

Welcome!

While we wait for everyone to join...

Put a stamp by the primary public value on which your work aims to affect change

- By Mute or under View Options
- Click Annotate, pick a Stamp, and place on list

UC ANR Public Values:

- **Safeguarding abundant and healthy food for all Californians**
- **Protecting California's natural resources**
- **Promoting economic prosperity in California**
- **Promoting healthy people and communities**
- **Developing a qualified workforce for California**
- **Building climate-resilient communities and ecosystems**
- **Developing an inclusive and equitable society**

Practical Methods to Measuring Outcomes

September 3, 2024

Katherine Webb-Martinez, Director, UC ANR Program
Planning and Evaluation

Vikram Koundinya, CE Evaluation Specialist & Associate
Professor of Extension, UC Davis

UCCE Advisor Speakers

Kim Ingram, UC ANR Forest Stewardship Education Initiative
Coordinator

Eddie Tanner, Speciality Crops & Horticulture Advisor, UCCE
Humboldt and Del Norte

Agenda

10:00	Welcome & Overview
10:05	Presentation on Outcomes Evaluation
11:00	Break
11:05	UCCE Academic Speakers
11:30	Activity: Individual Worksheet, Small Group Discussion & Report Out
11:55	Wrap-up & Training Evaluation
12:00	Adjourn

Anticipated Outcomes

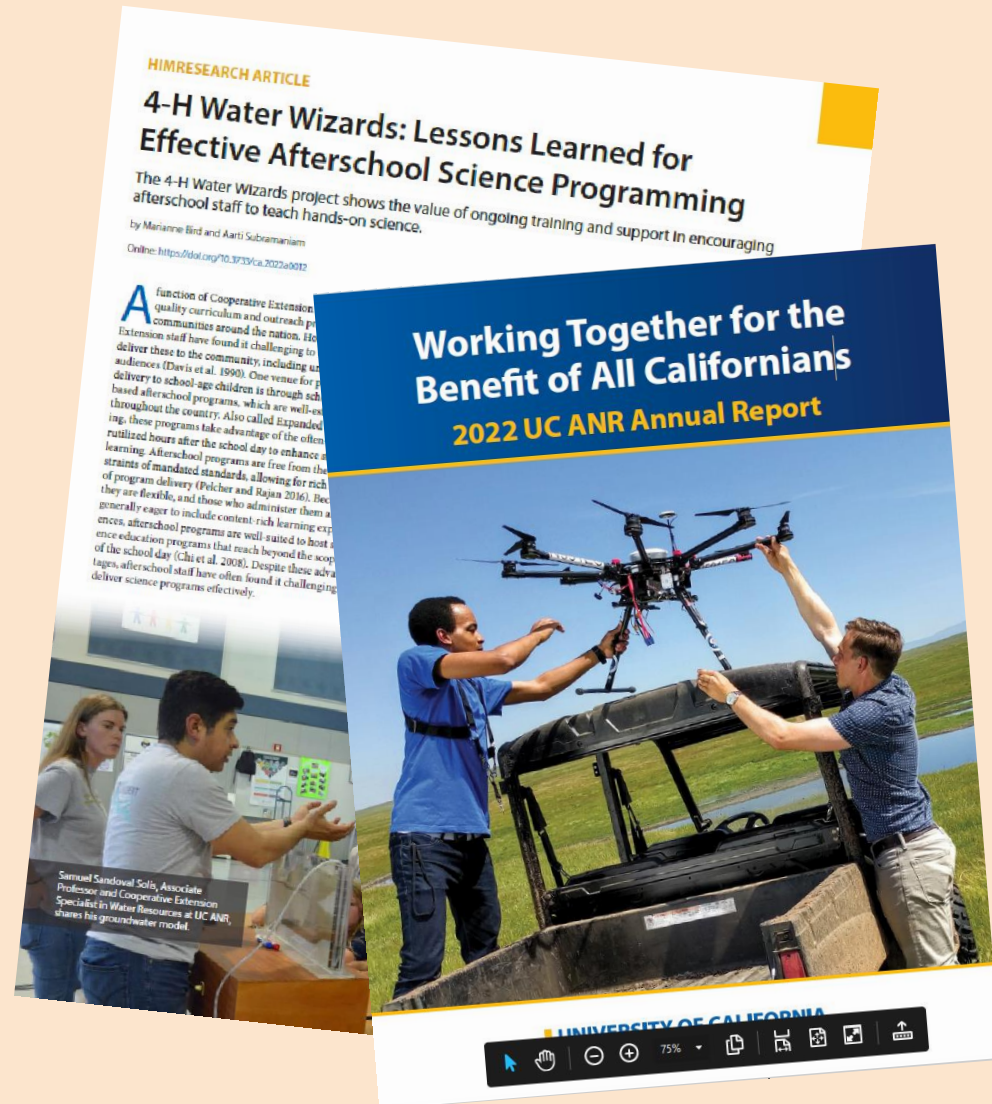
Participants will gain...

