake
- Clinton
- 2018 Construction Season
  - Grinnell, Eagle Grove, West Burlington, DairiConcepts

Looking forward…

- **Issue permits** to the remaining facilities listed in the NRS
- **Improve our understanding** of what's happening out there and work to **address problem areas**
- Continue to **analyze raw waste and final effluent data** for nutrients as data from more facilities becomes available
- **Incorporate baseline efforts**, recalculate load reduction based on actual data
- **Year 5 Refresh** – make necessary adjustments and incorporate innovations (e.g., nutrient reduction exchange, optimization)

Questions?



Iowa Department of Natural Resources
Chuck Gipp Director

KENTUCKY DOW STRATEGY TO REDUCE NUTRIENTS

Peter T. Goodmann, Director
Division of Water
2018

To Protect and Enhance Kentucky's Environment

Kentucky UNBRIDLED SPIRIT

Nutrient Pollution Problem

- Excessive phosphorus and nitrogen impairs water quality in Kentucky and in downstream waters.
  - Causes harmful algal blooms (HABs) which impact drinking water facilities, reduces access or closes swimming beaches, and affects local economy.
  - Negatively affects water's uses, aquatic life, tourism, and property values.
- High nitrogen content in recreational waters may be harmful to infants.

Issues

- Phosphorus and Nitrogen loading in surface waters are contributed by:
  - Point sources from direct dischargers; and
  - Nonpoint sources through stormwater run-off.
- Currently no numeric water quality-based criteria for point source discharges developed by EPA or KY
  - Technology Based Effluent Limitation for all POTWs could be impractical and costly to achieve.
  - Water Quality Based Effluent Limitation could take years to develop.
- Limiting factors are:
  - Kentucky's complex geology and ecoregions; and
  - Unknown relative contributions from PS and NPS sources.

Other States

	OH	IN	IL	MN	WI	MS
Phosphorus Limit for Major POTWs	1 mg/L	1 mg/L	1 mg/L	1 mg/L	1 mg/L	Exploring opportunities
Mechanism	Regulation	Non-Rule Policy	Antidegradation Criteria	Eutrophication Standards	TBEL and QBEL	
Other Information	Allows trading		Ongoing feasibility studies	Small POTWs have P management plan		

- Iowa requires municipal majors, and industrial majors and minors to:
  - Monitor total N and total P from raw waste influent and final effluent for a two-year period;
  - Establish a baseline of the amounts discharged and the degree of reduction with existing treatment system; and
  - Conduct feasibility study to evaluate potential operational changes and technology upgrades, and propose a practical implementation plan to reduce nutrients.

Strategy Moving Forward

- Identify partners
  - Regulated community, municipal dischargers, industry, enviros?
  - EPA, NRCS, Public Health, and other agencies
  - NGO, KIA, etc.
  - Consultants
- Work with permittees to gather data and develop practical implementation plan.
- Focus on reducing total mass loading per facility to develop permit limitations.

