



**Training Course:
Assessing the Hydrologic and Biologic Characteristics
and Condition of Springs and Wetlands
in the California Desert**

**February 26 –March 2, 2001
Barstow, CA**

Background: In FY 2000, the Desert Managers Group's Water Committee finalized a *“Work Plan for the Study of Desert Wetland and Riparian Areas to Improve Management and Protection of Water and Biologic Resources in Southern California Deserts”* (copies of the work plan are available at www.dmg.gov). A goal of this work plan is to inventory the hydrologic/biologic resources of priority wetland areas in the California Desert and assess the current functioning condition of these systems. To achieve this goal, the Committee developed protocols for collecting basic hydrologic and biologic information at springs, wetlands and streams in the California Desert. These protocols were designed to facilitate data collection by an interdisciplinary team of resource specialists during brief site visits. Developed protocols and site description recommendations discussed in this training include:

- ◆ How to accurately provide a detailed description of the location, elevation, topographic and geologic setting of a particular water site, as well as associated water resource parameters, i.e., water temperature, discharge, specific conductance;
- ◆ How to appropriately describe water use and human influences at a particular site;
- ◆ How to effectively identify and record biota dependent on water and riparian resources at a particular site;
- ◆ How to photographically document conditions at sites and properly store such data;
- ◆ How to complete a Proper Functioning Condition (PFC) assessment at spring, wetland and stream sites;

Training is intended to assist agency survey teams who will be collecting site data associated with the California Desert water study effort, as well as those individuals who regularly conduct resource monitoring or riparian restoration activities. Information collected through this effort will be accessible to participating agencies and the public via a data management system developed in the Mojave Desert Ecosystem Program.

Objectives: The purpose of the course is to train agency personnel in the procedures and protocols adopted by the Desert Manager's Group Water Committee. Specific objectives are to:

1. Provide training in the collection of basic hydrological and biological data using USGS standard protocols, including data management and quality control procedures.
2. Provide training on use of the Proper Functioning Condition (PFC) methodology currently used by the Bureau of Land Management, United States Forest Service and Natural Resource Conservation Service for assessing the condition of desert springs, wetlands and streams.
3. Provide training on the Fish and Wildlife Service's National Wetlands Inventory (NWI) system for classifying and mapping wetlands and riparian areas.
4. Coordinate field activities and support among agencies that will be inventorying water systems in the California Desert this year.

Agenda: See attachment.

Intended Audience: Mid to senior level (journeyman) resource specialists (Natural Resource Specialists, Biologists, Botanists, Hydrologists) who will likely be involved with conducting and/or overseeing water resource inventories and/or training temporary field staff.

Dates: February 26 (10 am) until March 2 (noon).

Location: Holiday Inn, 1511 E. Main Street, Barstow, CA.

Lodging: A block of 40 rooms are being held until February 19 at the:

Holiday Inn
1511 E. Main Street
Barstow, CA
760-256-5673

Cost is \$64.00 per night. Ask for rooms reserved for "Desert Managers".

Registration: To register for the course, please complete the attached registration form and FAX it to:

Erika Gumz
Mojave National Preserve
760-255-8809 – Fax
760-255-8801 - Voice

The registration deadline is February 16, 2001. A \$35 cash fee will be collected from each person at the meeting to cover lunch/drinks for two field trips, refreshments/snacks at the meeting, and meeting room costs.

What you need to bring: A recommended equipment list is attached. Equipment will be provided for those who do not have their own, but it is recommended that participants bring their own for field session work, if feasible. Plan and dress accordingly for two days in the field (sunscreen, hat, appropriate hiking shoes, etc). Temperatures will likely be mild, though chilly in the mornings. Slight chance of rain/snow, but considered unlikely.

For More Information Contact:

Tom Egan, BLM, Barstow
760-252-6032 or tegan@ca.blm.gov

Annie Kearns, NPS, Mojave National Preserve
760-255-8815 or anne_kearns@nps.gov

Course Sponsors: This course is being sponsored by the Desert Managers Group in cooperation with the:

- ◆ U.S. Bureau of Land Management - Barstow and Bakersfield Field Offices
- ◆ U.S. Department of the Defense - Mojave Desert Ecosystem Program
- ◆ U.S. Fish and Wildlife Service - National Wetland Inventory Office
- ◆ National Park Service- Death Valley National Park, Joshua Tree National Park, and Mojave National Preserve
- ◆ U.S. Geologic Survey- Biological Resources Division
- ◆ U.S. Geologic Survey- Water Resource Division
- ◆ Natural Resource Conservation Service



Agenda:
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Barstow, California**

February 26, 2001, Monday

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|----------|--|
| 10:00 am | Welcome and Introductions (Tom Egan, BLM) |
| 10:15 am | Desert Water Study Overview (John Hamill, DOI) |
| 10:30 am | Assessing the Proper Functioning Condition (PFC) of Desert Springs and Streams (Larry Saslaw, BLM) |
| noon | Lunch |
| 1:00 pm | Assessing the Proper Functioning Condition (PFC) of Desert Springs and Streams (continued) |
| 3:00 pm | Break |
| 3:15 pm | National Wetland Inventory Maps for the California Desert (Elaine Blok, FWS) |
| 5:00 pm | Adjourn |

February 27, 2001, Tuesday

8:00 am Riparian Habitat Mapping and Wetland Plant Database (Elaine Blok, FWS)

9:00 am Hydrologic Data Collection (Greg Lines, USGS-WRD)

Noon Lunch

1:00 pm Biologic Data Collection (Ed Ervin, USGS-BRD)

4:30 pm Adjourn

February 28, 2001, Wednesday

8:00 am Convene for Field Trip/Training

Field trip to Afton Canyon on the Mojave River. Protocols and techniques discussed in the class will be applied in the field to this lotic/stream habitat type. PFC aspects of riparian restoration will also be discussed.

