

This presentation premiered at WaterSmart Innovations

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Conservation Board

Department of Natural Resources



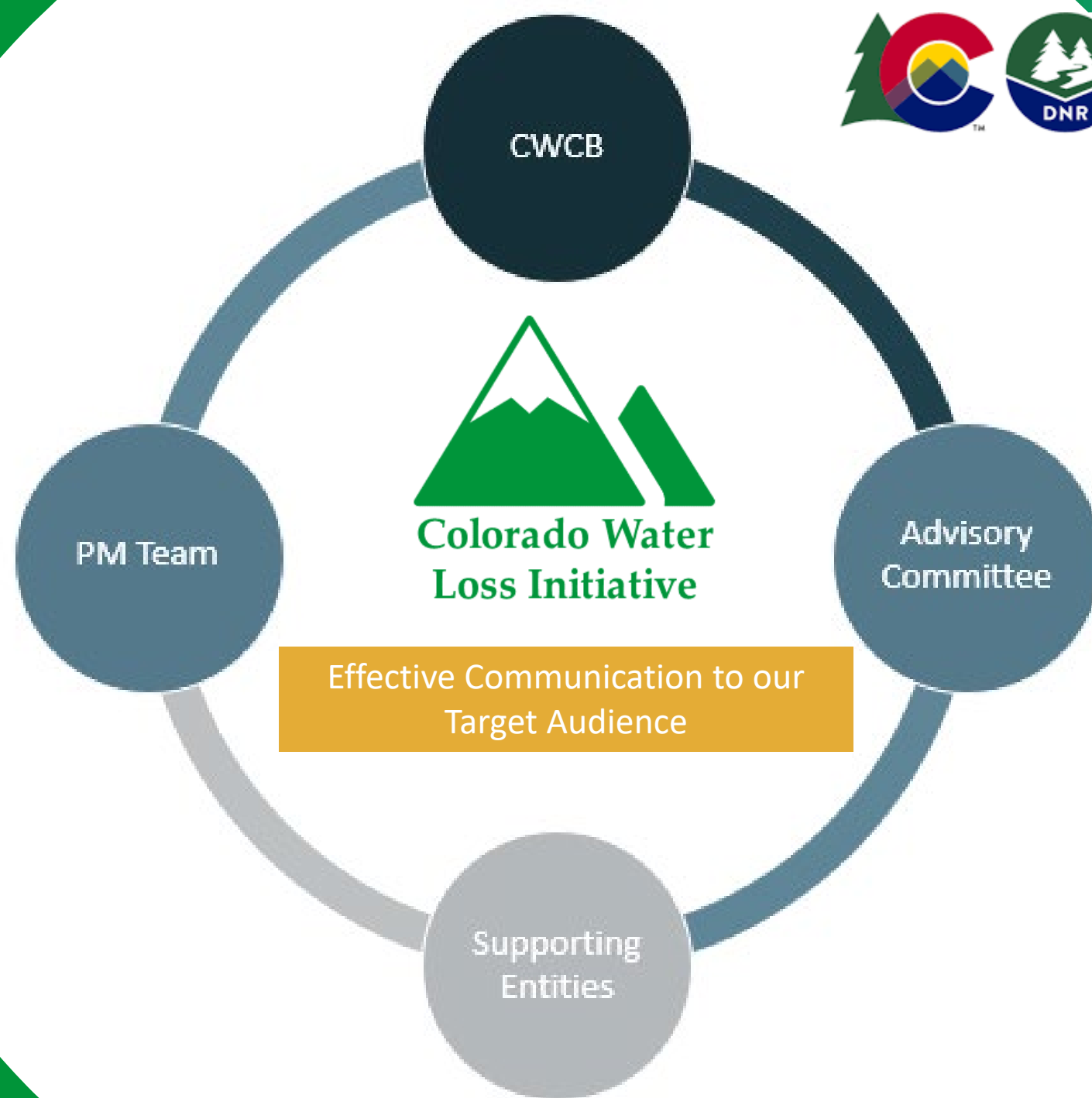
Climbing the Second Mountain: Colorado's Statewide Water Loss Program Ascends to New Heights

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WSO



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Colorado Water
Conservation Board