Division of Water

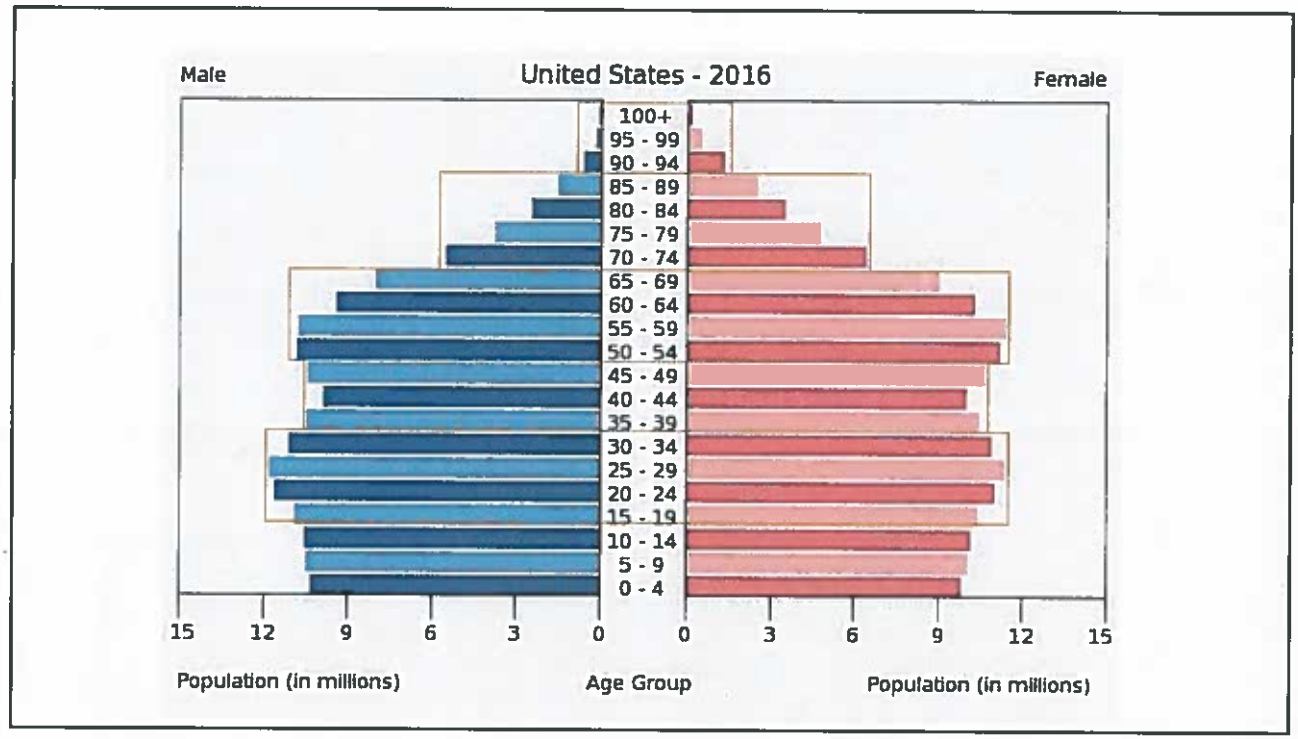
Reduction for Point Source Discharges

- Work with study group - may include POTWs and industries.
- Collect influent and effluent data, and other information regarding type of technology used.
- Determine statistical performance data of technologies being used and other influencing factors.
  - Secondary treatment types
  - O&M practices
- Evaluate options and cost to upgrade.
- Use information to establish performance-based discharge limits for each facility.

Division of Water

Operator Shortages and Facility Staffing

Operator Shortages- Need for Workforce Planning


Male
United States - 2016
Female
100+
95 - 99
90 - 94
85 - 89
80 - 84
75 - 79
70 - 74
65 - 69
60 - 64
55 - 59
50 - 54
45 - 49
40 - 44
35 - 39
30 - 34
25 - 29
20 - 24
15 - 19
10 - 14
5 - 9
0 - 4
15 12 9 6 3 0
0 3 6 9 12 15
Population (in millions)
Age Group
Population (in millions)