- Understanding of how to define program theory and incorporate UC ANR's condition changes and public values
- Experience defining outcomes and measurable indicators
- Understanding of options for evaluation data collection methods to measure program participant outcomes
- Feedback on your evaluation plan/approach



Why & How To Use Outcomes Data

- Program improvement
- Program support
- Accountability
- Communications
- Merit and promotion
- Publications
- Inform the field



Basic Steps for Outcomes Evaluation

1. Develop a program theory

1. Define the intended outcomes

1. Identify the indicators

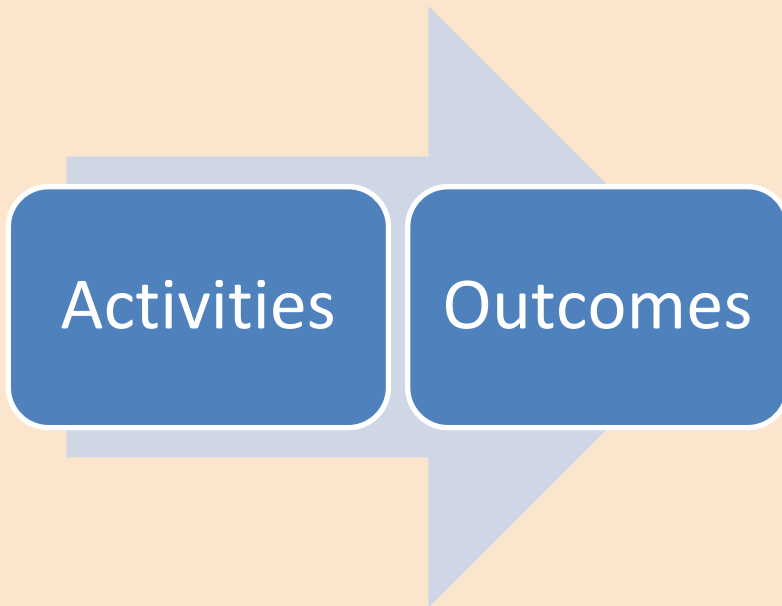
2. Determine sources of information

1. Choose data collection methods

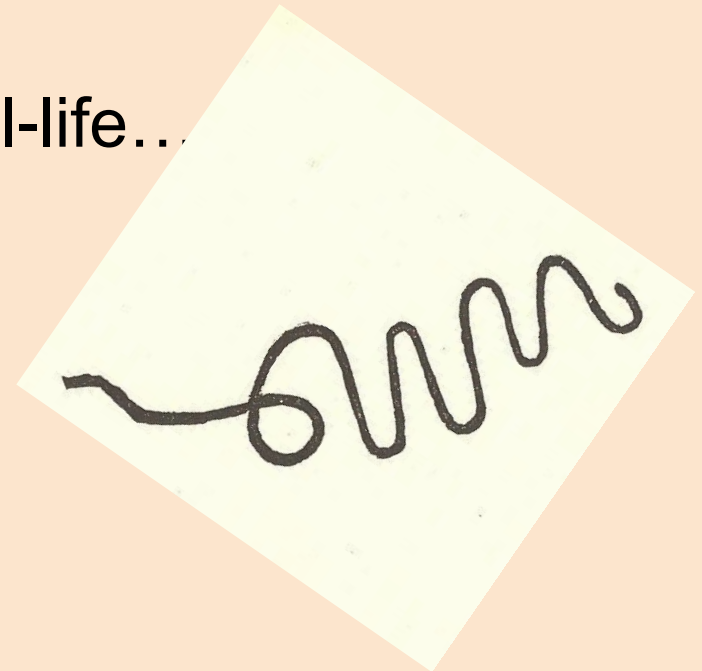
1. Analyze & interpret data (*attend data analysis trainings: 9/19, 21, 26!*)

Develop a Program Theory

If this then that...



Real-life...



