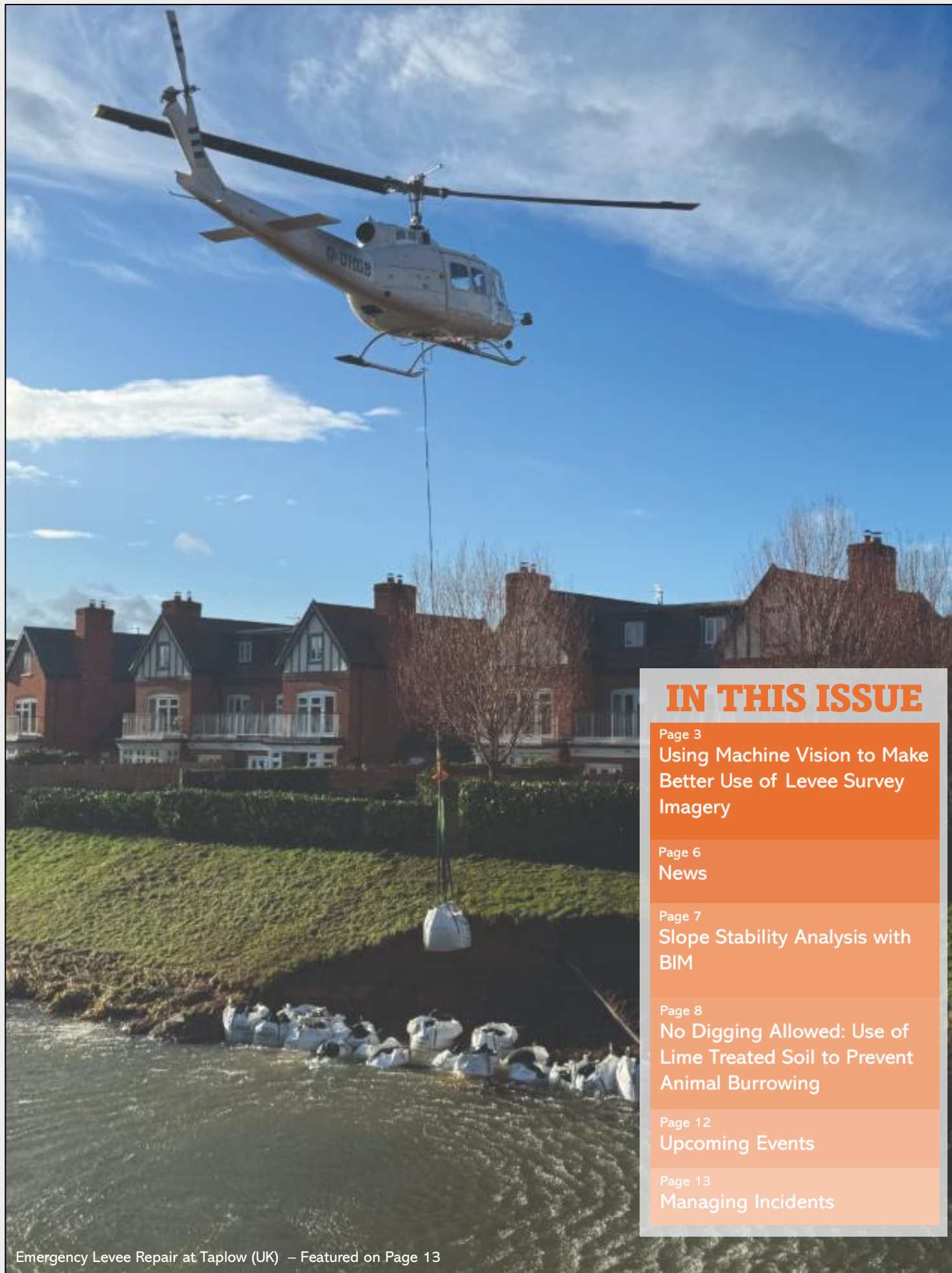


LEVEES WORKING GROUP NEWSLETTER

Issue 14 | SEPTEMBER 2026

THE WORKING GROUP ON LEVEES AND FLOOD DEFENCES UNDER THE EUROPEAN CLUB OF ICOLD



IN THIS ISSUE

Page 3

Using Machine Vision to Make
Better Use of Levee Survey
Imagery

Page 6

News

Page 7

Slope Stability Analysis with
BIM

Page 8

No Digging Allowed: Use of
Lime Treated Soil to Prevent
Animal Burrowing

Page 12

Upcoming Events

Page 13

Managing Incidents



Rémy Tourment | Chairman

Note From the Chairman

Welcome to the 14th issue of our LFD WG newsletter. 2026 has been a very challenging year in terms of catastrophic events in Europe (and it's not yet over), with the floods of the beginning of the year and the extreme hot summer (lasting now for almost 4 months in a row in my own area of Southern France).