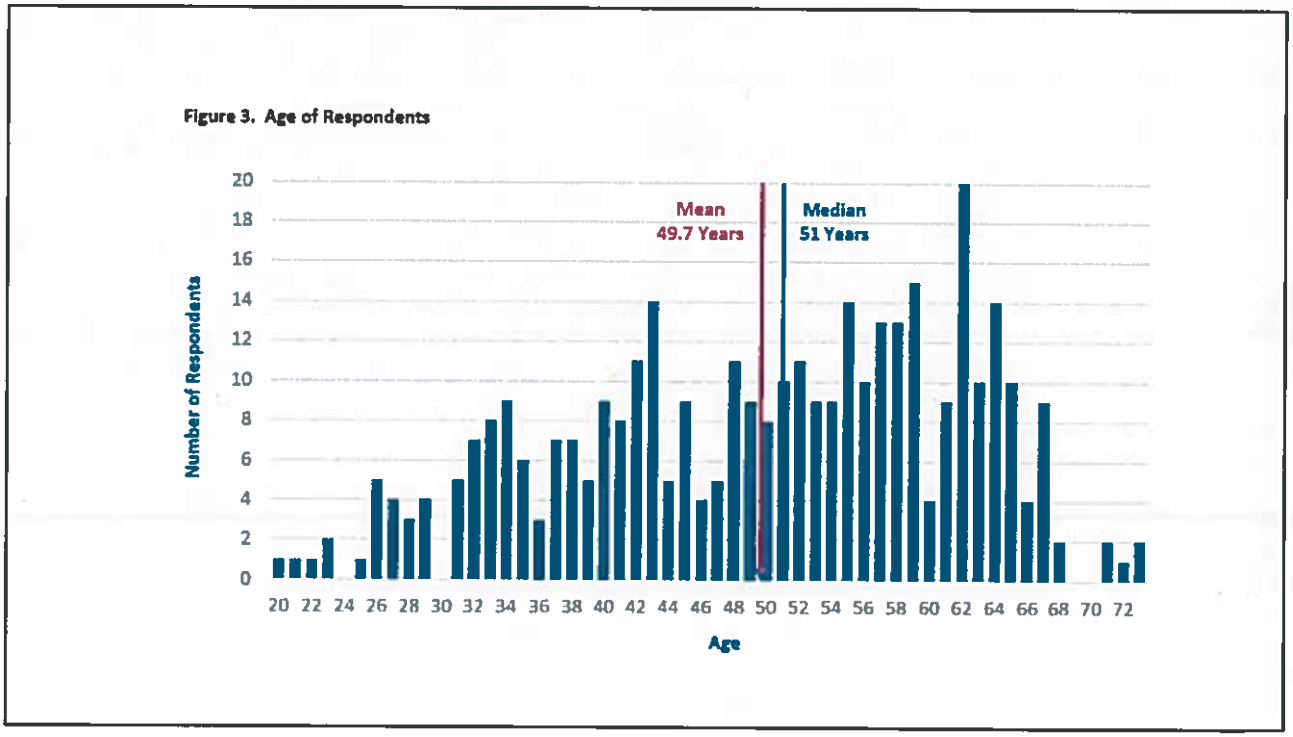
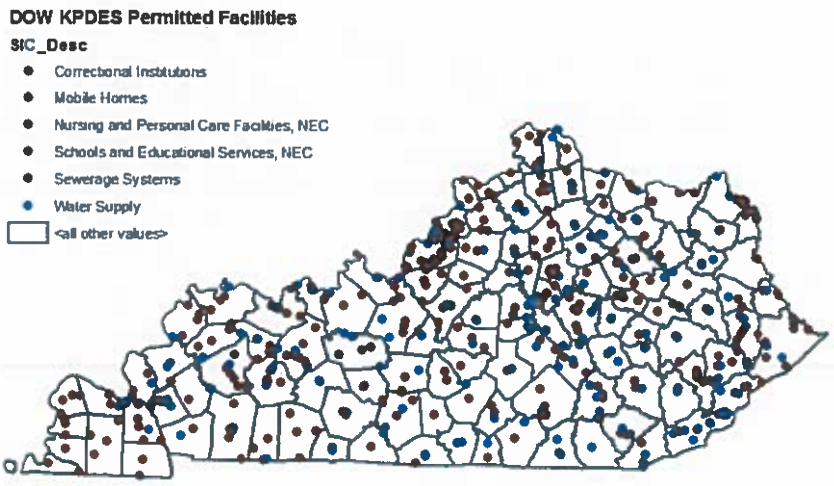


Figure 3. Age of Respondents
Mean
49.7 Years
Median
51 Years
Number of Respondents
0 2 4 6 8 10 12 14 16 18 20
20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72
Age

