



# State of Water Capacity for OSU Extension Service

BUILDING A POWERFUL EXTENSION WATER TEAM

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Final Report submitted by Project Team  
*(in alphabetical order)*

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## Executive Summary

Opportunities exist now for Extension to provide a leadership role and promote our collective water-related expertise, needs and activities. But to be a leader in this area, we need to better identify, describe and support water-related programming within Extension.

This project used surveys, meetings and webinars to assess Extension’s current capacity to deliver water resources education, identify near-term priority water issues, and identify areas for future program investments. Seventy-two Extension faculty participated in one or more of the project activities (surveys, workshops, webinars) and they represented all Extension Program Areas and regions across the state.

In survey responses and discussions, participants provided detailed descriptions of current water-related projects and in some cases included website links and references that could be used to help tell Extension’s water story. Activities fell into four categories:

- Water **education** in established curriculums – Examples: Master Gardeners, small farms, grower events, food safety, boater education, youth education
- **Technical assistance** – Examples: dry farming, irrigation, pesticide application, well water
- **Research** projects – Examples: crop water use, nutrient management, watershed modeling, transdisciplinary research projects
- Collaboration on **regional planning efforts & projects** – Examples: place-based planning, water system plans, work with citizen groups, habitat enhancement

### NEAR-TERM PRIORITY WATER ISSUES

Water Supply Concerns	Water Quality Concerns	Other Water Concerns
<ul style="list-style-type: none"> <li>• water availability (e.g. for agriculture, small communities, gardening/landscaping)</li> <li>• competing water needs</li> <li>• groundwater depletion</li> <li>• climate change</li> <li>• population growth</li> <li>• reduced snowpack</li> <li>• drought</li> <li>• flooding</li> <li>• drinking water availability (e.g. for small communities)</li> </ul>	<ul style="list-style-type: none"> <li>• contaminants (surface and groundwater)</li> <li>• herbicide/pesticide management</li> <li>• stream temperature</li> <li>• aquatic habitat</li> <li>• algal blooms</li> <li>• rural systems management (e.g. wells, septic, small community water supply)</li> <li>• stormwater management</li> <li>• food safety</li> </ul>	<ul style="list-style-type: none"> <li>• ocean acidification</li> <li>• invasive species</li> <li>• water for nutrition</li> <li>• uncertainty</li> <li>• emergency preparedness</li> <li>• wildfire prevention</li> <li>• catastrophic events</li> </ul>

Extension's water projects, areas for investment and future program development described by Program Area (note cross-collaboration opportunities):

- Agriculture
  - Water conservation, irrigation management
  - Crops/forage management for drought
  - Pollution prevention
- Forestry
  - Wildfire prevention & preparedness
  - Watershed planning
  - Source water protection
- Sea Grant
  - Community water systems resilience
  - Fisheries, habitat protection & management
  - Aquatic invasive species
- Family & Community Health, 4-H
  - Emergency preparedness
  - Water for health
  - Conflict management
  - Behavioral change

## RECOMMENDATIONS AND NEXT STEPS

### Capacity Building

- Hire water coordinator to work across Program Areas
- Hire specialists to address highest priority water issues (e.g., irrigation specialist)

### Communications

- Identify liaisons with the various Extension programs to assist with water-related communications (e.g., EESC, O&E, Sea Grant)
- Work together to create and tell our Extension water story
- Create a water communications strategy
- Improve Extension water website. Hire student to help improve Extension water website using material and web links contributed in survey.
- Create a new water cycle visual that incorporates the human dimension (where the water goes and who is using it). Convene a work group to create this prior to the Year of Water 2020 kick-off.
- Identify and market Extension water activities and impacts that can be associated with the Year of Water 2020 (e.g., Food Heroes events, Extension water story, etc.)

### Coordination and Networking

- Create a Water Network (Community of Practice for Water) with water subtopic working teams and include relevant partners (e.g., NRCS, SWCD, OWEB, watershed councils, etc.)
- Convene Extension Water Summit in December 2019 or January 2020
- Collaborate on place-based Water Round Tables during Year of Water 2020
- Partner with Oregon Water Summit in December 2020 with Extension faculty/staff and external partners
- Change the format of the Extension annual meeting to address issues that cross Program Areas, such as water

## Background

Extension has experienced significant changes in personnel and the delivery of water related education programs since the interdisciplinary, multi-program area watershed education team disbanded more than ten years ago. The agriculture water working group was a subset of that larger team, and it has not functioned since about that same time. Even though individual faculty work on water related issues, we are not able to adequately communicate how our organization is addressing the highest priority water challenges facing our state and communities. As a team, we are not communicating effectively among faculty and stakeholders, leveraging efforts to maximize collective impacts, or measuring impacts at a larger scale. We are essentially working as a collection of individuals and small groups with little to no interaction, communication and planning.