Both this very wet and very dry periods had consequences in terms of flood risk, floods, levee failures or simply levee damage (cracking, drying grass revetment, ...). We'd all like to receive information from your respective countries on these aspects and the way you are dealing with them, and share them in our community,

As you will see we also have, like in the previous issue, two specific sections about our EurCOLD LFD WG and about the ICOLD TC LE, 2026 being an important year for our international community on levees.

The team (Matt, Phil and I) wish you a good reading. And we're looking forward to receiving your feedback on this newsletter.



Matthew Brooks | Editor

Note From the Editor

As Editor, I have once again been able to collate a range of articles from different nations across Europe. This edition covers a range of topics from the use of AI to animal burrowing. I would like to thank everyone who took the time to share their work and expertise.

While we are fortunate to receive regular contributions from several countries, I would like to encourage colleagues from across the wider European community to become involved in future editions. Lots of great work is happening and I would love to share it!

I also would like to encourage the use of the LinkedIn group to facilitate discussions on important issues. I will talk more on this later in the newsletter.

Finally, I look forward to meeting many of you in person at the EurCOLD conference in Bydgoszcz, Poland. If you have an article proposal, it would be great if you could discuss it with me there.

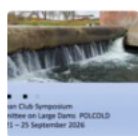
VISIT THE WEBSITE

Over the past months, the EurCOLD website has been updated with several new articles showcasing work from across our community. Some highlights are featured in this newsletter and we encourage readers to explore the website!



IHE Delft is preparing a two-week course about Emergency Management for Flood Defences

The target group is the professional who is (or intends to become) active in this field.



EurCOLD 2026 Symposium

The 13th EurCOLD Symposium will be held in Bydgoszcz (Poland) on 21-25 September 2026.



ICOLD 2025 Congress proceedings

The proceedings for the ICOLD 2025 Congress in Chengdu (China) are now available



Dam World 2025

I was happy and proud to be part of the international Dam World 2025 conference in Lisbon (<https://dw2025.lnec.pt>) where I have been invited to give a lecture about levee failure modes.



New series of webinars on Flood Risk Management

A new series of webinars on Flood Risk Management, created for everyone who works with water, risk, and everything in between. Within our newly established European FRM network, we're bringing together practitioners and researchers to sh...



Flood Early Warning Systems

Floods continue to devastate communities worldwide, with increasing frequency and intensity. Effective Flood Early Warning Systems (FEWS) are critical for reducing the impact of natural disasters and advancing climate resilience.



Retrofitting and reinforcement of Levees

The ISSMGE Technical Committee 201 (TC201) on Dikes and Levees is preparing a joint report on the retrofitting and reinforcement of levees. This report aims to advance the international exchange of knowledge on techniques for strengthening levees.



Emergency Management of Flood Defences

An international working group has published a book with the basic principles of emergency management for flood defences. The handbook is more a practical guidance with principles, issues, methods and examples as well in the preparedness as in t...



Keeping the Discussion Going...

BY MATTHEW BROOKS

Following the introduction of our new Questions and Answers section in the previous newsletter, we would like to encourage more members of the LFD Working Group to make use of the LinkedIn discussion group. So far over 25 members have joined. However, there has been little engagement and we would like to see that change! The group is intended to be a space where we can share the challenges we face in our everyday work, ask questions and learn from the experiences of colleagues from across the levee community.

YOUR EXPERIENCE CAN HELP OTHERS

You do not need to have a fully developed question or a definitive answer to take part. The value Q&A group comes from the discussion of experiences and approaches to solve a problem. Within the group, we encourage members to:

- Ask questions about technical or practical challenges.
- Share examples of approaches that have worked well/lessons learned from those that have not
- Respond to questions where you have relevant knowledge or experience.
- Share innovative ideas, guidance or developments that may be useful to colleagues.