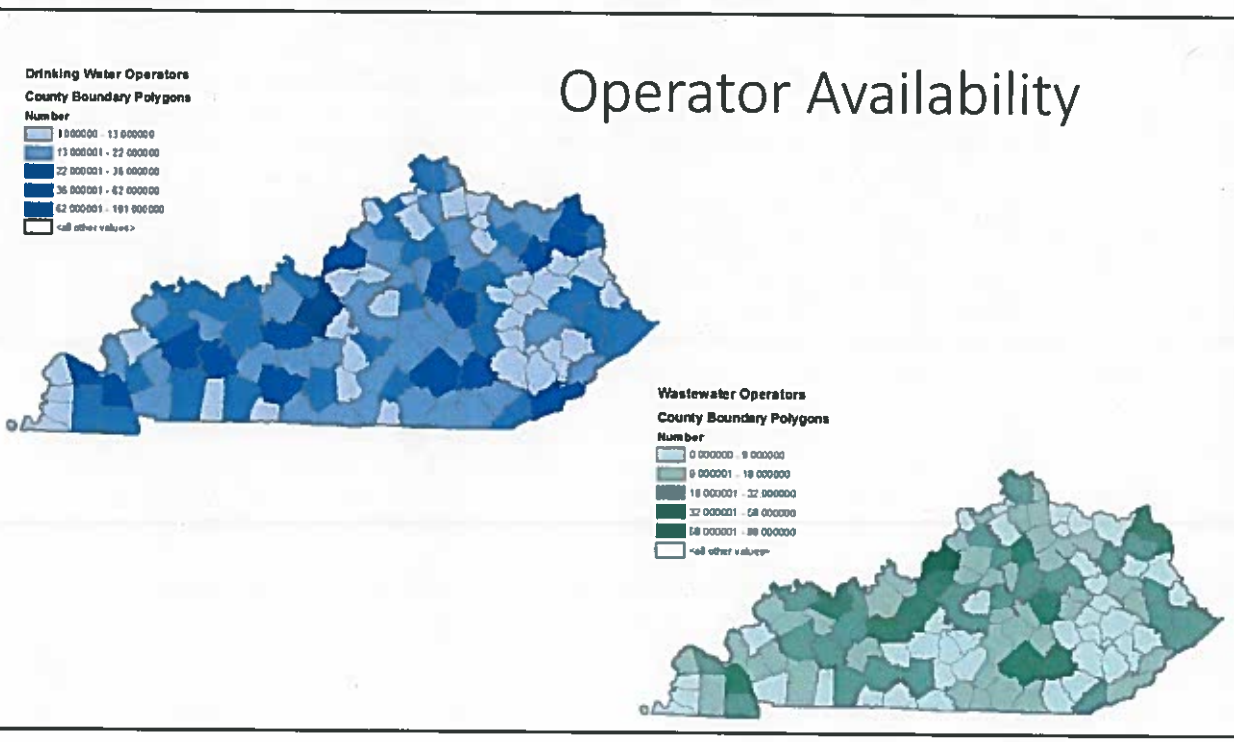
Kentucky Statistics

facilities



Facilities without enough operators

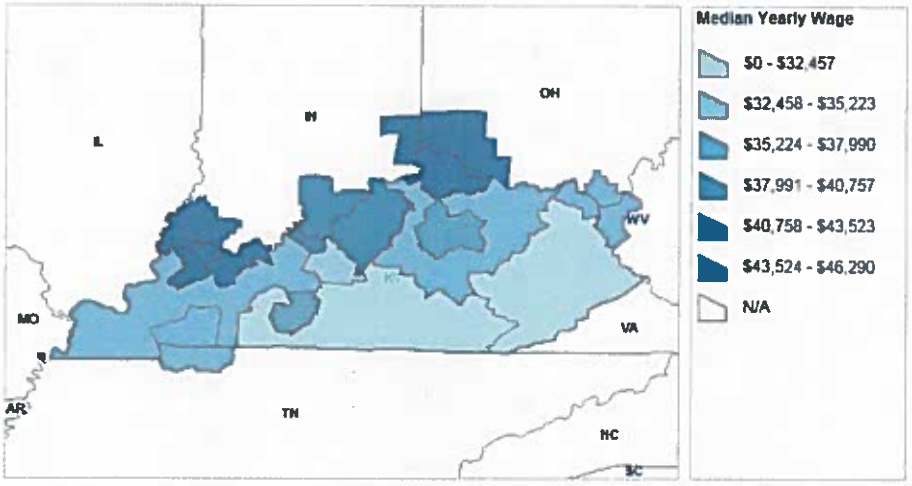
