

**INSTANT
UNDERFLOW DAM**



SPILLS ON WATER

Underflow Dams In Less Than 10 Minutes

Prevent spills from spreading with the
quickest way to dam up ditches and small
streams.

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Overview

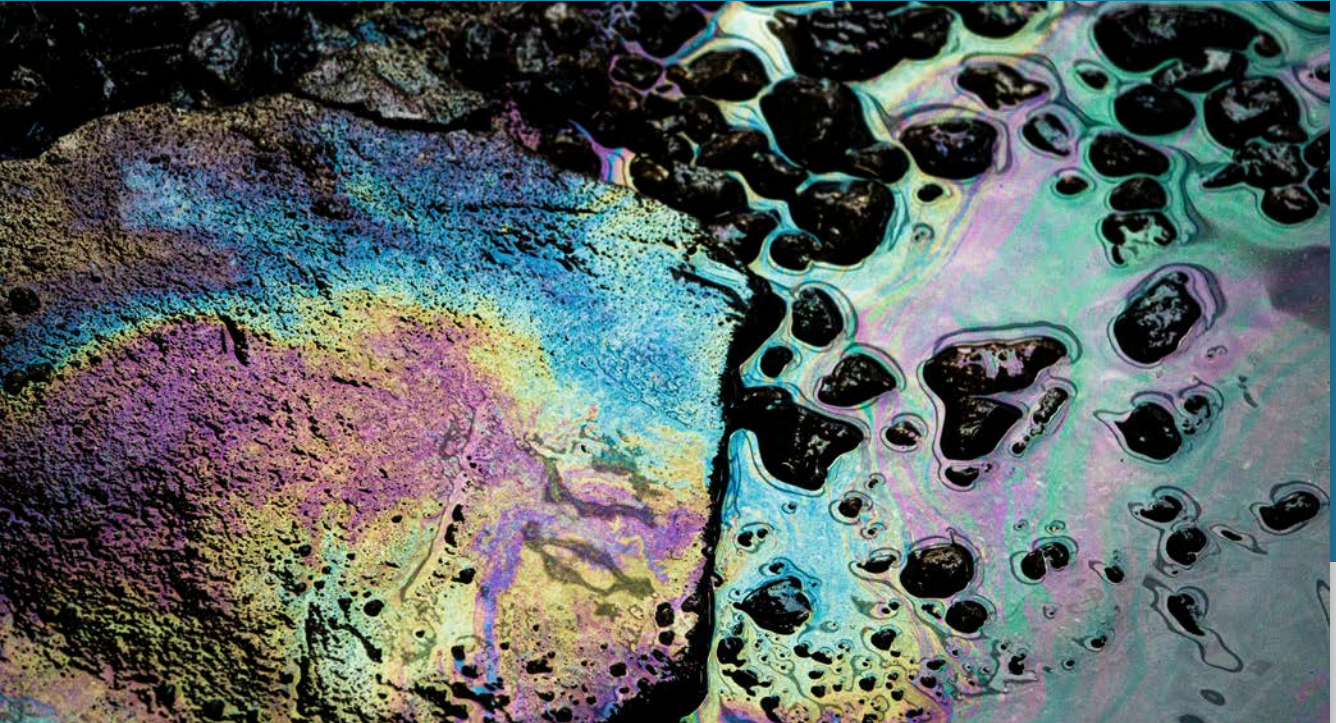
Many response teams, both professional and volunteer, have had to adjust to working with fewer team members and other resources. This can make it more difficult to balance all of the elements required for an effective response with the starker realities of finite, limited resources.



Constructing underflow dams in ditches, creeks and streams to contain and control oil or fuel spills is a proven response technique. However, it is resource intensive. When time is critical and personnel are in short supply, utilizing pre-fabricated underflow dams that can be deployed by two responders in less than 10 minutes can greatly affect the outcome of initial responses.

Being able to contain an oil or fuel spill faster means that response crews can begin cleanup operations sooner with less impact to the environment. Faster containment also means less area that will need to be remediated following cleanup.

Instant Underflow Dams overcome the five most common problems encountered by response teams. Crews that utilize Instant Underflow Dams are able to respond faster with fewer people while saving storage space and minimizing ergonomic and fatigue risk.