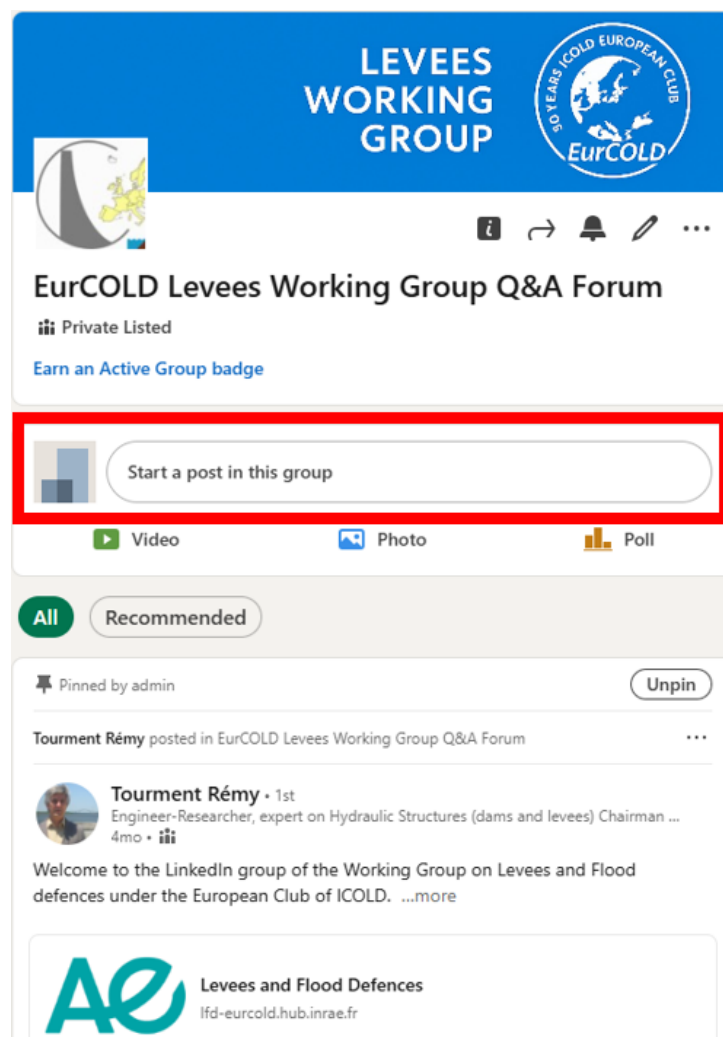
Even a short response or suggestion can help start a wider discussion and provide a different perspective.

A COMMUNITY RESOURCE

The more members who contribute, the more useful the group becomes for everyone. We therefore encourage you not only to join the group, but to actively participate when you have a question or an experience to share on an interesting topic.

Questions and answers from the group will then be collated into a section within each newsletter, allowing useful discussions to reach all the LFD working group and wider community.

If you have not yet joined, we encourage you to do so and become part of the discussion.



PLEASE NOTE:

- This is a private group, visible only to members.
- You may invite other connections, but all new members must be approved by the admin team.
- Posts are moderated by the admin team before publication to avoid 'spamming'.

We encourage you to join the LinkedIn group to take part in discussions. However, you can also submit questions via our website if you prefer. A selection of questions and answers will be published in each edition of the newsletter.

For sharing general or "raw" information (outside of discussions and questions), we will continue to use the website and the newsletter.

CLICK HERE TO JOIN THE LINKEDIN GROUP AND START THE DISCUSSION TODAY

Using Machine Vision to Make Better Use of Levee Survey Imagery

An Environment Agency pilot study in automated defect mapping

BY RHYS COOMBS

Levees and other linear flood defence assets have traditionally been assessed through visual inspection by trained personnel. In England, this includes inspections undertaken by Environment Agency (EA) assessors using the T98 condition assessment methodology, through which observations of defects and deterioration contribute to an overall assessment of asset condition. Similar approaches are used internationally and remain an important part of understanding how flood defence infrastructure is performing.

Remote sensing is increasingly changing how these inspections can be supported. Unmanned aerial vehicles (UAVs), in particular, allow long lengths of flood defence to be surveyed quickly and can provide detailed photographic, video and topographic information without requiring an assessor to physically access every part of an asset. Improvements in survey platforms, cameras and positioning systems mean that collecting large quantities of high-resolution imagery is becoming increasingly straightforward, and photographic data are also frequently captured alongside LiDAR and other remote survey activities.

This creates a different challenge. A survey that can be completed relatively quickly may generate thousands of photographs or many hours of video, all of which still require interpretation if the information they contain is to contribute meaningfully to asset management. As remote survey becomes more widespread, the practical constraint may therefore shift from collecting information to reviewing it. Developing efficient ways to convert these increasingly large archives of remotely captured imagery into useful condition information will be an important part of making the most of remote survey technologies.

BACKGROUND

The Environment Agency is already collecting substantial quantities of photographic and video data during UAV LiDAR surveys and other remote monitoring activities, providing a potentially valuable visual record of flood defence assets alongside the primary survey outputs. However, making systematic use of this information currently requires the imagery to be manually reviewed by experienced staff, creating an additional demand on asset teams that are already managing a substantial inspection workload. This is particularly relevant as the Environment Agency moves from a principally condition-based approach towards a broader Asset Health framework, in which visual observations are considered alongside increasingly automated geospatial datasets

such as LiDAR, flood risk mapping and environmental information. Visual condition remains an important input but is comparatively difficult to automate. There is therefore an opportunity for automated image processing to identify and geographically locate potential defects or other visual markers within imagery already being collected, bringing these to the attention of human assessors rather than requiring them to interrogate the complete source dataset. If these observations can be retained as structured geospatial data, the same approach also provides a basis for comparing successive surveys and automatically highlighting areas where observable condition may have changed.



