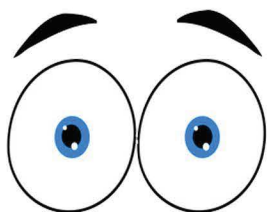


Keep alert! We all need alerts!



ALWAYS



LOOK AT THE CANAL REGULARLY



EXAMINE ANY SIGNS OF PROBLEMS OR KNOWN TROUBLE SPOTS



REPAIR, BEFORE IT GETS WORSE



TELL YOUR SUPERVISOR AND CO-WORKERS ABOUT ANY PROBLEMS



SCHEDULE ROUTINE MAINTENANCE AND REPAIRS

Canal Maintenance Training: Herbicides



Herbicide: General Steps

- Determine the need for an herbicide
- Use only the amount you need
- Rotate herbicides and other methods
- Work with experts
- Use only approved, permitted, registered products in accordance with product labeling
- Understand product names
- Understand when permits are required
- Follow all legal requirements, permits, and orders
- File proper plans
- Understand how the herbicide works
- Anticipate where the herbicide will go
- Coordinate and consult with the appropriate agencies
- Post appropriate notifications
- Dispose of herbicide container and other wastes properly



Contacts

County Extension Office, found at
<http://npic.orst.edu/pest/countyext.htm>.

Pesticide Specialists at the National Pesticide Information Center (NPIC) can provide scientifically valid toxicological and environmental fate data (sponsored by the Environmental Protection Agency and Oregon State University). 800-858-7378
(<http://npic.orst.edu/contactus.html>)

Consult with your state and local environmental departments, and if needed, with:

- The Environmental Protection Agency Office of Chemical Safety and Pollution Prevention (OCSPP)
<http://offices.sc.egov.usda.gov/locator/app>
- Your local USDA Service Center
- Pesticide Labeling Questions and Answers are at
www.epa.gov/pesticide-labels/pesticide-labeling-questions-answers

What to do when you see **SEEPAGE**



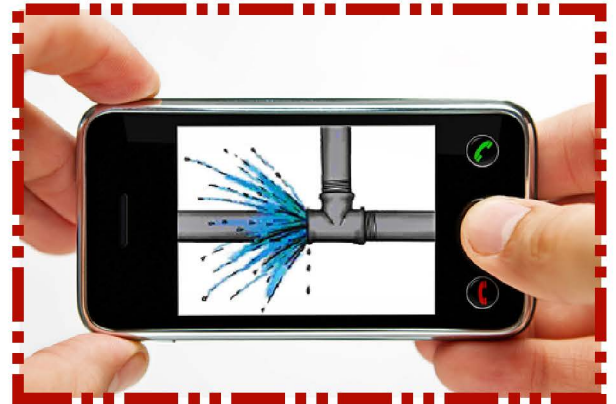
Immediately!

- ◆ Measure flow rate (bucket and watch)
- ◆ Determine the extent and change over time
- ◆ Mark the extent of the seepage area
- ◆ Look for sediment transport (is it clear or cloudy)
- ◆ Increase inspections and monitoring
- ◆ Consult your Emergency Action/Management Plan (EAP or EMP)

Communicate!

- ◆ Call your boss
- ◆ Call Reclamation

Contact:



Collect Information!

- ◆ Digital photos
- ◆ Sketches
- ◆ Marked up drawings showing the seepage locations
- ◆ Document seepage rates

Find the Problem Together

- ◆ Where is the seepage?
- ◆ How often has the site been inspected?
- ◆ Is the water cloudy?
- ◆ Is the water flow increasing?
- ◆ Is the seepage area expanding?
- ◆ What is the water level and history?
- ◆ Structure operations?
- ◆ Other flow measurements?
- ◆ Instrumentation readings?
- ◆ Settlements or deformations?
- ◆ Recent weather history?



What to do in a Breach?

1. Plan Beforehand

Emergency Management Plan

1. Response Levels
2. Shutdown Procedures
3. Communication Directory

2. Emergency Repair

- Coordinate with officials to handle the emergency
- Stop the flow
- Excavate the repair site
- Place lifts and compact
- Dress the embankment



3. Investigate and Coordinate with Reclamation

Protect Your Infrastructure

- What were signs leading up to the failure?
- What did the embankment look like (seepage, cracks, animal burrows, erosion)?
- What was the loading (earthquake, flood, high water, freeboard)?
- When was the last inspection?

Address the Consequences

- When and what happened?
- Were there injuries, deaths, property damages, or other consequences?
- Are there legal and forensic investigations, and if so, what information do they need?

Provide instructions and procedures to carry out tasks!

Lower the chances of damage to staff, equipment, systems, and more!

Use a Job Hazard Analysis to:

- Think through possible hazards
- Identify what could happen
- Determine what jobs pose the highest risks
- Plan how to address any problems
- Identify resources for emergencies (medical, emergency, equipment)

Job Hazard Analyses are needed for ANY FIELD ACTIVITY and are required for Reclamation staff.