Leigh Johnson, UCCE San Diego Coastal Resources Advisor, Emeritus



Program Theory

Logic Model: A popular tool that can be used to conceptualize change effort
(UW-Madison Division of Extension, 2022)

Issue

What we invest

What you do

Intended results

Situation:

Background,
Rationale,
Clientele Needs,
Goals

Inputs:

Time,
Volunteers,
Research base

Research & Extension Methods:

Outputs, Activities,
Products,
Participation

Learning Outcomes:

Knowledge,
Attitude/
Intent to
Change,
Skill

Action Outcomes:

Behavior,
Policy

Condition Outcomes:

Economic gain,
Societal or
Environmental
improvement



Time



Differentiating Outcomes from Outputs

- **Outcome** is something that *comes out of a program*
- **Output** is *under the control of educator*, whereas outcome is not under the full control of educator

(Davidson, J. E., 2016)

Differentiating Outcomes from Impact

- **Outcome** is “so what” of outputs
- **Impact** is the ultimate “so what”

Examples of Outputs

What you do:

- Workshops
- Field Days
- Meetings
- Services
- Videos
- Blog posts
- Brochures
- Factsheets
- Curriculum
- Evaluation activity
- Working with media

Participation/Who you reach:

- Participants
- Clients
- Agencies
- Decision-makers
- Customers
- Satisfaction

Outcomes and Impact

UC ANR Project Board & E-Book Definitions for UCCE academic program review and reporting

- *changes in **learning** (knowledge, attitudes, or skill)*
- *change in **behavior/practice***
- *changes in **policy or decision-making** (science-based information applied to decision-making or results from policy engagement)*
- *changes in **conditions** (social/health, economic, environmental)*

UC Master Gardener Example

What difference are we making?

UC ANR
Public Value:
Protecting CA
natural resources

Learning

Condition

Participants gain knowledge & skills about composting



Action

Participants adopt recommended green waste reduction practices



Reduced yard waste sent to landfills

BioCycle study: 16 households diverted 5.8 tons in 10 months

UC ANR:
Increased ecological sustainability of landscapes



Public Values With Respective Condition Changes

UC ANR: Safeguarding abundant and healthy food for all Californians

- Improved food security
- Improved food safety

UC ANR: Protecting California's natural resources

- Improved management and use of land
- Improved air quality
- Protected and conserved soil quality
- Increased ecological sustainability of agriculture, landscapes, and forestry
- Improved water quality
- Improved water-use efficiency
- Improved water-supply security

UC ANR: Promoting economic prosperity in California

- Improved individual and household financial stability
- Enhanced community economic development
- Improved animal management, productivity and efficiency
- Increased agriculture and forestry efficiency and profitability
- Increased emerging food economies and markets

UC ANR: Promoting healthy people and communities

- Improved health for all
- Improved community health and wellness
- Improved access to positive built and natural environments

UC ANR: Developing a qualified workforce for California

- Increased workforce retention and competency
- Increased effective public leaders
- Improved college readiness and access
- Increased civic engagement

UC ANR: Building climate-resilient communities and ecosystems

- Increased preparedness and resilience to extreme weather and climate change

UC ANR: Developing an inclusive and equitable society

- Improved living and working conditions for California's food system and farm workers
- Increased diversity, inclusiveness, and cultural competency in California's workplaces

Focusing Your Outcomes Evaluation



Define Intended Outcomes that are...



REASONABLE

- connected in a logical way to your program activities



REALISTIC

achievable given the situation and resources/inputs



IMPORTANT

- represent an important change that is valued by participants and key stakeholders

Outcome Indicators

Criteria:

Direct

Specific

Useful

Practical

Culturally responsive

Adequate



If the outcome is achieved, how will you know it?



What will it look like?

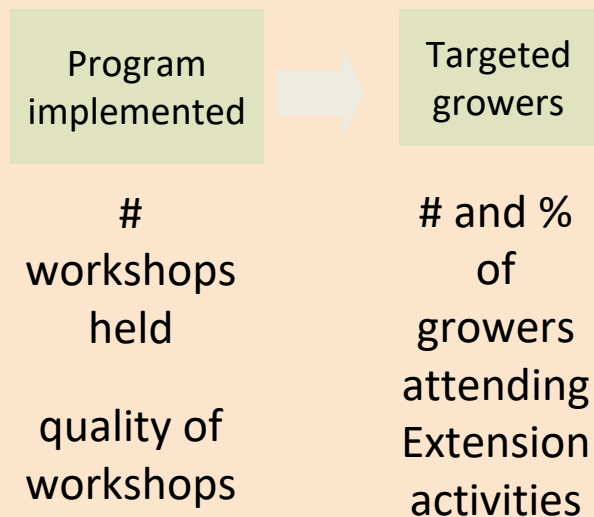


What is the evidence?