Figure 1: Example of machine vision identifying potential surface features from UAV survey imagery

MACHINE VISION FOR LEVEE MONITORING

To investigate this opportunity, the Environment Agency and CC Informatics undertook a pilot assessment using AssetScan, an existing machine vision application previously developed for the identification and mapping of defects on concrete and masonry infrastructure. The pilot was not intended to produce fully mature models for immediate operational use, but to determine whether the same underlying approach could be adapted to recognise features relevant to levees and other flood defence assets. The features investigated included desiccation and natural ground cracking, animal burrows, brambles, rutting and scour, together with broader surface classifications including grass, water, trees, broadleaf vegetation and bare earth. Initial results demonstrated that the majority of these features could be identified from UAV imagery, although performance varied between classes and was strongly influenced by the quantity and quality of training data available.

Article Continued Overleaf...



Figure 2: UAV imagery collected during levee and flood Defence surveys provides a detailed visual record of asset condition.

The workflow uses overlapping survey imagery to construct a georeferenced photogrammetric model, while the original photographs are independently assessed using machine vision models trained from professionally reviewed and manually labelled examples. There are several valid levels at which machine vision can be applied to inspection imagery. Image classification can determine whether a photograph contains a feature of interest, while object detection can locate a feature more closely using a region or bounding box.

The approach tested during this pilot uses pixel-level segmentation, where individual pixels associated with a defect or feature are identified. This requires more detailed training data but allows irregular features such as scour, cracking or vegetation to be represented by their approximate geometry rather than simply recording their presence or location. None of these approaches is universally preferable; however, pixel-level segmentation was of particular interest for this application because the resulting geometry is more readily suited to measurement, mapping and comparison between repeat surveys.



Figure 3: Georeferenced photogrammetric model generated from overlapping UAV survey imagery.

Following image processing, the machine vision results are projected back onto the photogrammetric model and combined into georeferenced orthomosaics. Repeated observations of the same location from overlapping photographs provide a measure of consensus, after which the pixel-level results can be converted into polygon geometry and exported into conventional GIS environments.

The resulting workflow therefore converts a large collection of individual photographs into a comparatively simple spatial dataset showing where potential defects or features have been identified. Importantly, these outputs are intended to direct a human assessor towards areas warranting review rather than provide an autonomous assessment of asset condition.



Figure 4: Example of detected features represented as mapped polygons on a surveyed flood Defence asset

BENEFITS AND LESSONS LEARNED

The pilot demonstrated that machine vision has the potential to make better use of imagery already being collected as part of levee and flood defence monitoring, while also identifying several considerations for wider adoption:

- **Making better use of existing data:** UAV photographs and video can be screened automatically, allowing large datasets that might otherwise receive limited review to contribute to condition monitoring.
- **Keeping assessors in the loop:** Machine vision can reduce large image datasets to a manageable set of georeferenced observations, directing trained assessors towards potential defects rather than attempting to make autonomous condition decisions.
- **Creating structured condition records:** Pixel-level results can be converted into measurable GIS geometry, allowing observations to be stored, queried and combined with other Asset Health information rather than remaining within photographic archives.
- **Training data remain critical:** Performance depends on both the quantity of representative imagery and clear definitions of the features being sought. Wider deployment would therefore require further collection and professional annotation of examples covering the range of assets, environments and survey conditions likely to be encountered.
- **Change detection may provide the greatest long-term benefit:** Repeatable georeferenced outputs provide a basis for automatically highlighting new or changing features between surveys. The approach is not limited to UAV data, and existing aerial photography held by the Environment Agency may provide opportunities to investigate both current condition and historic change.

The pilot indicates that machine vision could form a useful additional input to the Environment Agency's developing Asset Health approach.

It does not remove the need for experienced levee assessors, but provides a means of focusing their attention on areas of potential concern while making better use of increasingly large remote survey datasets.



Figure 5: Georeferenced machine vision outputs converted into spatial polygons suitable for GIS analysis.

Further information, if needed can be obtained from:
Rhys Coombs, Director/Co-Founder CC Informatics.
rhys@cc-info.co.uk

