

**WATER RESOURCES MANAGEMENT  
FOR LINE AND STAFF OFFICERS TRAINING, 2016**



*Natural Resources Research Center  
1<sup>st</sup> Floor Training Room, Conference Rooms 122-123-124  
USDA Building, 2150A Center Avenue  
Fort Collins, Colorado  
April 18-22, 2016*

**MONDAY, 18 April 2016**

- 5:30 PM**      **Registration & No-Host Social** (Hilton Fort Collins – Rams Conference Room)  
*Hors d'oeuvres and no-host beverages*
- 5:45 PM**      **Welcome**  
*Monte Williams, Forest Supervisor, Arapaho-Roosevelt National Forest & Pawnee National  
Grassland*  
*Ron Archuleta, Deputy Forest Supervisor, Arapaho-Roosevelt National Forest & Pawnee  
National Grassland*
- 5:50 PM**      **Introduction of Cadre & Participants**  
*David Levinson, Program Leader, National Stream & Aquatic Ecology Center*  
*Introductions*  
*Course Overview*  
*Course Objectives*
- 6:10 PM**      **Local Water Perspectives**  
*Monte Williams, Forest Supervisor, Arapaho-Roosevelt National Forest & Pawnee National  
Grassland*
- 6:30 PM**      **Social Time**
- 7:00 PM**      **Closeout**

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**TUESDAY, 19 April 2016**

**UNIT 1: GLOBAL AND NATIONAL IMPORTANCE OF WATER**

**UNIT 1 LEADER:** *David Levinson Ph.D., Program Lead, National Stream & Aquatic Ecology Center*

**UNIT 1 OBJECTIVES:**

- *How important water is in a global and National context*
- *How other countries are balancing the water needs of ecosystems with the needs of people*
- *What to expect in the future relative to water*
- *The effect of climate change on water resources and how managers will need to react and adapt to it*
- *Issues surrounding whether water is a public trust or market commodity produced by National Forests*

**8:00 AM**      **Welcome and Introductions**  
*David Levinson, Ph.D., Program Lead, National Stream & Aquatic Ecology Center*

**8:15 AM**      **The Importance of Water, a Global Perspective**  
*Sandra Postel, Director, Global Water Policy Project*

- *Describe some of the present day critical global and national water issues*
- *Highlight examples from both the world and nation*
- *Show how important these issues are to the existence of the human race and to the quality of life*

**10:15 AM**      **Break**

**10:30 AM**      **Climate Change and Water**  
*David Levinson, Ph.D., Climatologist and Program Lead, National Stream & Aquatic Ecology Center, WO-WFWARP*

- *Climate Change and the Hydrologic Cycle*
- *Climate Change vs. Climate Variability*

**11:00 AM**      **Climate Change and Adaptation**  
*Linda A. Joyce, Ph.D., Research Ecologist, Rocky Mountain Research Station*

- *What changes to water resources can we anticipate, and how do we regard the uncertainties?*
- *How can we make water resource management "climate smart"?*
- *Adapting to climate change: what are the options?*

**UNIT 2: THE FEDERAL GOVERNMENT ROLE IN WATER MANAGEMENT**

**UNIT 2 LEADER:** *Kate Walker, Acting Assistant Director for Water and Aquatic Resources, WO/WFWARP*

**UNIT 2 OBJECTIVES:**

- *The U.S. Government's role in water issues, specifically what responsibility the US Forest Service has based on laws, regulations, and policy*
- *Constitutional, jurisdictional, and legal conflicts over water among federal and state governments*
- *How water is allocated for instream flow purposes and for consumptive uses and the role of different levels of government in that allocation*
- *The role of the Forest Service where it shares jurisdiction with other agencies*

**11:30 AM**      **Putting Legal Issues in Place – Part 1**  
*Lois Witte, Senior Counsel, USDA Office of General Counsel*

**12:15 PM**      **Lunch (12:15 - 1:15 PM)**

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- 1:15 PM**      **Small Group Breakouts/Discussions**
- 1:30 PM**      **Putting Legal Issues in Place – Part 2**  
*Lois Witte, Senior Counsel, USDA Office of General Counsel*
- 2:45 PM**      **Break**
- 3:00 PM**      **The Science of Groundwater**  
*Joe Gurrieri, Hydro-geologist, WO/Minerals and Geology Program*
- 3:50 PM**      **Protecting and Managing Streamflow**  
*Robert Deibel, US Forest Service (Retired)*
- 4:50 PM**      **Questions and Answers with Speakers**

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**WEDNESDAY, 20 April 2016**

**UNIT # 3 – MANAGING FOR WATER QUALITY  
UNIT LEADER: *Mike Eberle, National Surface Water Program Leader, WO-WFWARP***

**OBJECTIVES:**

**Participants will understand:**

- *Primary water quality protection regulations applicable to managing water resources on NFS lands*
- *Current line officer responsibilities under Federal and state regulations for water quality*
- *Agency water quality programs and opportunities for greater cooperation and collaboration to protect, maintain, improve and restore water quality*

**8:00 AM      Legal Framework of Clean Water and Safe Drinking Water Acts  
*Stephanie Johnson, USDA Office of General Counsel, Washington DC***

- *Section I – Overview of the Safe Drinking Water Act*
  - *Purpose of the Act and key definitions and*
  - *Main sections applicable to the Forest Service*
  - *Enforcement and sovereign immunity*
- *Section II – Overview of the Clean Water Act*
  - *Purpose of the Act and Federal and state responsibilities*
  - *Implications of water quality standards for forest management (303(c))*
  - *Nonpoint source control programs and management*
  - *Total Maximum Daily Loads (TMDLs) (303(d))*
  - *Point source control and permitting*
  - *Enforcement and sovereign immunity*