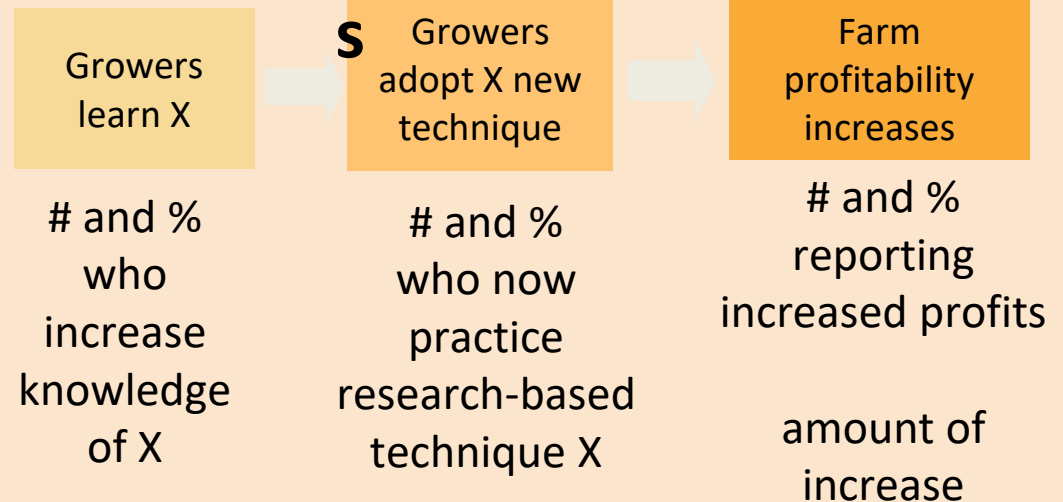
Logic Model with Indicators



Activities



Outcome



Add Your Ideas to Chat

***Intended Outcome:* Growers have expanded economic opportunities**

What are some possible outcome indicators?

**Practical Methods for
Evaluation Data Collection
to Measure Outcomes**

Sources of Evaluation Data

Other sources may include:

Mostly your clientele or program participants.

- Existing data
 - Exit report, government reports
 - Program records, sales records, etc.
 - Pictures, charts, maps, pictorial records
- Non-participants
 - Funders
 - Community members
 - Collaborators

Evaluation Data Collection Methods in Extension

- Secondary Data
- Observation
- Interview
- Focus Groups
- Ripple Effects Mapping
- Survey