Or you can visit their website here: <https://www.cc-info.co.uk>



INFORMATIVE WEBSITES

Click here for more information

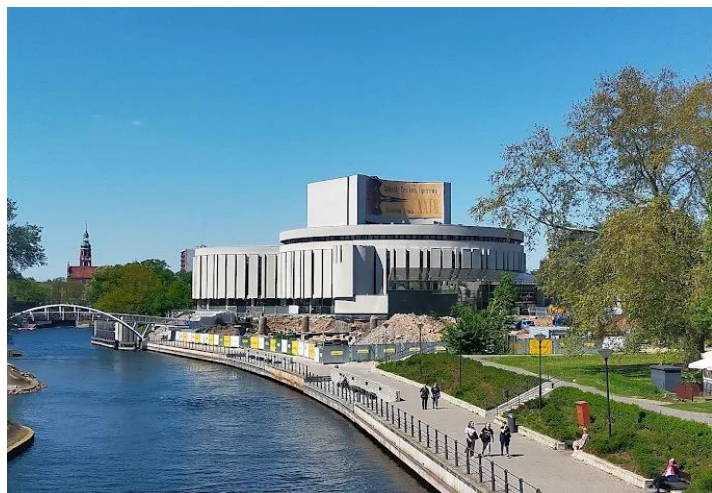
Please get in touch to suggest links to more informative websites

prj-lfd-eurcold@inrae.fr

Levees & Flood Defences Working Group News

BY RÉMY TOURMENT

During the upcoming symposium of EurCOLD in Bydgoszcz (<https://ecs2026.pl>) we will have a meeting of our WG. I hope to see many of you there and that our discussions will be fruitful and interesting. Don't miss the occasion to also attend all the interesting technical and scientific sessions. The French national committee CFBR will celebrate its 100th anniversary during a specific session followed by a "French wine evening". And as during all ICOLD and EurCOLD events this will be the occasion to meet friends and colleagues from our great ICOLD family. See the detailed general program by clicking [HERE](#).



On another aspect, we are still waiting for many ICOLD National Committees members of EurCOLD to designate their national representatives (two national representatives plus a young professional, as per the new EurCOLD by-laws). Once we have a list of enough countries having designated their official members we will work on our updated terms of reference and the constitution of "interest groups" (with an unlimited number of participants). Do not be surprised if you receive email reminders about this process, which is very important for the working group and more generally to the European community on levees and flood risk management.

ICOLD Technical Committee on Levees News

BY RÉMY TOURMENT

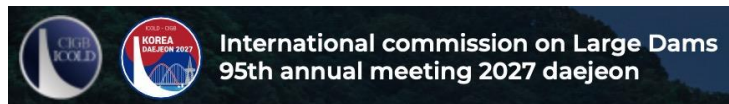
Like I said in our last issue, the ICOLD Technical Committee on Levees, to which our European Working Group is formally linked and with whom we have direct common interest, is this year at a crucial phase. During the Guadalajara 2026 General Assembly, the renewing of the TC, our second bulletin and our new terms of reference for the period 2026-2029 have been approved.



The TC has now started to work on the following activities:

- i. Updating existing national appendices to bulletin 196 or writing new ones for countries that don't already have one
- ii. Preparation of a position paper on levees
- iii. A bulletin on "animal burrow control and vegetation management for levees"
- iv. Provide information on case studies and available techniques for levee maintenance, repairs and upgrading
- v. Be involved in the collaboration with other ICOLD TCs
- vi. Share knowledge and experience in different ways, in particular during webinars

EurCOLD LFD WG members and friends are invited to keep in touch with the TC and contribute to these activities, directly as TC member, or indirectly via a national mirror group supporting a TC member from their country, or via our own LFD WG.



The next meeting of TC LE, involving as well EurCOLD LFD WG members, will happen in Korea see details [HERE](#) and [HERE](#). You can propose an abstract until the end of September 2026, see details [HERE](#) and [HERE](#). Let's hope we have many interesting papers and presentations related to levees, flood defences, flood events, flood risk management in general.

Slope Stability Analysis With BIM

BY GERARD STUDDS & RACHEL TOWERS

For digital innovation to be successfully applied on Wheatley Park Embankment (Doncaster), we developed a Building Information Modelling Execution Plan (BEP) at the start of the project. This used a location strategy that would help us through the design process. The BEP gave us the flexibility to break down the 4.5km flood embankment into 11 manageable assets to mirror Environment Agency asset referencing. The LiDAR and photogrammetry data we received based on the BEP allowed easier manipulation of data and development of three-dimensional models.

Learning from other infrastructure projects that have long linear assets (for example, highways and rail), we pioneered a method to efficiently automate slope stability analysis by integrating it with Bentley OpenRoads.

We imported point cloud data from the LiDAR and bathymetry survey into OpenRoads Designer to create a three-dimensional model where sections could be cut at any given point – a total of 230 sections were cut at 20m intervals. Next, we imported the sections into gINT (a geotechnical software tool that supports viewing and interpretation of ground investigation data geospatially) to allow an assessment of the ground conditions. Finally, we overlayed the gINT data in OpenRoads to assess the slope geometry and determine which sections to select for stability analysis.

We used Grasshopper software to import the sections directly into Oasys slope stability software to do multiple slope runs. Once we had determined the critical sections, our final step was to use Rhino CAD software to draw on the ground strata – this was the only manual operation in the process.