Operator Availability



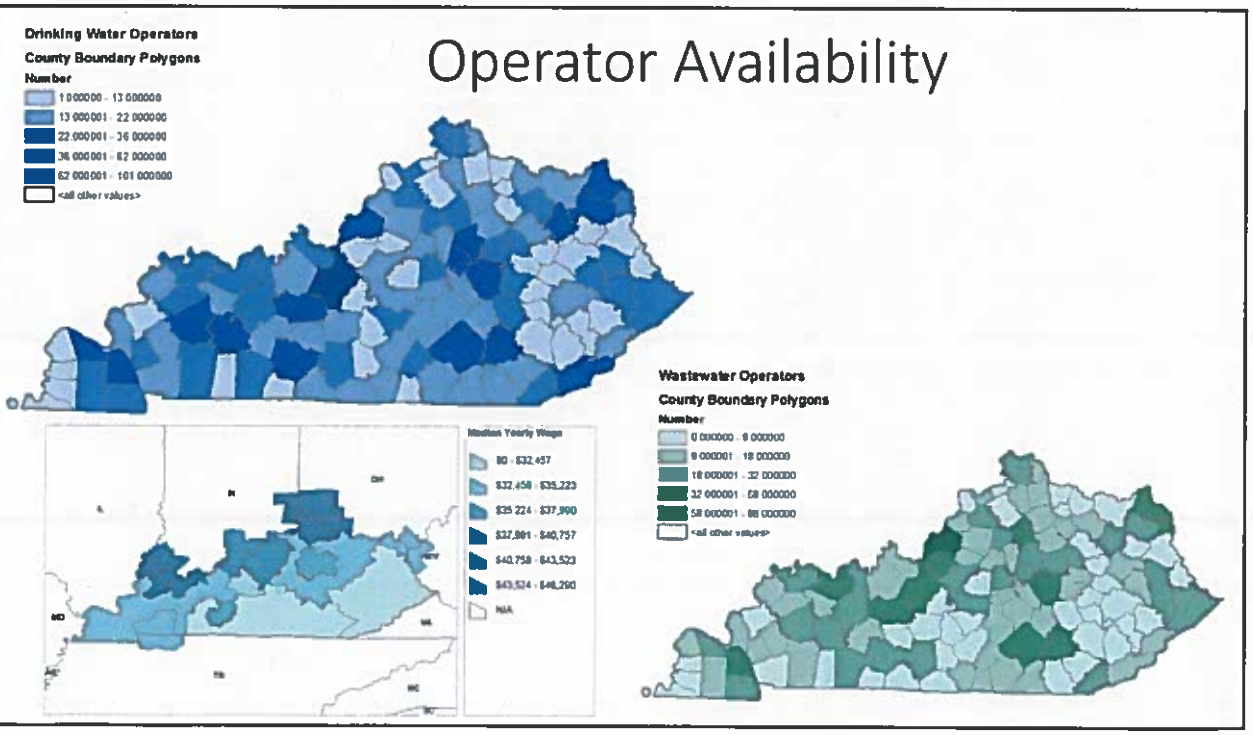
Median Yearly Wages for **Water and Wastewater Treatment Plant and System Operators** in **KENTUCKY**