Department of Natural Resources

Supporting Entities

Advisory Committee

Expert Leadership



Will Jernigan,
Program Director



Drew Blackwell,
Program Manager



Isabel Szendrey,
Program Manager

Expert Teachers



Reinhard Sturm



Steve Cavanaugh



CWCB

Kevin Reidy



Kate Gasner



Kevin Burgers



Tory Wagoner

Key Support

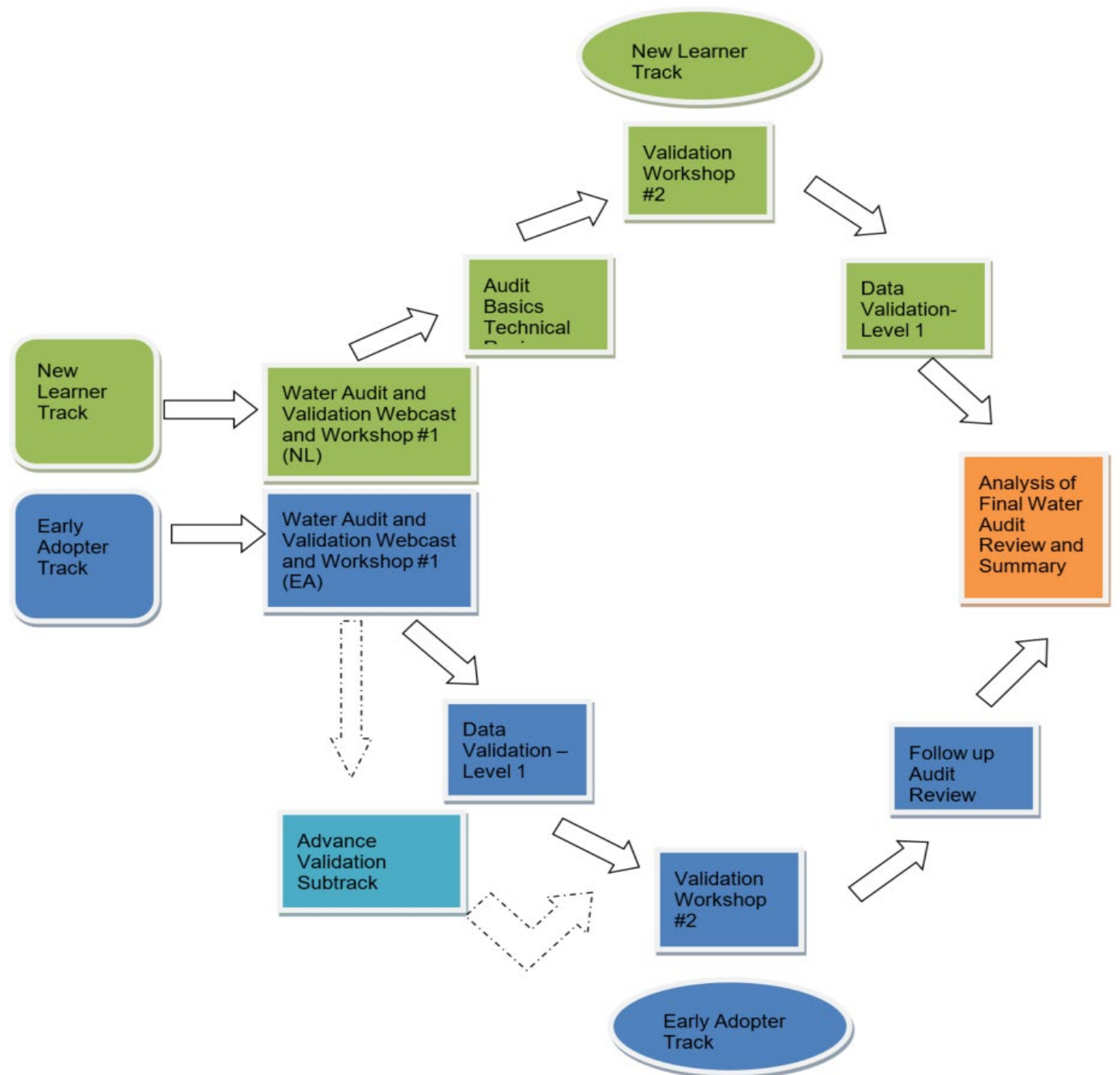


Maher Lugo



Larry Lewison

Phase 1 Introduction to the AWWA M36 Methodology & Water Audit



Participation: Phase 1 results & Phase 2 application

CWLI Phase 1

S0/S1/S3
Participants:
~ 70 systems

S2/S4 Participants:
~ 50 systems

CWLI Phase 2



Recruitment & Retention

New
Learners

101 Workshops

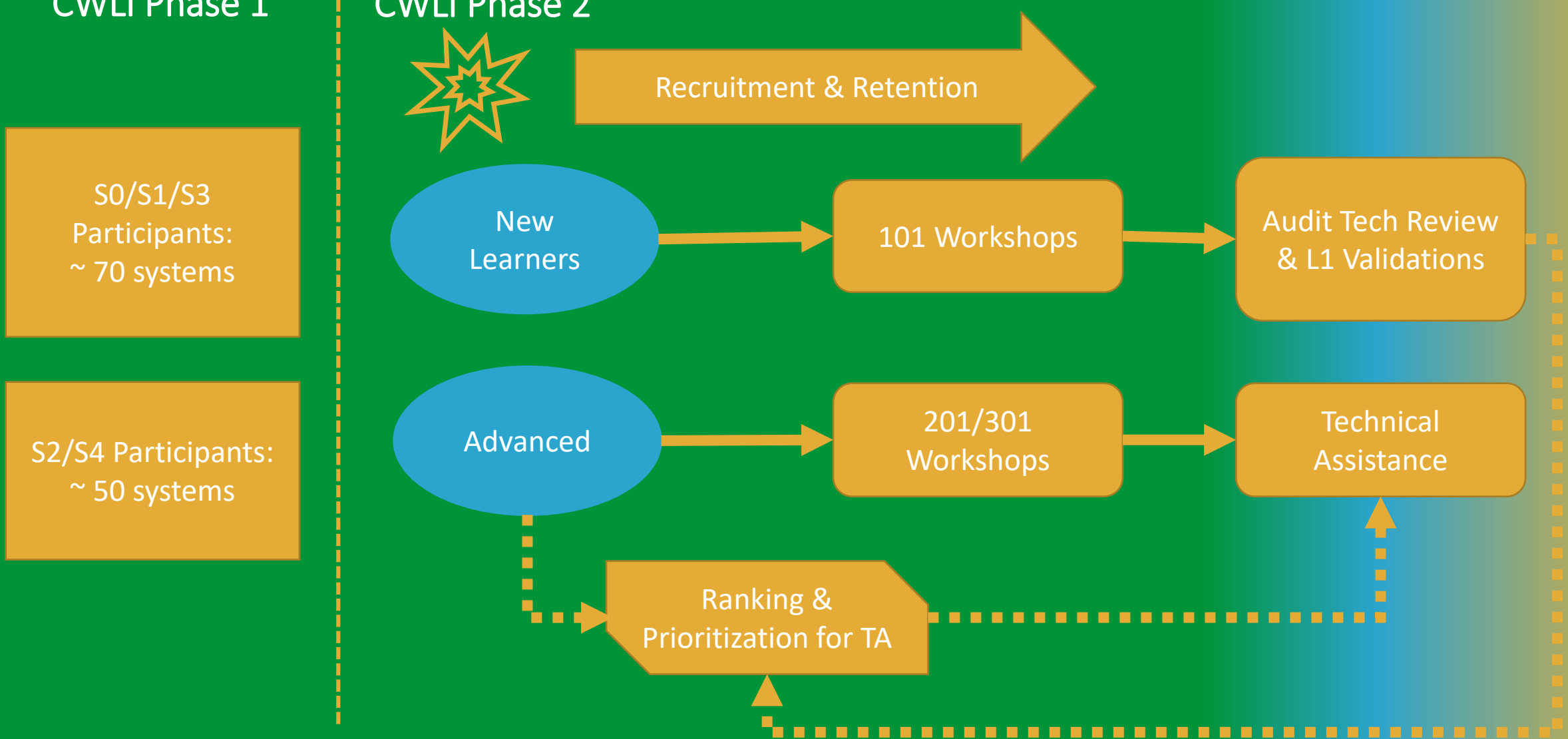
Audit Tech Review
& L1 Validations

Advanced

201/301
Workshops

Technical
Assistance

Ranking &
Prioritization for TA



Program goals, overall schedule & narration on the stages

	2021			2022				2023				2024
	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Task 1: Program development, administration, and communications												
Task 2: Water Audit 101 Workshops and Level 1 Validation												
Water Audit and Validation Webcast and 101 Workshops												
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Data Validation Level 1 for "101" Participants												
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Task 3: 201 and 301 Workshops and Outreach												
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Task 5: Direct Technical Assistance												