Opportunities exist now for Extension to provide a leadership role and promote our collective water-related expertise, needs and activities. The Institute of Natural Resources and Institute of Water and Watersheds held initial meetings with an interdisciplinary group of faculty to consider creating a Year of Water education campaign. In addition, a team of water resources faculty is developing a proposal for Provost Ed Feser that outlines potential investments OSU should make to maintain OSU's reputation as a premier institution for water resources teaching, research and learning. This proposal does not adequately incorporate Extension faculty. Finally, a water policy funding package was proposed to our stakeholders for inclusion in the 2019 - 2021 OSU Statewides biennium budget. This proposal lacked detail regarding staffing and specific actions that will be accomplished. All three of these efforts require Extension to better articulate the priority water issues faced by our clients, the water education programs we are delivering currently and could expand or develop in the future, and the collective impacts of our water programs for internal and external stakeholders and the public.

With this background in mind, this project sought to:

1. Identify Extension's current expertise, education programs, and applied research efforts related to water
2. Identify and categorize priority water issues that Extension faculty/staff will need to address over the next 5-10 years
3. Start a conversation within Extension about building a powerful Extension water team (i.e. Community of Practice for Water), including identifying internal communication needs and considering areas for future investment.

## Approach to Gathering Information

We gathered information through three mechanisms, an initial scoping survey and discussion held at the December 2018 Extension Annual Conference, an online survey that solicited input from a broader Extension audience, and Extension-wide webinars that

shared survey results and brainstormed about ways to enhance internal communication and collaboration around water education topics. A list of the 72 Extension participants involved in one or more of the project activities (surveys, workshops, webinars) is provided in Appendix A.

## SCOPING SURVEY, ANNUAL CONFERENCE DISCUSSION

In preparation for a water discussion at the December 2018 Extension Annual Conference, we distributed a scoping survey to a select group of Extension faculty and INR/IWW colleagues. The survey included four questions to help us learn about 1) current Extension water programs and services, 2) current partners and collaborators, 3) high priority water issues among Extension's clients, and 4) recommendations for Extension's future water investments (people, programs, funding, time, etc.). We gathered information from 17 people via email and phone conversations. We selected survey participants based on our collective knowledge of faculty and colleagues who are actively engaged in water programming. We incorporated Extension responses into a project database (Appendix B), and used non-Extension responses as supplemental information.

The 2018 Extension Annual Conference included a 90-minute discussion titled the "State of Water for Extension". As with many Annual Conference sessions, the time of this discussion conflicted with other important meetings. Nineteen Extension personnel attended the discussion representing Extension Agriculture, Forestry, Sea Grant, Family and Community Health, Communications (EESC), and Administration (Regional Directors, Program Leader). One non-Extension faculty representing the Water Resources Graduate Program and Water Conflict Graduate Certificate Program also attended the meeting. An overview of the scoping survey data was presented to the group followed by a facilitated discussion of two questions: 1) What should our priorities be over the next 5-10 years? 2) How are we going to get there?

### *Qualtrics Survey*

In Spring 2019, the project team expanded the scoping and Annual Conference survey questions into a more detailed, online survey using Qualtrics. In addition to the initial questions, the survey gathered additional information about current projects, communication methods, focus areas, priorities, assigned positions (location, clientele served, etc.). Derek Godwin distributed the Qualtrics survey to those in Extension who participated in the initial scoping survey, attended the Annual Conference discussion, or participated in water-related groups or programs (agriculture working groups, Sea Grant personnel, disaster preparedness, riparian and stream management, water treatment, etc.). He also invited administrators and communications personnel to provide input on water priorities and potential future investment areas.

Questions and data collected through both the scoping survey and the Qualtrics surveys were incorporated into the project database (Appendix B). It includes detailed information about current Extension water-related expertise and projects, and many thoughtful

comments about priority water issues and directions for future work. Appendix C includes a PowerPoint presentation summarizing survey results in graphs and visual formats.

Fifty-five faculty working in geographically and programmatically diverse areas responded to the survey. The largest representation was from faculty in the Extension Agriculture (count=37) Program Area. Other respondents included Sea Grant (7), Forestry (7), Family and Community Health (5), 4H (2), Admin (3), and Open Campus (2). Sixteen respondents said they held statewide positions. The graphic below presents the geographic distribution of Qualtrics survey respondents. Every county was represented among the county-based respondents with the highest representation from counties in the central part of the state (Benton, Lane, Linn, Deschutes, Crook).



### *Webinars*

We held two 90-minute webinars on June 7, 2019 and June 14, 2019 to gather eastside (June 7), westside (June 14), and statewide perspectives. Objectives for both webinars were to: 1) discuss the recent statewide OSU Extension water survey results; 2) discuss statewide water theme priorities from each geographic perspective; 3) recognize how water connects us; 4) build towards a powerful community of practice for water in Extension; and 5) plan our water future together. Additional outcomes for the webinars were to identify collective priorities and ways to leverage future opportunities. Invitations were emailed to all Extension faculty (professional and program positions) off campus and to all on campus Extension faculty with some kind of water-related assignment. An introductory video by Scott Reed and an agenda were emailed prior to the webinars. People were encouraged to attend one or both webinars. A total of 18 people participated in the eastside water webinar and 16 people participated in the westside webinar. Appendix D includes the meeting notes from the two webinars.