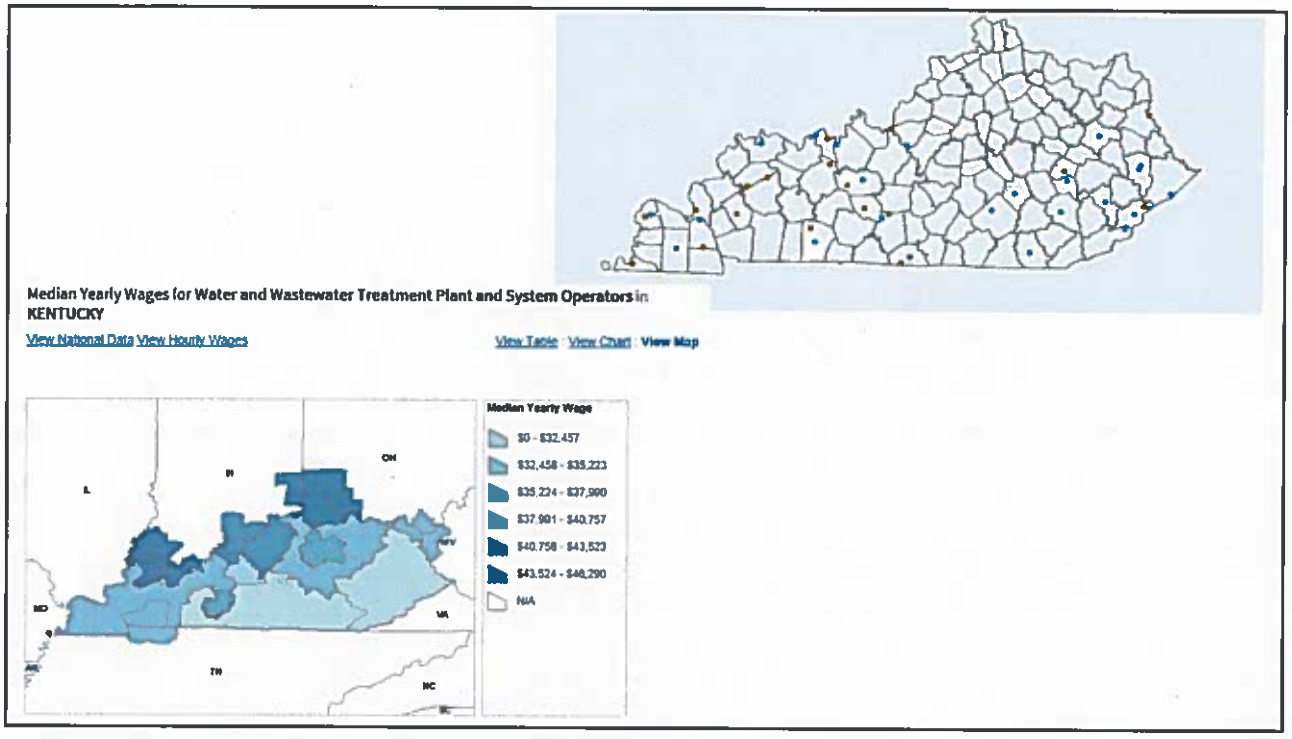
View National Data View Hourly Wages

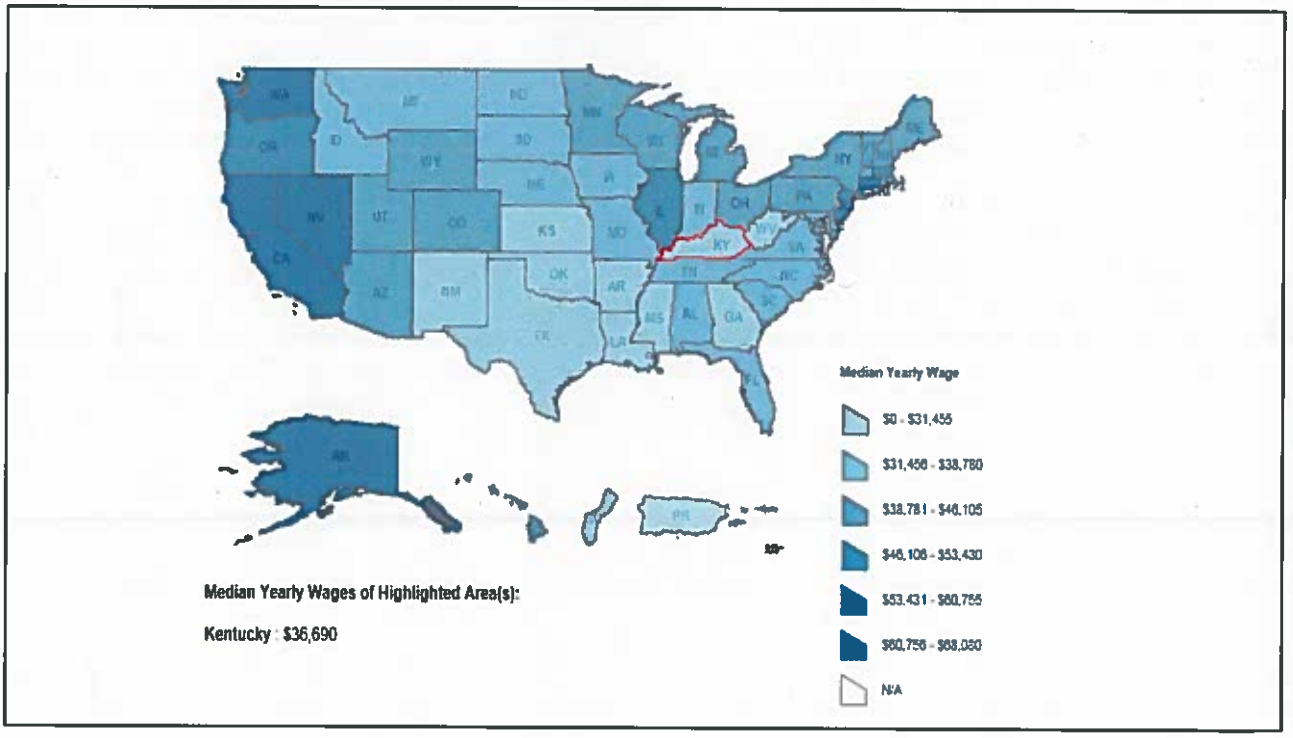
View Table : View Chart : **View Map**



Operator Availability




Median Yearly Wages for Water and Wastewater Treatment Plant and System Operators in KENTUCKY
View National Data View Hourly Wages
View Table : View Chart : View Map
Median Yearly Wage
$0 - $32,457
$32,458 - $35,223
$35,224 - $37,990
$37,991 - $40,757
$40,758 - $43,523
$43,524 - $46,290
N/A
IL
IN
OH
WV
MO
VA
TN
NC


Median Yearly Wage
$0 - $31,455
$31,456 - $38,780
$38,781 - $46,105
$46,106 - $53,430
$53,431 - $60,755
$60,756 - $68,080
N/A
Median Yearly Wages of Highlighted Area(s):
Kentucky : $36,690