Secondary Data

- ✓ Behavior change
- ✓ Quantitative data
- ✓ Qualitative data

Content analysis of existing

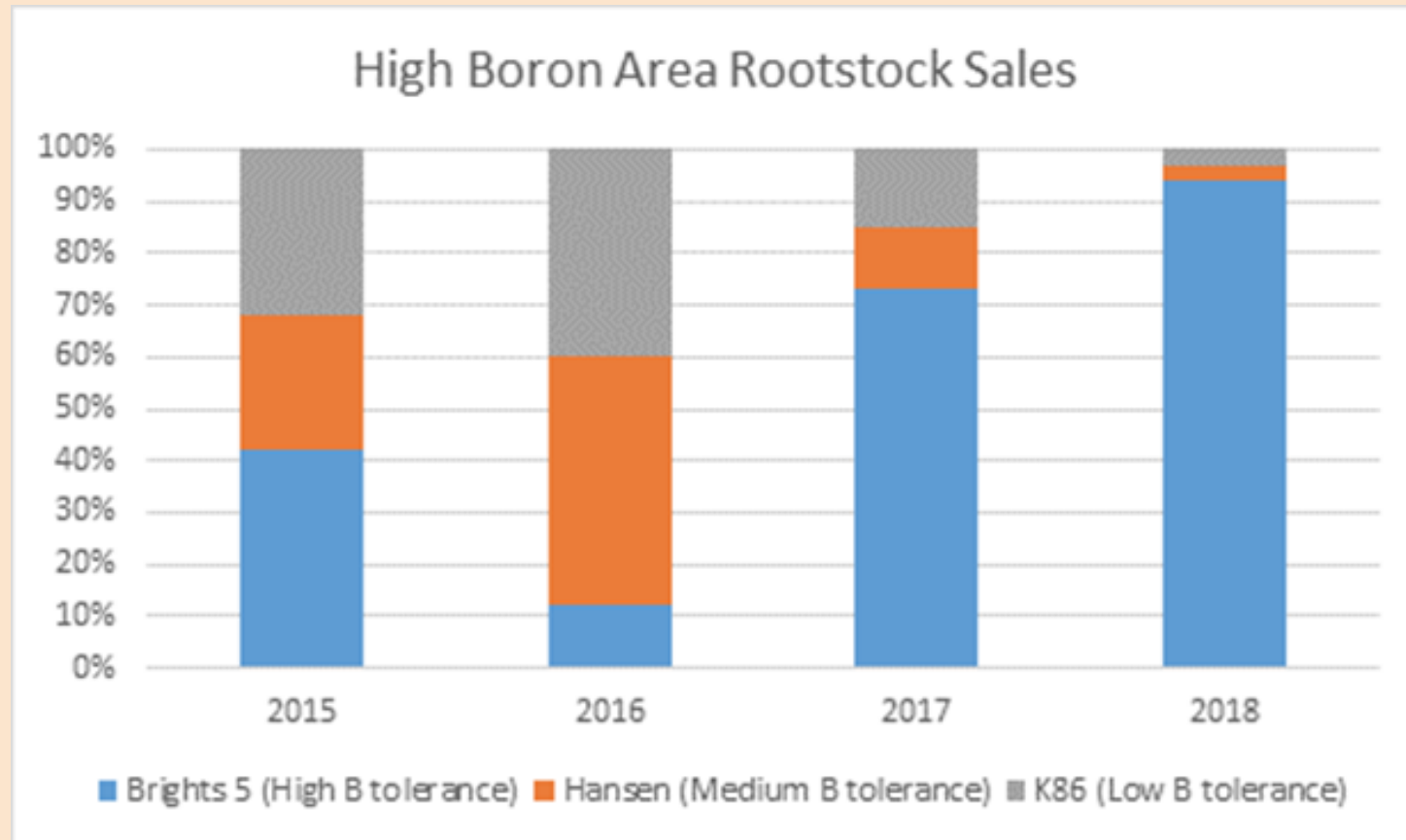
information

- Exit reports, government reports
- Sales records or use records
- If possible, get pre and post data for comparison
- Document systematically

Secondary Data

UCCE Orchard Advisor Katherine Jarvis-Shean

Sales data
from
nursery
partners



Observation

Use it for:

- ✓ Skills gained
- ✓ Behavior change
- ✓ Qualitative data
- ✓ Quantitative data

Seeing & listening!

- You likely already do it!
- When there is physical evidence that can be readily seen
- Confirm fidelity of implementation
- Pre/post approach for comparison

Observation

Field Notes

- Can be in a least structured way
- You can commit observations to memory and make notes later
- Carefully record date, location, and other relevant observed information
- Leave a wide margin for analysis later
- Consider creating a simple database to pull out participant outcomes to report later

Observation

UCCE Specialist in Aquaculture

Jackson Gross

On-farm research -
to optimize use of modern
technologies to increase
aquatic animal welfare
and labor efficiencies

**Three farms adopted
technology and
improved the welfare of
thousands of finfish.**



Observation

Observation Guide/Checklist

- Tool to document what you've seen & heard for later evaluation write-up
- Clipboard in the field or later in the truck

Observation Prompts	Actions You See or Comments You Hear
1. Do the educational materials developed for Clear Lake reflect the region well (e.g.: culturally appropriate, age appropriate, learner-centered etc.)	
2. Do the educational materials appear usable? [Usability attributes include learnability, efficiency, memorability, errors, and satisfaction (Nielsen, 2010)]	
3. Is the feedback from participants used in making changes as needed to the educational materials?	
4. Are participants actively engaging in the field visit and training? (example cues: participants asking questions, participants discussing the educational materials among themselves, providing feedback when requested or even when not requested, etc.)	
5. Any other things that stand out to the observer?	