To create a JHA:

Step through all tasks and ask:

- What are the actions involved in each task (getting to the task, doing the work, cleaning up)
- What are the risks?

Get everyone involved to share different perspectives. Review your company's accident/injury/illness/near miss history to determine which jobs pose the highest risk to employees and to get lessons learned. You are studying the task—not judging performance.

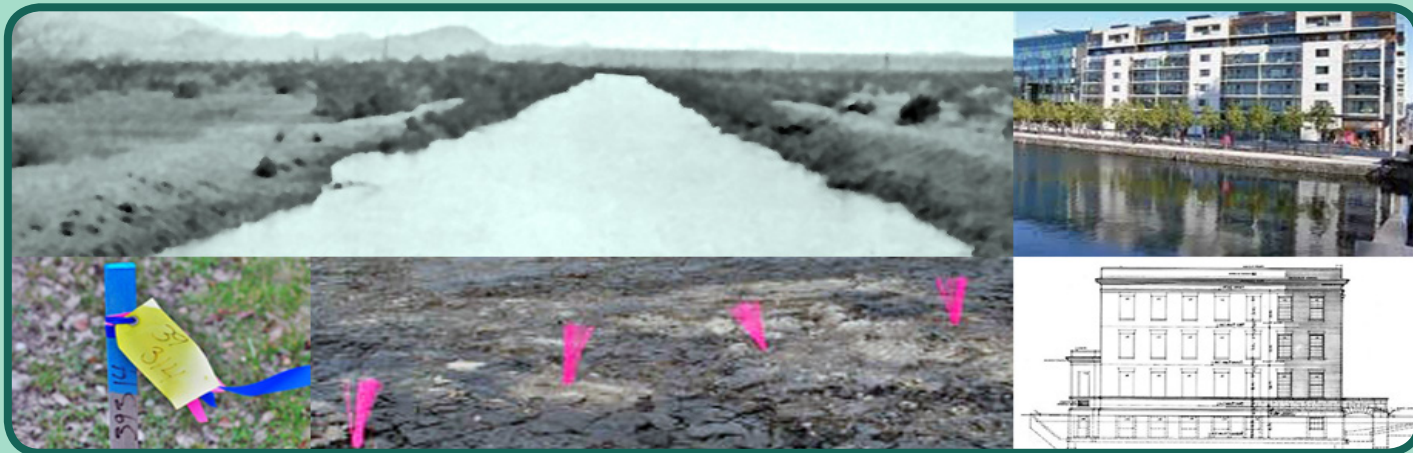
See Reclamation Safety and Health Standards, with a Job Hazard Analysis form in Appendix A (<https://www.usbr.gov/ssle/safety/RSHS-all.pdf>)



Prepare your staff!

- Know the equipment
- Know the Standing Operating Procedures (SOP)
- Know the equipment and operating limitations
- Have the right tools to respond to various operational failures

Watch for New Developments!



Development on the canals can lead to:

- More risk to property and lives
- Blocked Operation & Maintenance access
- Embankment and material theft
- Embankment cut offs, which can cause a breach



Watch for signs of development:

- People surveying
- Advertisements, billboards, notices
- Survey stakes, whiskers, and marks



What to do if you see signs of development:

- Take pictures and ask questions
- Ask people what they are doing and get contacts
- Contact Reclamation
- Ensure that your water district and Reclamation coordinate with developers and local government



Succeeding with Financial Assistance



Search for funding opportunities that match your mission and projects. Check local and state websites. All Federal opportunities will be posted on Grants.gov.



Select funding opportunities that align with your objectives. You may wish to adjust your project to better meet the objectives of the funding opportunity.

When you find a match, begin the application process.



Submit your application. Complete any mandatory forms, and the application package. Make sure that you have met any special registration requirements well in advance of the deadline.



Prepare your proposal. Read instructions carefully. Get information—for example, Reclamation experts can help you determine cultural and environmental requirements.

Clearly demonstrate, with evidence, how your project meets the evaluation criteria.



If your project is accepted, the awarding agency will work with you on pre-award requirements.



Begin work on the project.

The agency will set up a reporting process and requirements for onsite visits, etc. Provide interim reports for both the finances and the work accomplished.



Once your project is complete, **prepare and submit** final reports, demonstrating all the good work you did.

Ensure Your Operating Budget Stays Healthy

Seek financial assistance.

Find local, State, and Federal programs that will help you with particular projects. This issue lists Reclamation's funding opportunities—work with your local Reclamation Area Office.

Partner. Can you work with your State, local community, schools, or others to achieve common goals?



Focus on your priorities.
What is critical to delivering water and maintaining your facilities?
What are your short and long term goals?

Reexamine. Check your budget and funding sources monthly and completely redevelop your budgets yearly.

Check your rates. Do you have sustainable rates that can keep up with maintenance, provide the needed improvements, and keep a healthy emergency reserve?