KY DEP

- Multiple challenges for the industry and those connected with it.
- Thoughtfully review and consider changes to policies and regulations with those challenges in mind
- We have had discussions with the Boards of Certification, Operator Recruiting and Development Subcommittee, Alternate Staffing Plan Workgroup for initial feedback.
- End goals: attract new talent, maintain reciprocity and most importantly protect human health and the environment

Challenges

1. Baby Boomer Retirement	Alternate Staffing	Changes in OIT • Allow responsible charge for OIT II-IV. • No retest
2. Recruitment: competition from other industries for operators and those with applicable skills. 3. Recruitment: Distaste for shift work and differing work expectations in younger generation.	Operator Recruitment and Development- widen the pipeline	OP Cert Regulations • Review of all regulations if we are addressing OIT • What works, what doesn't • Education substitutions • Qualifications- Class IV WW operators
4. Pay and benefits (retirements) aren't adequate to retain operators.	Education for city officials and public about operators	No regulatory change, but work with partners to educate about and promote the profession.
5. Technology is changing the industry.	Facility Staffing	How does this impact staffing requirements?

1. Retirements	Alternate Staffing	Changes in OIT
2. Recruitment-competition for workers and change in work preference	Widen the pipeline of people considering the career	Does what we have take us where we want to be in the future? Look at all regs for operator certification- education substitution for a varied workforce, qualifications (Class IV ww), etc.
3. Operator pay and benefits	Education about operators for officials and general public	No reg change but concerted efforts between partner agencies needed
4. Technology	Facility staffing	How does technology impact facility staffing and regulatory requirements for facilities?

Alternate Staffing Plans

Alternate Staffing Plans

- Should not be a permanent staffing plan, but a path forward
- Reviewed at 6 month intervals
- Must provide an overview of issues surrounding staff shortage
- Provide an outline of how staffing will be handled
- Determine a timeline and route for certification of operators
- Accomplished through Agreed Orders with stipulated penalties

Operator Certification

Changes under consideration

- Operator-In-Training
- Educational Substitutions
- Wastewater Class IV Qualifications

Operator-In-Training

Change

- Class II-IV OIT can be in responsible charge of a facility.
- Remove the language that would require an operator to retest for renewal.

Benefit

- Allows OIT designation to be used for a tool for operator advancement and facility accountability in alternate staffing plans
- Provides some flexibility to the facility as operators progress through training
- Removes overlap and undue testing burden

In an emergency situation……

- 223.210 allows for the issuance of an emergency certification
  - Specific criteria would have to be set

Educational Substitutions

Change

- Open the substitution to more degree programs.
- This could substitute for up to a quarter of the experience requirement
- Currently only environmental engineering, environmental technology and biological, physical and chemical sciences accepted- half of required experience
- This change would have to be ok'd by EPA

Benefit

- Would open the field to a broader range of candidates
- Acknowledges an enhanced skill set gained through advanced learning but also that they lack much of the theoretical knowledge gained through the approved degrees in place
- Can be part of an effort to bridge those in other careers into the industry

Class IV Wastewater Treatment

Change

- Possibly lower the number of years of experience required for a Class IV Wastewater operator.
  - Currently 5 years with a degree. Nine years for those without.
  - Time requirements should provide adequate experience, but allow for reasonable certification timelines- 3 years instead of 5?

Benefit

- Would allow a more reasonable certification timeline.

Other considerations

- Staff will review all aspects of the certification regulations
- Will look for inconsistencies in language and language that creates confusion for those seeking certification
- The fee structure that supports education and testing will also be reviewed
- Continued efforts will made to get feedback on issues

Questions and Comments

Amanda LeFevre
Division of Compliance Assistance
502-782-6398
amanda.lefevre@ky.gov

Operator Recruitment and Development Subcommittee
Monday Aug. 13, 2018

Meeting Notes-

Membership
Subcommittee membership was briefly discussed. If there were people that were left off the invitation to the meeting, they are to contact Amanda LeFevre to add names to ensure that all participants are invited to future events.

Program and regulatory update

- Program staff provided an overview of certification trends for the state fiscal year ending on June 30, 2018.
- Staff also provided an overview of the operator shortage issue and some updates regarding alternate staffing plans and some potential ideas for regulatory changes. A discussion on education substitution, Operator In Training Designations, plant staffing requirements and experience requirements for Class IV operators were discussed. Participants offered up potential ideas and concerns about the changes.

Outreach to KLC and KACo

- It was announced the Division of Compliance Assistance and the Kentucky Division of Water had obtained a session slot at the annual Kentucky League of Cities Conference in September. The group was asked if there were topics that they felt that we should highlight. Topics such as operator pay, staffing at proper levels and communication with plant staff we offered.