Observation

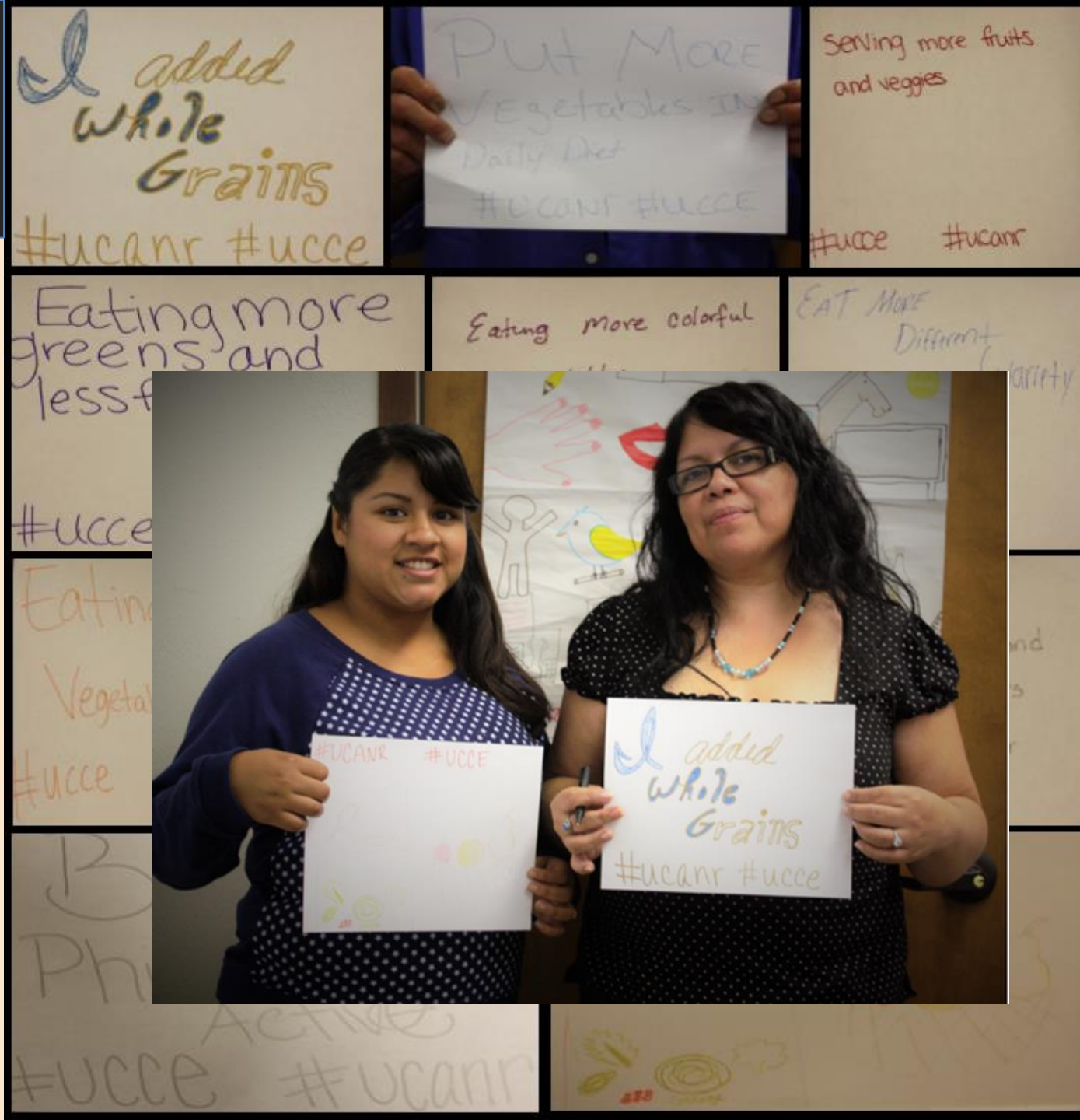
Photograph/Video

- Present powerful visuals to illustrate behavior change or adoption
- Can be documented by volunteers, participants, YOU!
- Can be analyzed using evaluative rubrics (e.g. youth photo journals)

Observation

CalFresh Healthy Living, UC

Participants
document
behavior
change
outcomes
using
#healthyselfie



Interviews

Use it for:

- ✓ Self-reported knowledge, attitude, behavior changes
- ✓ When surveys inappropriate
- ✓ Qualitative data
- ✓ Some quantitative data

Talking and listening to people

- Range from free-flowing, semi-structured, tightly structured
- Create an interview protocol for consistency
- Can also ask about impact, unintended outcomes, as well as process evaluation questions (ideas for improvement or barriers to implementation)

Interviews

Formal interviews

- Collect consistent data overtime; using the same questions
- Institutional Review Board (IRB)

Natural Resources Advisor

Sabrina Drill, Emeritus

California Naturalists Project Interview Summer 2017

Location: _____ Date _____ Time _____

Interviewer _____

Version for current CC participants

Background

1. General demographic questions (age, ethnicity, etc. -this could be a given already)
2. Which Conservation Corps Program are you participating in? How did you find out about it?
 - a. What factors motivated you to participate?
3. When did you first develop interests in the things that made you to want to participate in the program?
4. Growing up, did your family participate in nature-based/outdoor activities ?
5. Growing up, were you interested in nature and/or science?
6. What are some environmental issues facing your community?
 - a. How do you engage with them?
7. Are there particular environmental issues that are important to you (for example, climate change, energy consumption/carbon footprints, water quality (or clean air etc.), air quality, habitat loss, trash and recycling, etc.??)? If yes, what are they and why?
8. Do you see yourself as someone who knows about the environment?