Task 1: Management & Mobilization Marketing & Outreach Plan

Goals & Objectives:

Effectively communicate opportunity for:

- **Continuation of Phase 1 participants to Phase 2**
 - Advanced 201/301 group - Direct Technical Assistance Track
- **Opportunity for new participants**
 - New Learner 101 group - Water Audit and Level 1 Validation Track
 - Focus on small systems – resources for contact information other than Phase 1 database. CWCB reporting that we may leverage/merge with Phase 1 contact list.



Task 1: Management & Mobilization Marketing & Outreach Plan

Two tracks – Two target groups

- New Learners – 101 group
- Advanced – 201/301 group

Mediums

- CWCB Confluence
- CWCB Direct Mail
- Email
- Phone
- Website – for all

Messaging

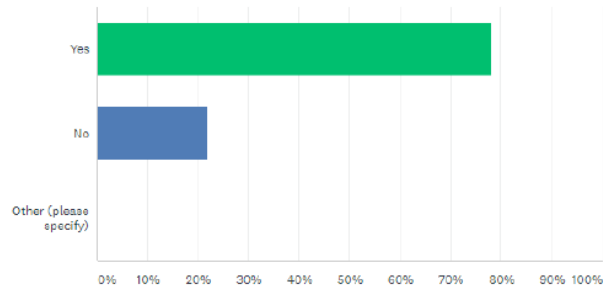
- Use survey results from Phase 1 of those that did not participate and their reasons why to help reinforce recruitment message

Reasons for Not Participating

1. Most of our communications landed,

Did you receive outreach communications (email, phone, conference, webinar, word of mouth) regarding the opportunity to participate in the Colorado Water Loss Initiative?

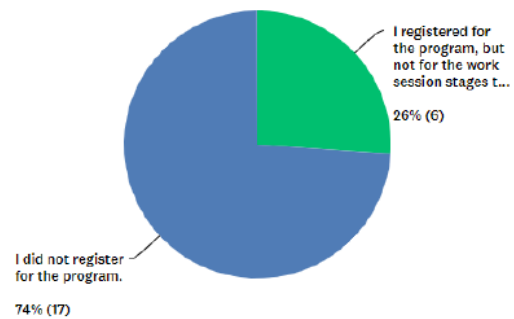
Answered: 41 Skipped: 0



2. But registration rate was low.

Please select the following that best describes your reaction to Colorado Water Loss Initiative opportunity:

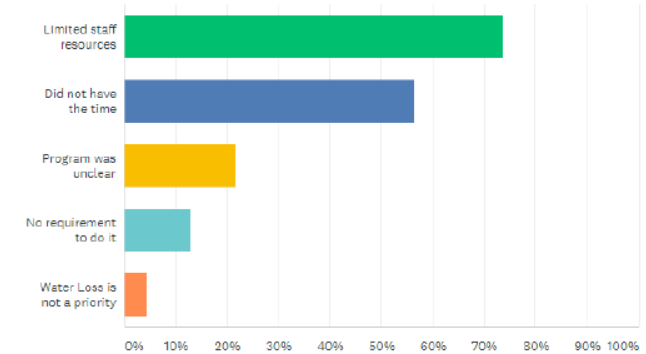
Answered: 23 Skipped: 18



3. Limited staff and time were top reasons

Please select the factors that went into deciding to not participate in the program (Choose all that apply):

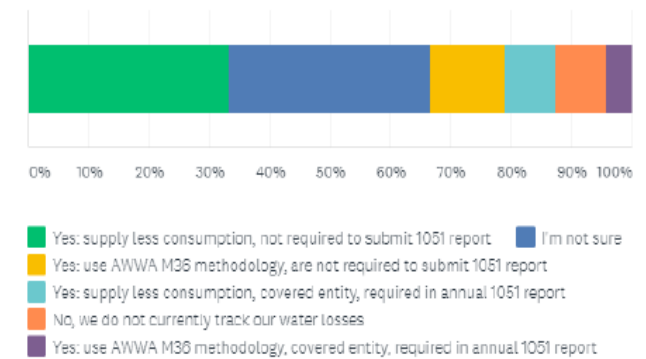
Answered: 23 Skipped: 18



4. Not sure if they track/report water loss?

Do you currently track/report your water losses?