Recruitment Tools
DCA announced plans to develop 1-2 Kentucky specific operator recruitment and best practices videos in conjunction with cabinet level media staff. These videos would highlight the profession for potential job candidates and some best practices that facilities can follow to recruit talent. It was mentioned that the operator recruitment video needed to show people working with technology that is becoming a larger part of plant operations.

Action Items-

- Amanda LeFevre will reach out to KACo to explore educational opportunities there.
- Amanda LeFevre will finish drafting an outreach article for inclusion in the Kentucky League of Cities e-newsletter. She may seek editorial input from the group.
- Group asked to consider what recruitment materials are out there and if they need updates, are there new avenues to consider, etc.

Wastewater Compliance Subcommittee Report
September 11, 2018

Committee members (corrections submitted)

Sarah Gaddis, chair
Dan French, MSD
Greg Stacy, SD1
Heather Stringfield, BGMU
Arianna Lageman, KRWA
Kari Johnson, DCA
Kevin Stewart, DOW

Committee Report

The Wastewater Compliance Subcommittee has not met since the last Advisory Council meeting. However, committee members have been communicating via email regarding training that we hope to develop. Ongoing committee work includes the following:

- Identification of systems that may need additional support through classroom and peer-to-peer training.
- Identification of problem areas in wastewater laboratory certification for the purpose of training development.
- Determining resources available to produce online training modules.
- Compilation of online resources that provide information or training that can be provided to the regulated community or used as models for training development.

The next meeting for the committee will be October 24, 2018 at 1:00 PM, and a meeting request will be sent to committee members.

Alan Roberson Email Summary

EPA PFAS Leadership Summit on May 22-23

Good Afternoon State Administrators, I wanted to send out a summary and my take-aways from EPA's PFAS Leadership Summit on May 22-23 before my memory fogged up over the Memorial Day weekend. First off, the summit was well attended - approximately 210 people on the first day so the room was full - if you look closely you can find Lisa Daniels from PA and Doug Kinard from SC on the left of the picture below, as well as Daniel Czecholinski from AZ at the bottom. There were a few less on the second day when it was only federal and state staff - but it was still a full room as the format shifted to small discussion groups.

Second, considering the number of people in attendance and the diverse perspectives, some good discussions percolated through the Summit. EPA's facilitators used PollEverywhere the first day to solicit input and then developed word maps to show commonalities of the responses. On the second day, the small groups reported out on each of the three topics, and again, there were lots of commonalities.

At the start of the summit, EPA Administrator Pruitt announced EPA's Four-Step Action Plan:

1. EPA is starting the process to evaluate the need for an MCL for PFOA and PFOS, i.e., whether a regulatory determination is needed.
2. EPA is starting the process to propose designating PFOA and PFOS as "hazardous substances" under its existing statutory authority such as CERCLA Section 102.
3. EPA is currently developing groundwater cleanup recommendations for PFOA and PFOS at contaminated sites that should be released this fall.
4. EPA is developing toxicity values for GenX and PFBS.

At the start of Day 2, Peter Grevatt provided his summary seven points from Day 1:

1. We need to focus on risk communication and community involvement;
2. We need to prioritize our efforts;
3. There is a big universe of PFAS - should we focus on individual PFAS versus a group?
4. There are cross-media, cross-program sources, so we need to think about source control;
5. What does transparency mean for PFAS (in the context of PFAS complexity & uncertainty)?
6. There is a tremendous wealth of experience at the state and local levels; and
7. How do we get monitoring data (outside of UCMR3) without regulations that require monitoring?

EPA has posted the presentations from the Summit on its website. I would recommend taking a look at Brandon Kernen's presentation as he makes 11 excellent recommendations.

My own personal takeaway from this Summit is that there are many more potential sources of PFAS than I knew about or had thought about before and that I have a new tagline: "UCMR3 Data Does Not Equal the Potential PFAS Problems".

We will be coordinating with ECOS and ACWA and the other state environmental associations so that we are leveraging each others' efforts. One effort I am considering starting is collecting and analyzing monitoring data beyond UCMR3 that states have collected, so if you have such monitoring data, can you send me an email and let me know what you have so that I have some idea of the potential scope of this effort??

ASDWA's PFAS Workgroup will be holding a conference call in the near future to determine our next steps. ASDWA had excellent representation at this Summit, so many thanks to all of the state folks that made the trip to D.C. for this Summit! Alan

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