Interviews

UCCE Forest Advisor and County Director Yana Valachovic

Informal Interviews

Bills influenced by UC ANR's work on prescribed fire were signed into law in 2019:

- SB 901 -- provided input
 - AB 38 -- technical adviser
1. Used primary research to inform the discussions
 2. Staffers sent her language to review and provide comment
 3. Often follow-up conversations



Group Assessment

Use it for:

- ✓ Self-reported knowledge, attitude, behavior change
- ✓ Qualitative data

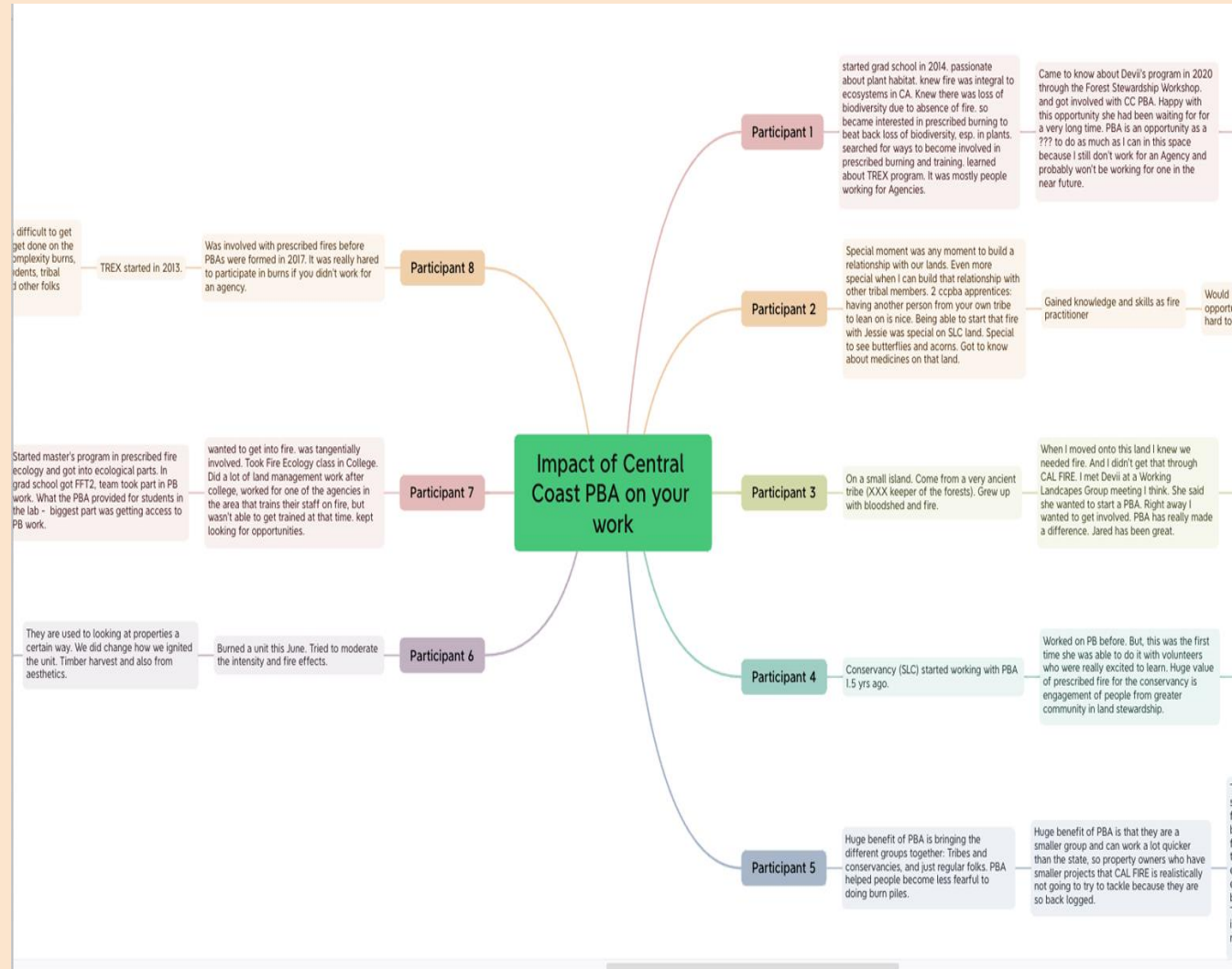
Focus Groups

- Focus groups foster trust and relationship-building in addition to the activity's goals
- Piggyback off existing meetings
- About 10 people for a 90 min session (*6-12 per literature*)
- Can also ask about impact, unintended outcomes, as well as process evaluation questions

Group Assessment

Ripple Effects Mapping

- Appreciative Inquiry
- Intended and unintended outcomes
- Participatory
- Radiant Thinking and Mind Maps (X-mind software)
- Qualitative analysis



Survey

Use it for:

- ✓ Knowledge change
- ✓ Self-reported knowledge, attitude, behavior change
- ✓ Qualitative data
- ✓ Quantitative data

Collecting standardized information through structured questionnaires

- Online is fast and cheap
- Typically used for participant reaction, but potential for much more!
- Consider using for in person and online Extension activities
- Consider survey fatigue, add an incentive or use clickers for better engagement
- Qualtrics!
- Always test your survey (cognitive interviews)

Survey

Integrated Pest Mgmt Advisor

Cheryl Wilen, Emeritus

Pre/Post Test
using clickers



The snail pictured above is a: *

- White garden snail
- Brown (European) garden snail
- Decollate snail
- Amber snail
- I don't know



The snail pictured above is a: *

- White garden snail
- Brown (European) garden snail
- Decollate snail
- Amber snail
- I don't know

Survey

Natural Resources Advisor Sabrina Drill, Emeritus

Shot-hole Borer
Workshop

Retrospective
post-then-pre
on-site
(or shortly after)

measuring
Intent to Change
practices

The screenshot shows a web browser window with two tabs: "Home - ANR Portal" and "Edit Survey | Qualtrics Surveys". The address bar shows a secure connection to "https://ucanr.co1.qualtrics.com/ControlPanel/?ClientAction=EditSurvey&S...". The browser's taskbar includes icons for "Apps", "ANR", "CanNat", "ANR Portal", "Box - UCD", "UCR Eskalen Lab: Fusarium", "ANR PSHB", and "Outlook.com".

Q8 **AFTER** this training, do you intend to do the following practices?

	Absolutely	Somewhat	Slightly	Not at all