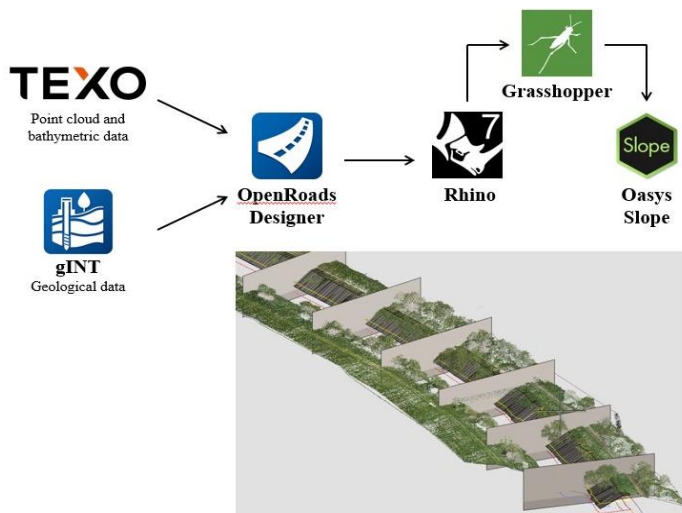


Figure 1: Automated generation of embankment cross-sections at 20 m intervals, supporting efficient identification of locations requiring detailed slope stability analysis

Our approach allowed us to efficiently and robustly determine the high-risk areas, where the design would be focused.

Further information, if needed can be obtained from:

Gerard Studds is an Associate at Arup:

gerard.studds@arup.com

Rachel Towers is a Project Manager at the Environment

Agency: rachel.towers@environment-agency.gov.uk

CALL FOR CONTRIBUTIONS

Information about levees and flood defences projects and works

News, medias or press releases on current flood or storm events involving levees and flood defences.

Current, ongoing or recently completed research projects.

Documents related to levees or flood defences: handbooks, guidance, reports and regulations.

Information on any event or conference relating to levees or flood defences.

Links to informative / educational web sites and related organisations

Pictures to be used in the web site banner, randomly chosen every time a page loads (resolution has to be 1024*300)

Contact the WG website team:

prj-lfd-eurcold@inrae.fr

No Digging Allowed

How Lime-Treated Soil Stops Burrowing Animals in Their Tracks

BY DANIEL PUIATTI, SYLVIE NICAISE & FEDERICA BERTOLA

Over the past 15 years, research projects have brought the technique of soil treatment with lime to an operational level for limited-height dikes and dams. These advances have been made in particular through the construction of several full-scale demonstrators, some of which are located on actual sites. The performance of lime-treated soils has been evaluated and compared with the requirements for such structures, enabling the publication of user guides [1,2]. Moreover, monitoring of the structures has shown that this performance is sustainable [3]. In addition to the main objectives of the research projects, which concerned the feasibility and verification of performances, observations made on structures built on lime-treated soils have also demonstrated the value of this technique for protecting structures against burrowing animals.

Burrows dug by burrowing animals within earth structures are a well-known problem in the levees community, as the first webinar of the LFD Working Group [4] raised. This paper reports on observations made on several dikes built on lime-treated soils in relation to the behaviour of burrowing animals.

OBSERVATIONS ON ROUEN EXPERIMENTAL EMBANKMENT

As part of the DOFEAS/LHOIST project, the experimental embankment was built in 2011 near the CEREMA (Centre for Studies and Expertise on Risks, the Environment, Mobility and Urban Planning) in Rouen (Normandy, France). The soil is a silt treated with 2.5% quicklime, and an embankment built with the same untreated silt is erected nearby. No anti-burrowing devices were installed on either structure.

The embankment remained in place until 2025 and has been the subject of several investigation campaigns since its construction.

For 14 years, no burrows were observed on the embankment built with treated soil, whereas rabbits invaded the untreated soil: the photos in figures 1 and 2 were taken in 2014 and show that rabbits attempted to dig into the lime-treated silt, without success, while burrows were identified in the untreated section.



Figure 1: Photos taken in 2014 on the experimental embankment in Rouen: attempts to dig burrows in 2.5% lime-treated silt (photos D. Puiatti)



Figure 2: Rabbit holes dug into the untreated silt part of the embankment (photos D. Puiatti)

DigueELITE OBSERVATIONS

This experimental dike was built in 2015 near the Vidourle river in south-eastern France as part of the FUI DigueELITE research project. The soil used was extracted on site to create an expansion zone; one section consists of silt treated with 2% quicklime, adjacent to a control section built with the same soil without treatment. Here too, there are no anti-burrowing devices to protect the embankments.