**9:30 AM      **Break****

**9:45 AM      Water Quality from the National Forest Service Perspective  
*Mike Eberle, National Surface Water Program Leader, WO-WFWARP***

- *Strategic Objective D: Provide abundant clean water*
- *Watershed Program updates and new tools and strategies for line officers*
- *Watershed Condition Framework*

**10:15 AM      Best Management Practices  
*Joan Carlson, Hydrologist Rocky Mountain Region***

- *Overview of National BMP Program*

**11:00 AM      Group Exercise: Dialog to exchanging water resource management ideas  
*All Participants along with training cadre***

- *Share examples of water resource issues participants have experienced in the field*
- *Exchange lessons learned*
- *Troubleshoot existing situations*

**12:00 PM      **Lunch (12:00 - 1:00 PM)****

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**WEDNESDAY, 20 April 2016**

**UNIT 4: WATER QUANTITY – ALLOCATION, SUPPLY, DEVELOPMENT, AND USE**

**UNIT 4 LEADER:** *Judi Henry, Director for Air, Water, Lands, Soils, and Minerals, Northeast Region*

**UNIT 4 OBJECTIVES:**

- *The tensions and balances between the biological, aesthetic and physical needs to keep water flowing in streams and the human, consumptive needs to remove water from streams for other purposes*
- *The importance of leadership to effectively focus talent and resources in the complex multi-agency water management arena*
- *Engage in dialogue on case studies and field visits that demonstrate real life challenges in water resource management*

**1:00 PM**      **Small Group Breakouts/Discussions**

**1:30 PM**      **Case Study: Groundwater**  
*Grant Loomis, Tonto National Forest*

**2:30 PM**      **Case Study: Conasauga River Project**  
*Kent Evans, US Forest Service (Retired)*

**3:35 PM**      **Break**

**3:50 PM**      **Case Study: “Wild and Scenic Rivers”**  
*Steve Chesterton, WO – Wilderness and Wild & Scenic Rivers*

**4:50 PM**      **Closeout and Safety Information for Thursday's Field Learning Excursion**  
- Pre-order box lunch for field trip if interested

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**THURSDAY, 21 April 2016**

**FIELD LEARNING EXCURSION: *Flood, Fires, and Water Supply on the Arapahoe Roosevelt NF***

**Field Trip Leaders:** *Polly Hays, Water Program Manager, Rocky Mountain Region  
Carl Chambers, Forest Hydrologist, Arapaho-Roosevelt NF*

**7:45 AM** Assemble at Fort Collins Hilton

**8:00 AM** Depart Fort Collins Hilton for Big Thompson Canyon

**08:30 AM** Stop 1: Idyllwild Dam Decommissioning, Hwy 34, construction permitting

**08:50 AM** Depart Stop 1

**09:20 AM** Estes Park Visitor's Center (bathroom stop)

**09:40 AM** Depart Visitor's Center

**10:00 AM** CR43 Traffic Control – Enter Construction Zone

**10:00 – 11:00** Stop 2: CR 43 Post Flood reconstruction

**11:15- 12:15** Travel to Skin Gulch/Buckhorn Mountain via 34/CR27, Masonville

**12:15- 12:45** Stop 3: High Park Fire/Post Fire Restoration

**01:00 PM** Stop 4: Lunch and “Poudre River Wild and Scenic Case Study” (Mishawaka Amphitheater; Speaker Justice Hobbs [retired], Colorado Supreme Court).

**02:45 PM** Depart Mishawaka

**03:00 PM** Stop 5: Fire and Municipal Water Supply (Gateway Park) (City of Greeley)

**03:30** Depart Gateway

**4:15-4:30** Arrive Fort Collins Hilton

**Stop 1: Post Flood Emergency Dam removal, Highway 34**

**Stop 2: CR 43 Post Flood Construction**

**Stop 3: Buckhorn Mountain – High Park Fire and Post Fire Restoration (Skin Gulch alternate stop)**

**Stop 4: Lunch and Wild and Scenic Case Study Poudre River – Mishawaka Amphitheater**

**Stop 5: Fire and Municipal Water Supply – Gateway Park**

**Enroute:** Flooding Impacts and Disaster Response, Rights of Way, Trans Basin Diversions (CBT and Poudre), Joint Operating Plan

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**FRIDAY, 22 April 2016**

**UNIT 5: LEADERSHIP IN THE OPERATIONAL ENVIRONMENT**

**UNIT 5 LEADER:** *Kate Walker, Acting Assistant Director for Water and Aquatic Resources, WO/WFWARP*

**UNIT 5 OBJECTIVES:**

- *Have a heightened awareness of leadership opportunities in water related issues*
- *Look at water related matters from outside-the-box, thought-provoking & provocative ways*

**8:00 AM**      **Welcome and Review of the Field Learning and Introduction to Today's Topics**

**8:30 AM**      **Video: "A Question of Water"**

**9:00 AM**      **Chief's Office Presentation**  
*Deputy Chief Leslie Weldon, National Forest Systems*

**10:00 AM**      **Group discussion with Deputy Chief**

**10:45 AM**      **Presentation of Course Completion Certificates**

**11:00 AM**      **Adjourn**

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**Forest Service WRMLO 2016 – CADRE/Steering Committee**

**David Levinson, Ph.D. (WRMLO Lead)**

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