Answered: 24 Skipped: 17



Task 1: Management & Mobilization
Marketing & Outreach Plan
Tracking

Number of utilities registered (RECRUITMENT)

- Total number into CWLI
- Total number into New Learners Group 101
- Total number into Advanced Group 201/301

Number of utilities scheduled (RETENTION)

- *NEW* Verbal contact made for each utility per track
- Creates another opportunity to ensure we have the right person at the utility

Number of utilities participating (RETENTION)

- Total number at each stage (by track)

Task 1: Management & Mobilization Database Examination

- **Help us with contact info for our Advanced Group and/or covered entities**
- **Investigation**
 - Differences in Phase 1 water audits and 1051 reports
 - Use to confirm Advanced Group classification
 - Review information captured in 1051 reports not captured in Phase 1 that may assist in recruitment messaging (e.g. mandatory drought restrictions)



HOUSE BILL 10-1051

BY REPRESENTATIVE(S) Pommer, Fischer, Frangas, Hulinghorst,
Labuda, Looper, Pace;
also SENATOR(S) Whitehead, Carroll M., Foster, Tochtrop.

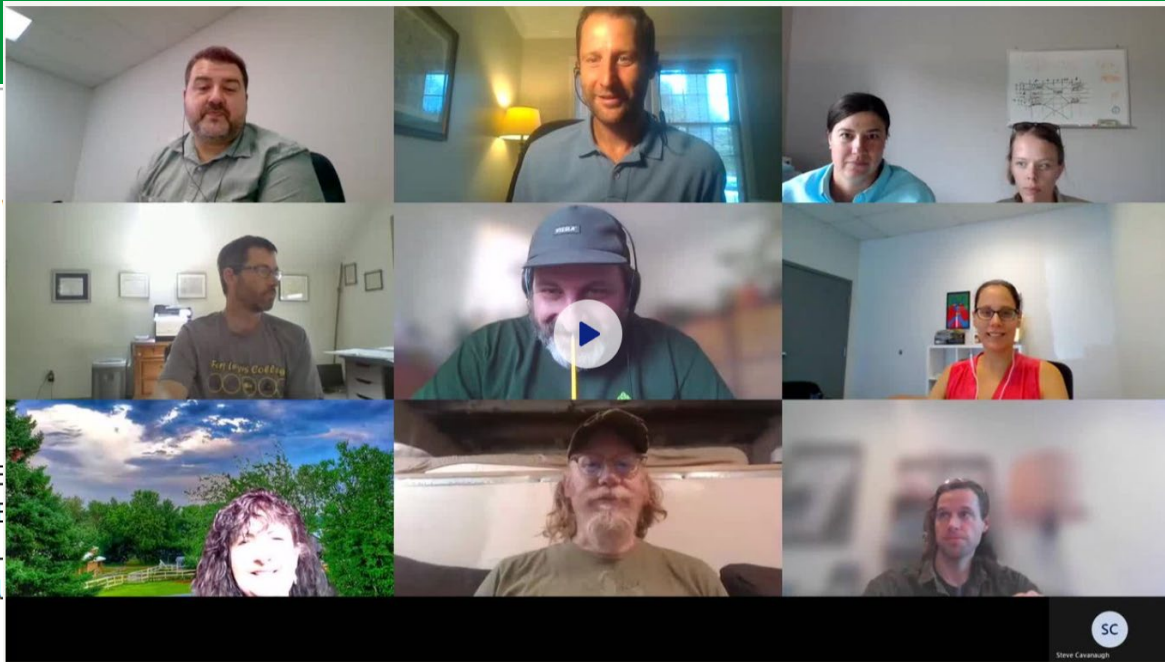
CONCERNING ADDITIONAL INFORMATION REGARDING COVERED ENTITIES'
WATER EFFICIENCY PLANS.