5:00 pm Return to Holiday Inn, Barstow. Adjourn.

March 1, 2001, Thursday

8:00 am Convene for Field Trip/Training

Field trip to several springs in the Ord-Rodman Mountains located southeast of Barstow. Protocols and techniques discussed in the class will be applied in the field to this lentic/spring habitat type.

5:00 pm Return to Holiday Inn, Barstow. Adjourn.

March 2, 2001, Friday

8:00 am Water Resources data management/quality control (Jeff Foisy, MDEP)

9:30 am Coordination of field work
-NPS Plans
-BLM Plans
-DOD installation Plans
-State Plans

Noon Adjourn

**Hydrology Equipment Needs:
Assessing the Hydrologic and Biologic Characteristics
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The following is a bare-bones list of equipment that each of the participants will need for the upcoming hydrologic data-collection training:

1. knee-high or hip boots (wading in Mojave River at Afton Canyon)
2. day pack
3. clipboard
4. pencils
5. engineering triangular measure (six different scales)
6. conductivity meter, if in possession, and calibration standards
8. deionized water for cleaning meter, probe, and thermometer
9. thermometer (Celsius)

If you don't have a conductivity meter and want to purchase a meter prior to the training, the following hand-held multi-parameter meters would be suitable and available from open-market sources:

- (1) YSI 63-10, temp, ec and pH, about \$1300 from YSI and \$1225 from Fisher Scientific;
- (2) Orion #123000, temp, ec, pH, and DO, about \$1240 from Fisher Scientific; or
- (3) Denver Instrument Co. AP50, temp, ec, and pH, about \$1300 from Fisher Scientific.

Conductivity standards, about \$7.25/pint, also are available from Fisher Scientific. Their phone number is 800-766-7000.

The above meters also will be useful when/if you collect samples for chemical analyses.

USGS also will have a limited amount of equipment and calibration standards on hand so that all participants, whether they have their own meter and standards or not, will have a chance to make at least one calibration/measurement during the two days of field training.

Information on hydrology equipment needs should be referred to Greg Lines at 858-637-6857 or Greg_lines@usgs.gov.

**Biology Equipment Needs:
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List of field equipment required surveying for amphibians. Quantities, when provided, is the total number of items for each individual field team. Quantities not indicated equal one item.

EQUIPMENT:

SOURCE:

USGS topographic quads
Data form(s)
(3) Pens - waterproof ink
Clipboard
Camera (digital or 35 mm)
GPS unit

USGS/local vendor
Provided at training session
Office supply stores / Forestry Supply
Office supply stores / Forestry Supply
various
various

Binder for authorization documents:

Research proposal / MOU
Collection & handling permits

Respective resource agencies
FWS, CDFG & Land Management Agency

Field guides:

A Field Guide to Western
Amphibians & Reptiles by Robert C.
Stebbins

Book store: ≈ \$15.00 ea.

Freshwater Fishes of California by
Samuel M. McGinnis

Book store: ≈ \$15.00 ea.

Species ID sheet (plastic laminated)

No cost: Developed and provided by USGS,
San Diego Field Station, Robert Fisher's Lab

(2) Dip net, Baitwell Fry Net #77313

Forestry Supply: \$7.95 ea.,

(3) 4" Aquarium nets

Wal-Mart, K-Mart, Pet supply stores: ≈ \$1.00 ea.

Plastic 5-gal. bucket to hold specimens
while collecting

Hardware or paint stores: ≈ \$3.00 ea.

50-mm centrifuge tubes containing 70%
ethanol preservative

No cost: Supplied by USGS, San Diego Field Station,
Robert Fisher's Lab

(1) box, Ziplock freezer baggies w/
writing area

Grocery stores: ≈ \$5.00 total

(10) Ziplock containers, 6" - 'disposable
Tupperware'

Grocery stores: ≈ \$7.00 total

(3) Water & alcohol proof fine-point
Sharpie (to label 50 mm tubes for
vouchers) Office supply stores: ≈ \$3.00 ea.

* Forestry Supply Catalog Request Number: 1-(800) 360-7788

Any questions or comments contact Ed Ervin, USGS, San Diego Field Station at (619)
594-8025 / eervin@usgs.gov

Registration Form
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Barstow, CA

Please complete and return this form by February 16 to:

Erika Gumz
Mojave National Preserve
760-255-8809 – Fax
760-255-8801 - Voice

Name: _____

Title: _____

Organization: _____

Address: _____

Phone: _____

Email: _____

Dates of attendance: _____

Equipment Needs: _____

Other Special Needs (Specify):