Perspective

Most people don't consider a pace of two miles per hour to be very fast. But when it comes to oil or fuel spills that reach a stream or ditch, two miles per hour translates to almost three feet per second. That means that in just two minutes, an oil spill on water will travel the length of a football field, potentially contaminating every inch of shoreline and streambank in its path.

Even well-trained spill response teams need to take time to evaluate the situation, develop a plan, gather needed gear, don personal protective equipment and begin response operations. For an on-site team, it is still likely to take a minimum of 30 minutes for these things to happen - which means the spill has already traveled a mile downstream.

When spill contractors are utilized, response time is generally one to three hours for them to arrive, plus time for size-up and preparation before response begins. Whether the response team is on-site or on-call, getting ahead of an oil spill that has reached water often means traveling quite a distance downstream.



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Traditional Underflow Dams

Underflow damming is a well-known response technique that is very effective in containing oil or fuel spills in ditches, streams and other shallow water bodies. But as effective as underflow dams are, they do have limitations.



1. Time

Underflow dams take time to build. To be effective, this means that response crews need to be far enough downstream that they have time to build the dam before the spill reaches it.

Depending upon the size of the stream and how fast it is flowing; building an underflow dam can take anywhere from half an hour to several days. In the meantime, every passing minute means more time and money will need to be spent on cleanup and remediation.



2. Personnel

It takes several people to build an underflow dam. People to fill sandbags or dig soil. People to transport dam-making materials to the area where the dam will be constructed. People to set pipes in place. People to shore up the dam.

Each person who is assigned to help with damming operations cannot be assigned to other tasks. This means fewer people available to help with cleanup, decon and other necessary operations.



3. Storage Space

Sand bags, pipes and other damming materials can take up a considerable amount of space in response trailers or on apparatus. For most response agencies, space is a highly valuable commodity; and every item, tool or part needs to “earn” their space.

Even for on-site response teams, storage space is often a luxury. Storage lockers, response trailers and spill kits only have so much space - and just like remote teams, onsite teams need to make the best use of it.



4. Accessibility

In most cases, once the area for the dam has been determined, responders won't be able to simply drive to the exact spot and back up a response trailer. This means that any tools and equipment that will be needed have to be carried to the stream.

Sometimes, all-terrain vehicles can be used to help bridge the gap between where supplies are staged and where they will be needed. But, if there are steep banks, heavy brush, thick undergrowth or other obstacles; supplies may need to be manually carried by responders. This can add considerable time to the response.



5. Ergonomics

Responders will be wearing personal protective equipment that can limit their range of motion and increase the risk of injury. It can sometimes also affect how much they're able to carry at one time.

Carrying heavy tools and equipment to remote locations adds to fatigue, and can present ergonomic problems. Filling, lifting and carrying heavy sandbags; or shoveling soil are all awkward motions that increase the risk of sprains and strains in responders.

Instant Underflow Dams

Although training new responders to construct underflow dams is valuable; and although traditional underflow dams are effective; considering innovative technologies that overcome their shortcomings can save crews time and money while reducing risk to both responders and the environment.

Instant Underflow Dams are pre-fabricated and designed for rapid deployment. They can also be used to meet other response needs such as damming a stream to create a deep enough water source for firefighting, and for isolating tributaries or water inlets.



1. Time

No special tools are required to deploy Instant Underflow Dams. In most cases, two to three responders can fully deploy a dam in less than ten minutes.

Because time is not spent filling sandbags or shoveling dirt to construct the dam, deployment can begin as soon as the responders reach the stream. This allows dams to be deployed much farther upstream than is possible with traditional underflow dams, saving considerable cleanup and remediation time and costs.

2. Personnel

Instead of requiring ten or twelve people, instant underflow dams can be fully deployed by two or three people. This frees up more responders for other operations. For teams that have had to adapt with reduced numbers of members, this can be especially beneficial.

Deploying instant underflow dams is also less physically demanding for responders. This means that they are far less likely to need a rest break after deploying the dam, which allows them to be assigned to other tasks faster.



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3. Storage Space

Instant underflow dams are self-contained. Everything that is necessary to fully deploy and operate the dam is incorporated into its design.

Instead of allocating spaces for bags, shovels, pipes and other tools, only one space is needed. Dams are slightly larger than a rolled sleeping bag.



4. Accessibility

Instant underflow dams are portable and weigh less than 60 pounds. When they need to be deployed in remote locations, they can be manually carried faster and more easily than the tools, equipment and materials that are needed for traditional underflow dam construction.



