

Protecting camp structures from water damage during the off-season

As camp season comes to a close and you prepare to vacate the area until next season, take the opportunity to protect your facility from water damage during the off season. From September 2014 through April 2015, water damage related losses were the most frequently reported claims. Damage resulting from water can be extensive. To help prevent these claims, consider the following precautions:

- Inspect flashing and sealants for brittle or noticeable gaps. Reseal them or apply new caulk if necessary.
- Check the roof after storms for damage that can result in future leaks. Also, keep your roof drainage and ventilation systems free of debris.
- Inspect foundations and exterior walls for cracks and gaps in expansion joints.
- Check interior walls and ceilings for humidity, stains, and moisture—signs of a potential roof leak.
- Protect exposed pipes with insulation made to retard freezing.
- Open faucets during extremely low temperatures so a trickle of water moves through the pipes.
- Keep a door ajar between a heated room and an unheated room with pipes so that the room will receive heat.
- Have a professional plumber inspect your pipes before winter. They can offer long-term recommendations that can help reduce the likelihood of pipes bursting.

Clearing snow and ice from your roof can be dangerous—don't try to do it yourself.

Remember to protect any electronic equipment before a storm approaches and while the facility is shut down for the season.



Dust covers for computers, telephone switchboards, and other sensitive electronics provide protection should a roof leak or pipe burst. It is also recommended to keep computer equipment above ground level.

Also, consider providing an emergency contact number with the local fire and police department, or post it prominently on the main office door in case you need to be reached.



It is important to perform a thorough inspection of building roofs. As you prepare for the winter season, establish a plan for addressing heavy loads of snow and ice which can damage your roof. Roof damage can cause water to leak inside your building, damaging walls, carpeting, and equipment. This may be especially true for old cabins and dining halls because of the building's age and dated construction standards.

During the off-season, if it snows and you can make it to your camp after a snowstorm, check your roof from the ground. If there appears to be a heavy load of snow, you may need to contact a professional contractor to help you inspect the area properly. Flat roofs require more frequent inspections than pitched roofs.

2015 Safety 1st award nominations open October 19th

Nominate your camp for Markel's Safety 1st recognition. Markel's Safety 1st program recognizes camps that have shown an outstanding commitment to safety.

For more information, please go to markelcampinsurance.com, click on Safety 1st education and resources, then select Safety 1st Hall of Fame. Remember, actual 2015 nominations don't open until October 19th.





Have you checked your earthen dam lately?

An instrumental component to an effective dam risk management program is a dam inspection. You should always follow the laws and guidelines of your local authority having jurisdiction over your dam. Following are some tips from various states that may help support your inspection of an earthen dam, if you have one.

As outlined by the Montana Watercourse and Montana Department of Natural Resources and Conservation Water Resources Division, performing a detailed inspection can save money by identifying problems early and by protecting downstream structures and inhabitants.

While engineering inspections are done by licensed professional engineers, periodic operational inspections should be done by the owner or the operator of a dam. The Michigan Department of Environmental Quality recommends that regular operational inspections should involve visual inspection of the dam, along with the recording of data obtained from staff gauges or other on-site instrumentation.

So what process do you use and what do you look for? Some states that offer a general inspection methodology recommend the following sequence:

1. Crest:
Walk across the crest from abutment to abutment.
2. Upstream/downstream slope:
Walk across the slope in an up-and-down or zigzag pattern from abutment to abutment.
3. Embankment-abutment contacts:
Walk the entire length of the embankment-abutment contacts (groin).
4. Outlet conduit:
Observe all accessible features of the outlet conduit.
5. Spillway:
Visually observe the entire length of the spillway, or spillways, and all other visible features.

6. Downstream channel:
Travel the route of the stream below the dam to maintain familiarity with locations of residences and property that can be affected by dam failure. Dam owners should be aware of new downstream development and how this may impact the hazard class of their dam. Go far enough downstream to cover the area that could be affected by a dam failure.
7. Downstream toe:
Walk the entire length of the downstream toe.
8. Reservoir slopes:
Scout the reservoir perimeter in an effort to develop an overall familiarity with its conditions.

What to look for during an inspection:

- Settlement
- Turbid discharge
- Structural cracking
- Foundation movement
- Erosion
- Sinkholes
- Vandalism
- Animal burrows
- Boils
- Depressions
- Voids
- Debris in gates and spillways
- Wave erosion
- Excessive vegetation

The Nebraska Department of Natural Resources provides the following tips for safety and maintenance of small earthen dams:

- Uncontrolled livestock grazing or vehicle ruts on dams and in spillways can diminish grass cover and create paths and bare areas which are easily eroded. Excessive erosion on any part of an earthen dam embankment can lead to dam failure. A healthy grass cover is the preferred method of preventing soil erosion. All eroded areas should be repaired and a healthy grass cover re-established.