Program goals, overall schedule & narration on the stages

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Task 2: Water Audit 101 Workshops & Level 1 Validation

Task 3: 201 & 301 Workshops & Outreach



AUTHORIZED CONSUMPTION: 802.738 MG/Yr

WATER LOSSES

325.654 MG/Yr

Apparent Losses

Default option selected for Systematic Data Handling Errors, with automatic data grading of 3

Systematic Data Handling Errors: 1.856 MG/Yr

Customer Metering Inaccuracies: 7.798 MG/Yr

Unauthorized Consumption: 1.856 MG/Yr

Default option selected for Unauthorized Consumption, with automatic data grading of 3

Apparent Losses: 11.510 MG/Yr

Water Supplied Error Adjustments
choose entry option:

n	g	8	percent
n	g	3	percent

VOSEA
WIEA
WEEA

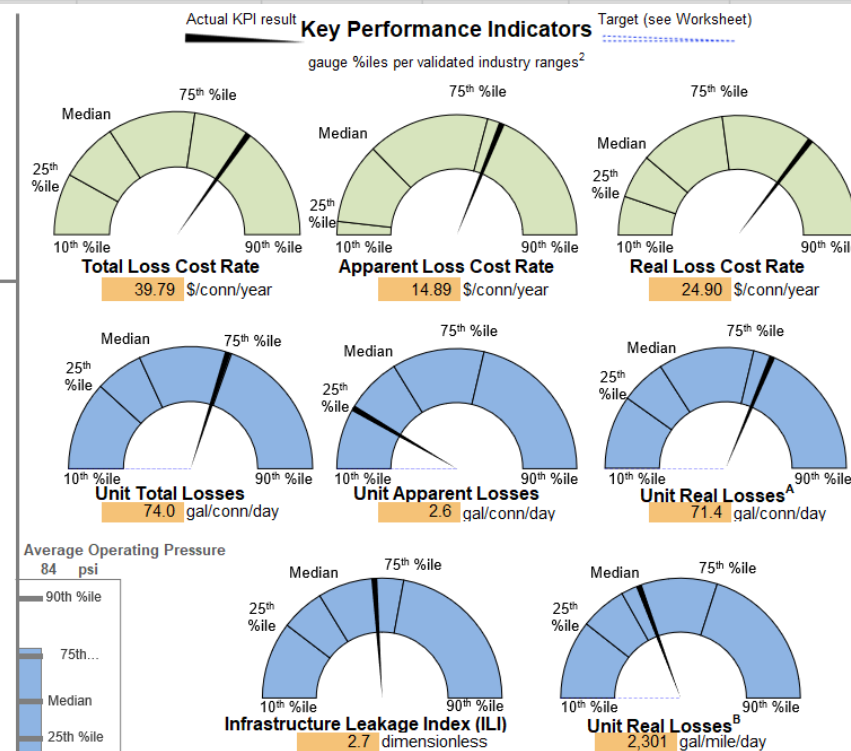
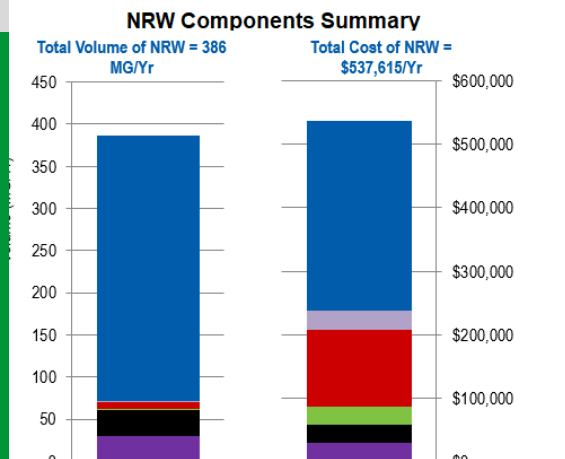
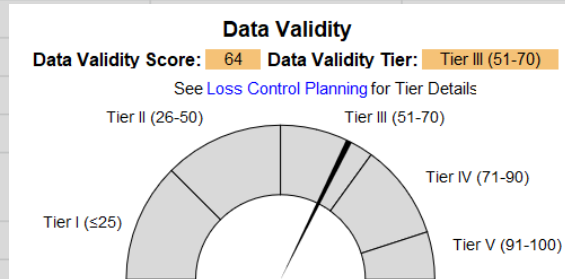


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Task 4: Ranking & Prioritization of Direct Technical Assistance