5. Ergonomics

Sprains and strains are the most common work-related injury. Instant underflow dams weigh less than 60 pounds. A traditional underflow dam of similar size would require 500-600 sandbags to be individually filled and carried to the area where the dam is to be constructed.

In addition to weighing less, Instant Underflow Dams also reduce the amount of time spent in awkward motion. Although some bending is required, the entire amount of time spent deploying an Instant Underflow Dam is less than the time spent filling two sandbags.

Faster, Easier Response

When a fuel or oil spill has reached the water, every second counts. Responding with the right tools and being able to effectively capture the spill earlier will minimize remediation time and detriment to the receiving waters, aquatic life and shorelines.



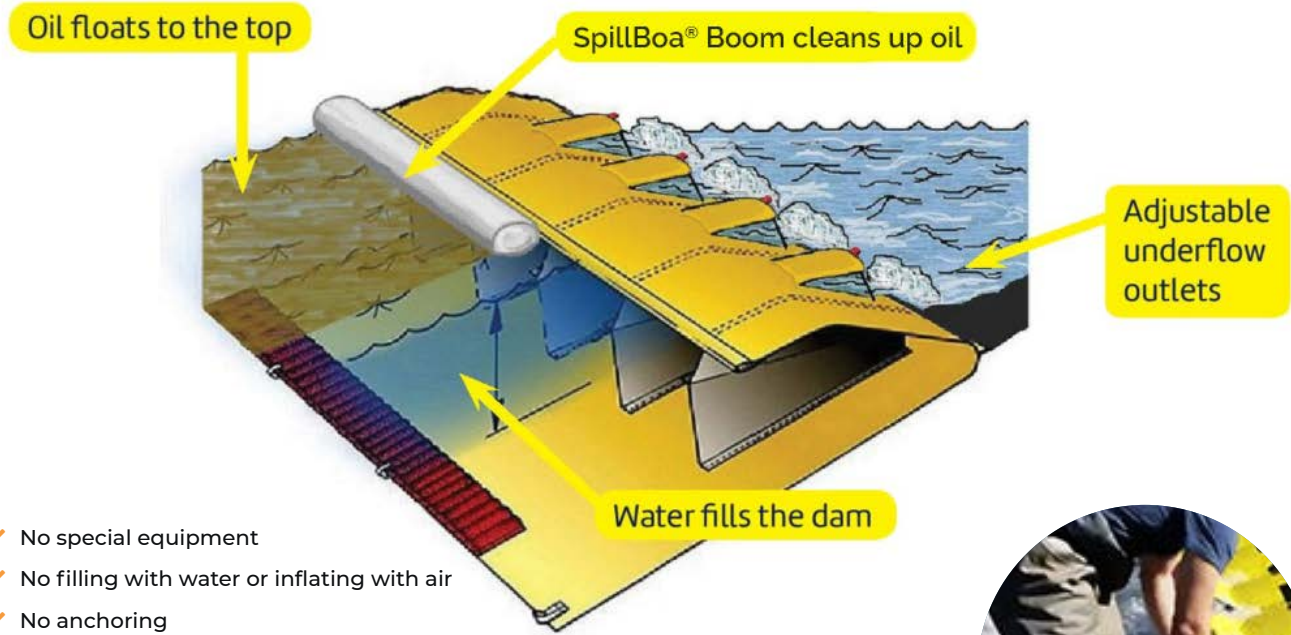
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Designed for Emergency Operations in Water Currents or Ditches



- ✓ No special equipment
- ✓ No filling with water or inflating with air
- ✓ No anchoring
- ✓ Simply unroll the dam, unfold the upstream flap and let the flow of the stream fill it

Underflow Holes

Easy to open and close underflow holes to prevent oil from overtopping the dam and allow clean water to continue downstream

SKU	DAM2125	DAM2825	DAM3930
Water Retention Height	21"	28"	39"
Product Length	25 feet	25 feet	30 feet
Product Width (Stream Bottom Skirt)	72"	97.5"	158"
Product Weight	37.4 lbs	59.5 lbs	150 lbs
Rolled Up Dimensions	16"W x 16"L x 20"H	16.5"W x 16.5"L x 25"H	21"W x 15"L x 37"H
Underflow Holes	13	14	19
Carrying Case	YES	YES	YES