For 10 years, the structure was closely monitored: 23 documented observation visits and 9 experimental campaigns including in-situ tests were carried out. Visits were more frequent at the beginning of the structure's life, when the most significant changes were expected: approximately one visit every two months. Subsequently, visits became less frequent and are currently 1 to 2 per year. There are large numbers of rabbits on the site: far from any roads and visited only by walkers, the site is ideal for them to thrive.

Immediately after construction, the soil is quite loose on slope and there is no vegetation: burrowing animals have been able to take advantage of the untreated soil to dig numerous burrows. Figure 3 shows a photo taken five months after the construction of the untreated embankment on the river side, which is the most sheltered from view: on this 15-metre-long embankment, 17 burrows were counted on the day of the visit.



Figure 3: 17 burrows found in December 2015 on silt embankments confirm the presence of rabbits in the DigueELITE area (photos DigueELITE)

On the same day, no burrows were spotted on the treated ground, although signs of attempted digging were identified: scratch marks and numerous faeces (Figure 4).



Figure 4: Attempts to dig burrows in the treated part of the dike (photo DigueELITE)

Subsequently, and until 2025, these observations were confirmed several times during visits: the riverbank slopes became less accessible due to vegetation colonisation, but observations showed that rabbits continued to frequent the untreated slopes (Figure 5); on the other hand, no burrows were ever observed on treated soils during 10 years of observation.



Figure 5: Rabbit burrows on the untreated embankment, February 2020 (photos S. Nicaise)

OBSERVATIONS ON THE SALIN DE GIRAUD DIKES

The experimental plots at Salin de Giraud were constructed by SYMADREM (interregional mixed union for the management of the levees of the Rhône Delta and the Sea) in 2017 in the Bouches-du-Rhône region of France, near the Rhône levees. Clayey silt taken from the site was treated with quicklime at a rate of 2%. The embankments are covered with 30 cm of topsoil, and no protection against burrowing animals has been put in place.

For eight years, INRAE and Lhoist, partners involved in this Symadrem R&D project, conducted experimental campaigns and on-site trials to measure and evaluate the durability of the properties of lime-treated soils that are of interest for flood defences. At the same time, seven observational visits were carried out over eight years. With regard to animal activity, burrows were observed on several occasions in the topsoil covering the

embankments. The geometry of the burrows, as well as a footprint found nearby, suggests that the burrowing animals present are nutria (Figure 6). No burrows were dug in the embankments with treated soil: the slopes are accessible and easy to observe, so they would certainly have been spotted.



Figure 6: Nutria burrow and footprint. The animal dug the burrow in the topsoil covering the embankment, using the treated soil as bedding- September 2021 (photos S. Nicaise)

Article Continued Overleaf...

CONCLUSION

Alongside the research objectives that guided the programmes on three French experimental embankments, observations were made on the behavior of burrowing animals. It appears that in areas where burrowing animals are clearly present, they are unable to dig burrows in lime-treated soils. Attempts at digging have been detected, showing that this is not a case of aversion on the part of the animals to these modified soils, but rather an inability to dig due to the mechanical resistance of the treated soils.

These observations show that anti-burrowing devices are useless on lime-treated soils; however, it is important to protect all adjacent or nearby areas where burrowing animals could move (foundations/bases, adjacent untreated embankments, etc.).

REFERENCES

- [1] Bulletin 195, Cemented soil dams. Cemented materials dams: design and practice. ICOLD, 2022. <https://www.icold-cigb.org/FR/publications/bulletins.asp>
- [2] Michel Froumentin, Daniel Puiatti, Federica Bertola, Sylvie Nicaise, Stéphane Bonelli, et al.. LIME TREATMENT OF SOILS FOR LIMITED-HEIGHT HYDRAULIC STRUCTURES. STATE OF THE ART AND PRACTICE. 2025, pp.126. <https://hal.science/hal-05424555v1>
- [3] Federica Bertola, Sylvie Nicaise, Lucile Saussaye, Kristof Verelst, Henk van Hemert. LIME TREATMENT FOR HYDRAULIC STRUCTURES: BENEFITS, CHALLENGES, AND LONG-TERM PERFORMANCE. Fifth International DAM WORLD Conference, Apr 2025, Lisbon (Portugal), Portugal. <https://hal.science/hal-05045786v1>
- [4] First LFD WG webinar on animal activity on levees (June 30th, 2021). <https://lfd-eurcold.hub.inrae.fr/levees-and-flood-defences/working-group-webinars>

Further information, if needed can be obtained from:
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Subscribe to the website news in order to get latest information notifications.



RESEARCH PROJECTS & TOPICS

Take a look at the latest research projects internationally

Also please send any information on research projects you are part of

2026
Sept 16-17th

DWA-Deichtage (20th DWA-Levee-Days) presentations in German in Kassel

September 16-17th 2026

Presentations taking place for the 20th DWA Levee Day.