Data Validity Score	Data Grade for Supply Volume	Performing Supply Meter Accuracy Testing?	Supply Meters	Import/Export	Performing Proactive Leak Detection?	Miles of Network	Leakage Index	Average Pressure (psi)	Unit Gap Leakage (MG/ 100 mile/ year)	Performing Proactive Customer Meter Testing?	Number of Connections
66	6	no	1 plant, 1 meter	8 export	no	337	2.9	105	37.4	large	10,404
73	7	no	1 plant, 2 meters	multiple	part of AMI	1,074	1.9	100	20.8	large, small	32,255
51	5	no	1 plant, 3 meters	4 export	no	516	4.0	70	112.8	large	38,479
61	8	?	1 plant, 1 meter	1 in, 1 out	no	338	1.9	80	11.5	no	14,142
55	5	no	1 plant, 1 meter	2 export	no	178	1.9	89	8.4	no	6,999
67	6									large	16,305
82	9									large	12,883
51	4									no	8,700
61	6									large	313,330
68	7									large	49,346
50	5									large	6,800

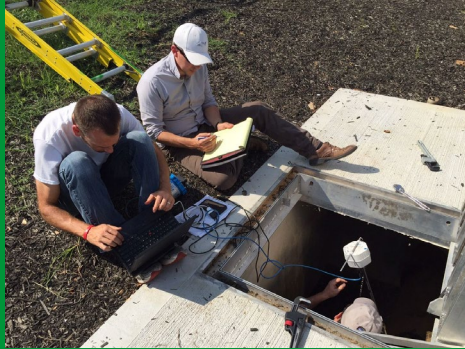


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Task 5: Direct Technical Assistance

Source Meter Testing



Customer Meter Testing Data Analysis

Flow Description	Allocation #1	Allocation #2	Allocation #3	Allocation #4	Allocation #5
High	15%	30%	10%	10%	5%
Intermediate	65%	60%	80%	65%	50%
Low	15%	5%	5%	20%	40%
Ultra-Low	5%	5%	5%	5%	5%
Total	100%	100%	100%	100%	100%
Composite Accuracy	95.94%	96.71%	96.74%	95.55%	93.97%
Composite Inaccuracy	4.06%	3.29%	3.26%	4.45%	6.03%

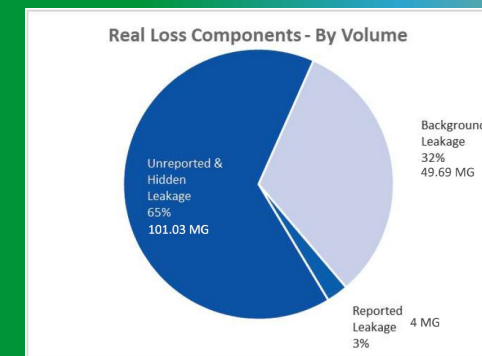
Level 2 Billing Data Analysis

Customer Account	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
22345			284	9	14	17	14	15	16	35				2							390
23173	1	1	2				1617	11	16		1	5	22	25	4			142	240	17	2104
22555		68	61	59	71	55	53	1778	16	80	69	70	65	86	66	60	78	57	72	81	2945
22561	8	20	15	10	13	14	15	24	17	14	14	17	39	186	7	10	8	8	10	7	456
22574	3	5	4	4	5	4	52	157	4	3	4	3	4	3	3	82	666	4	3		1017

Leak Detection



Leakage Component Analysis





Supporting Entities

Colorado Water Wise (CWW)
Colorado Dept of Public Health & Environment
RMS AWWA, RMS Water Utility Council
AWWA
Water Research Foundation
Water Education Colorado
Roundtables
Interbasin Compact Committee
Special Districts Association
USEPA Office of Water & Regional Office
Colorado Watershed Assembly
Colorado Rural Water Association
Colorado RCAP
Western Resource Advocates
Conservation Districts

Advisory Committee

Dave Bries, Montrose Public Works
Lee Ledesma, Aspen Utilities
Scott Winter, CSU
Maureen Hodgins, WRF
Sean Chambers, Greeley
Justin Ramsey, Pagosa Area Water and
Sanitation District
Frank Alfone, Mt. Werner
Frank Kinder, Northern Water

CWCB

Kevin Reidy



Colorado Water Loss Initiative



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CAVANAUGH

Stewardship Through Innovation

WSO

The Colorado Water Loss Initiative (CWLI) is BACK!

Registration for Phase 2 of the program is now OPEN

Go to coloradowaterloss.org to register and learn more about the program

Small systems encouraged!

Participation in Phase 1 is not required

If you did participate in Phase 1, you will enter the program in an advanced track



Saving Water 💧 Reducing Costs 💧 Being Proactive



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