- Trees on the dam should be removed for several reasons. First, trees tend to inhibit the growth of grasses that stabilize the soil and prevent soil erosion. Second, large trees uprooted from high winds can cause the loss of significant sections of a dam. Third, trees make it difficult to inspect the dam and identify problems such as cracks, slides, rodent holes, and seepage areas.



Finally and most importantly, one of the leading causes of dam failure is “piping” along the root systems of trees.

Once a flow path through the dam is created, these small pipes can rapidly increase in size and lead to sudden failure of the dam.

- Seepage on the downstream embankment can be observed as year-round wetness, springs, or boils. Water-loving plants such as cattails, reeds, or moss are also associated with excessive seepage. If left uncontrolled, excessive seepage can erode the embankment and result in dam failure. Seepage should be monitored, especially during periods of high reservoir levels. Contact appropriate authority if there is an increase in seepage or if cloudy flow is observed.
- Burrowing animals can create holes in the dam embankment which can act as pathways for seepage and eventually weaken the structural integrity of the dam. After the rodents are removed, the recommended method of back-filling the burrow is with a slurry mixture of water, 90 percent earth and 10 percent cement. All entrances should be tamped with well-compacted earth and the vegetation reestablished. Dens and burrows should be eliminated without delay because damage from just one hole can lead to dam failure.
- Blocked intake structures, outlet pipes, or spillways can raise reservoir water levels and adversely affect the normal flow of water. If water is not allowed to pass through the dam as designed, flooding and excessive seepage, erosion or failure may result. The intake, outlet and spillway should be kept clear of debris and other obstructions. Beaver dams, fallen trees, sedimentation, and debris are common causes of blocked intake and outlet channels.

- Modifications can cause problems. Intake pipe extensions and fish screens can become easily clogged and lead to increased wave erosion and water pressure on the upstream dam embankment. This can increase the frequency of water flowing through the auxiliary spillway and cause overtopping of the dam. This can result in dam failure.
- New development downstream may change the hazard potential classification of a small dam. Dams with a high potential to cause damage or loss of life in the event of failure are classified as High Hazard Potential Dams and are subject to stricter standards and inspection schedules. If new development is occurring on the floodplain downstream from your dam please contact the appropriate authority.

Along with resources in your state, you can also consult the following resources referred to in this article.

- Association of State Dam Safety Officials <http://www.damsafety.org/>
- The Nebraska Department of Natural Resources <http://dnr.nebraska.gov/dam/safety-and-maintenance-of-small-earthen-dams-march-2014>
- Baines, Richard J. “DAM INSPECTIONS”; California Department of Water Resources <http://www.water.ca.gov/damsafety/docs/rjb-paper.pdf>
- New York State Department of Environmental Conservation <http://www.dec.ny.gov/lands/67047.html>

References

- Safety and Maintenance of Small Earthen Dams. The Nebraska Department of Natural Resources. March 2014.
- Baines, Richard J. “DAM INSPECTIONS”; California Department of Water Resources. 27 January 1999 <http://www.water.ca.gov/damsafety/docs/rjb-paper.pdf>
- Dam Inspections by Owners (Periodic Maintenance Inspections).” An Owners Guidance Manual for the Operation and Maintenance of Dams in New York State. New York State Department of Environmental Conservation Bureau of Flood Protection and Dam Safety, Dam Safety Section. June 1987

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Stay tuned! - Complete information, and content descriptions to follow soon.

Rental vehicle returns – documenting damages

Camps should not be turning in rental vehicles without a complete knowledge and disclosure of any damages to that vehicle.

- Before renting a car, always read and understand the contract you are signing. Know what you are responsible for should damage occur to the vehicle during the rental period.
- Use your smartphone or camera to document the condition of any vehicle you rent, making sure you point out any damages discovered during the pre-rental process. Survey all four sides of the vehicle, paying special attention to windshields and small dents or scratches. If the damages exceed the rental agency's standard of reportable damage, then you may want to consider not accepting the vehicle.

Documenting vehicle condition and damages:

1. Take pictures directly in front of and behind the vehicle (2 pictures total)
2. Take pictures from an angle facing each turn signal (4 pictures total)
3. Take pictures from each side of the vehicle (2 pictures total)
4. Check the undercarriage of the vehicle in the front and in the rear
5. Inspect the tires and hubcaps for any unusual wear or damage

- During the rental period, if you suffer any damage to the vehicle, report the claim as soon as possible to Markel and then to the rental agency. This provides Markel the opportunity to mitigate the possibility of excess damage claims that may occur later.



Markel can help

Have a safety or risk management question, concern, or idea for our next newsletter?

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Camp safety newsletter

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