# Summary of Data Collected

## CURRENT PROJECTS AND EXPERTISE

In survey responses and discussions, participants provided detailed descriptions of current water-related projects and in some cases included website links and references to related publications (Appendix B, pages 14-21). The current projects they described fell into four broad categories:

- **Research:** applied research projects relating to crop water use, nutrient management, watershed modeling, transdisciplinary studies, etc.
- **Education:** water topics in established curriculums (e.g. Master Gardeners, small farms, grower events, food safety, boater education, youth education)
- **Technical assistance:** dry farming, irrigation management, pesticide application, drought resistant landscaping, well water expertise
- **Collaborative planning:** regional planning efforts & projects (place-based planning, water system plans, habitat enhancement).

When asked about their expertise related to water, several stated that they were not specialists in water resources but gained expertise where water connected with their focus area, such as livestock nutrition, farm food safety, small farm management, forest physiology, or youth education programs. A few mentioned specialized training or graduate studies on projects related to watershed management, riparian ecology, or fisheries.

## NEAR-TERM WATER PRIORITIES

Respondents described the near-term (5-10 year) high priority water issues in the areas they serve. Answers focused on concerns and potential solutions. The agricultural perspective was strongly represented because the largest number of respondents are working in that area. There were many shared concerns spanning the state including: water availability for agriculture, competing water needs of different sectors (agriculture, fisheries, and municipalities), climate change, contaminants, and emergency preparedness (see table below). Webinar participants echoed many of the same concerns, and raised some specific examples such as: water system resilience in the event of a Cascadia earthquake; effects of reservoir water levels on recreation and tourism; water treatment on farms prior to irrigation or use in pesticide application; and technical assistance for home well water safety and management of septic systems.

During the webinars, we also presented and discussed the themes that emerged from the survey question about water priorities. Themes were presented in the graphic below for the different Extension Program Areas. Participants generally agreed that these themes were a helpful organizing framework, but many also commented these themes cross Extension Program Areas and offer many opportunities for cross-program collaboration (e.g., emergency preparedness, water conservation, watershed planning, etc.).

## Water priorities by program area:

### **Agriculture**

- Water conservation/irrigation management
- Crops/forage management for drought
- Pollution prevention

### **Forestry**

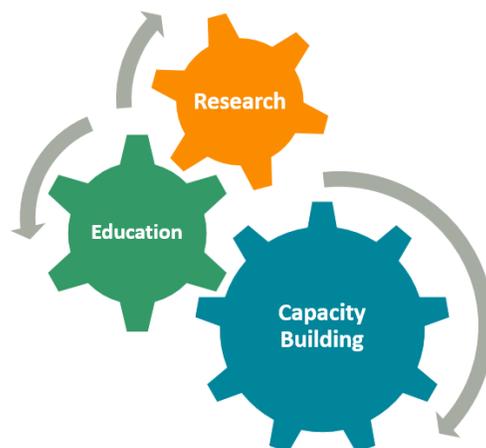
- Wildfire prevention & preparedness
- Watershed planning

### **Sea Grant**

- Emergency preparedness
- Community water systems management
- Fisheries, habitat protection & management

### **4-H, Family & Community Health**

- Water for health
- Conflict management
- Behavioral change



## FUTURE INVESTMENTS

When asked about investments Extension and partners should make to address priority concerns, survey respondents described ideas for collaborative projects and asked for dedicated staff who could facilitate work groups and proposal development. A complete list of suggestions is provided in Appendix B, (page 26). Webinar participants also recommended improving communication within Extension around the topic of water, the need for coordinators who can help facilitate interdisciplinary projects that bring together faculty and stakeholders with different expertise, and enhancing collaboration with those who may not have Extension appointments but are also engaged in water education, outreach and research. Participants recognized that many of the water issues described are relevant statewide, and there are opportunities for collaboration if a structure and facilitator could be identified.

## Recommendations and Next Steps

Below, we group specific recommendations and next steps into three categories: 1) communications; 2) capacity building and 3) coordination and networking.

### CAPACITY BUILDING

- Hire water coordinator to work across Program Areas
- Hire specialists to address highest priority water issues (e.g., irrigation specialist).

### COMMUNICATIONS

- Identify liaisons with the various Extension programs to assist with water-related communications (e.g., EESC, E&O, Sea Grant)

- Work together to create and tell our Extension water story
- Create a water communications strategy
- Improve Extension water website. Hire student to help improve Extension water website using material and web links contributed in survey
- Create a new water cycle visual that incorporates the human dimension (where the water goes and who is using it). Convene a work group to create this prior to the Year of Water 2020 kick-off
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#### COORDINATION AND NETWORKING

- Create a Water Network (Community of Practice for Water) with water subtopic working teams and include relevant partners (e.g., NRCS, SWCD, OWEB, watershed councils, etc.)
- Convene Extension Water Summit in December 2019 or January 2020 with Extension faculty/staff to enhance planning efforts
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- Change the format of the Extension annual meeting to address more cross-program issues, such as water.

The next steps are to present these recommendations to Extension administration and prioritize the actions that will support the establishment of a powerful Extension water team that can make progress on describing and enhancing Extension's water activities and programming in ways that leverage new opportunities and promote collaboration.