Identify tree insect pests and diseases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use recommended strategies to treat for emerging tree pests and diseases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use recommended IPM strategies to treat for common tree pests and diseases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use recommended strategies to manage wood and firewood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Share information from this workshop with co-workers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Share information from this workshop with the public	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10 **BEFORE** this training did you do the following practices?

	Absolutely	Somewhat	Slightly	Not at all	× Not applicable
Identify tree insect pests and diseases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use recommended strategies to treat for emerging tree pests and diseases	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Survey

Human-Wildlife Interactions Advisor, Niamh Quinn

**Follow-up
survey
to measure
behavior change**



Thank you for attending West Coast Rodent Academy between 2016-2020.

The survey will take about 5-10 minutes.

Please respond to the questions about your personal experiences involving your own integrated pest management practices. If you are a supervisor or decision-maker, please respond to the questions about your company's integrated pest management practices. We intend to use this information to better understand and communicate the successes of the West Coast Rodent Academy to our funders and stakeholders. We may follow up with additional questions.

Survey

UC IPM Statewide Program

Director Jim Farrar with Darren Haver

Follow-up survey for online educational materials

Downloadable at no cost, but asked for name, email, employer, city, and state to gather evaluation information

Did you increase your knowledge on the use of pesticide handling best management practices to protect water quality?

75% (9/12) Yes

17% (2/12) No

8% (1/12) Did not answer

Key Points on Methods

- Each method has a specific purpose, advantages and challenges.
- Consider purpose, participants, and resources available when selecting your method.
- Be culturally responsive (work with stakeholders, address cultural bias in questions, participant characteristics influence methods, etc.).
- Secondary data can miss marginalized groups.
- The goal is to obtain trustworthy, authentic and credible evidence.
- Often a mix of methods is required.

Culturally Responsive Evaluation

Strawberry & Caneberry Advisor

Mark Bolda

Methods & Translation