More information can be found on the EurCOLD Levees Working Group Website: <https://lfd-eurcold.hub.inrae.fr/levees-and-flood-defences/events>



2026
September 21-25th

13th ICOLD European Club Symposium in Bydgoszcz, Poland

September 21-25th 2026

Polish Committee on Large Dams (POLCOLD) is happy to invite You to the 13th ICOLD European Club Symposium, which will be held from the 21st to the 25th of September 2026 in Bydgoszcz, Poland.

During this meeting we will celebrate CFBR/French-COLD 100th anniversary, founded in 1926.

More information can be found on the symposium website: [ECS 2026](https://ecs2026.org)



Programme

TIME	Monday 21.09.2026	Tuesday 22.09.2026	Wednesday 23.09.2026	Thursday 24.09.2026	Friday 25.09.2026
morning 0900-1200		Opening Ceremony 0900-1000 general session 1000-1200	2 parallel technical sessions	2 parallel technical sessions	0900-1600 field technical trip "dams around Bydgoszcz"
afternoon 1200-1800	registration starts at 1400 1600-1800 European Club Board Meeting 1400-1600 Young Professionals Meeting 1400-1600 EWG meetings	2 parallel technical sessions	1430-1730 session special CFBR/French-COLD 100 anniversary	1200-1600 general session 1600-1700 Closing Ceremony	
evening 1900-2300		welcome reception and cultural event	1930-2200 French Wine Evening	1900-2300 farewell dinner	
all day		technical exhibition accompanying persons programme	technical exhibition accompanying persons programme	technical exhibition accompanying persons programme	

Course on Emergency Management for Flood Defences in Delft, Netherlands

November 2-13th 2026

Strengthen your expertise in flood preparedness and emergency response.

Join the short course on Emergency Management for Flood Defences and learn how to apply the Handbook on Emergency Management for Flood Defences in real-world situations. Designed for professionals from government, industry and academia, the course combines practical knowledge with valuable opportunities for learning, exchange and networking.

- Part 1 – General Concepts: 2–6 November 2026
- Part 2 – Operations in Practice: 9–13 November 2026

Applications are now open. Apply by 2 October 2026.

Learn more: <https://lnkd.in/ecsqMMFK>



2026
November 2-13th

International Workshop on Dams and Levees, in Madhya Pradesh, India

December 12-13th 2026

This event is jointly organized by Indian Society of Engineering Geology and IAEG Commission 43.

Learn more: [ISEG Diamond Jubilee Brochure_05-06-2026.cdr](#)

2026
December 12-13th

Indian Society of Engineering Geology (ISEG)
(www.isegindia.org)
(Indian National Group of the International Association of Engineering Geology and the Environment (IAEG))
(Established in 1965)

IAEG Commission-43
Jointly organise

International Workshop on Dams and Levees

Celebrating 60 years of Journal of Engineering Geology (JoEG)

Date : 12th & 13th December, 2026
Venue : Kushabhau Thakre International Convention Center, Bhopal, Madhya Pradesh

Managing Incidents

BY RUTH YOUNG, PAUL ROBERTSHAW & MICHELLE BRENNAN

As part of the Collaborative Delivery Framework contracts, the Lot 1 and 2 partners must assist the Environment Agency, a Category 1 responder under the Civil Contingencies Act 2004, during emergency situations. This allows us to use our knowledge, skill sets, personnel and supply chains before, during and after an incident. These events may include environmental and pollution incidents as well as incidents associated with floods and costal erosion.

TAPLOW EMERGENCY WORKS

In December 2024, we identified one such incident on the Jubilee flood relief channel at Taplow in Maidenhead. A scour hole had appeared in the embankment and was affecting the operation of the channel through fear of the hole getting worse. The Thames area team from the Environment Agency contacted BAM Nuttall and asked for support.

Storm Geomatics, on behalf of BAM Nuttall, carried out an initial multibeam survey of the channel. This showed previously unknown additional scour holes below the water line.

After a short optioneering activity we decided to use a helicopter to drop 1t rock bags in and around the scour holes. This would stabilise them and allow the Jubilee River to be operated, albeit in a reduced manner, with a continual watching brief to monitor the scour holes.

Over a two-day period, we installed over 300t of rock bags and bulk sandbags in the channel. The option to use a helicopter was based on stabilising the scour holes in the most efficient way possible before the Christmas break. It saved an estimated two weeks on programme and £150,000.

*Further information, if needed can be obtained from:
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NORTHENDEN WEIR EMERGENCY WORKS

Swift action in emergency flood events is paramount to ensuring the safety of residents and nearby businesses as well as preventing further flood risk damage or flooding.

Northenden Weir, located on the River Mersey in South Manchester, became damaged during high river levels following storm events in 2023 and 2024. This caused several masonry blocks to become displaced. Rapid draw-down due to catastrophic failure of the weir could lead to the failure of numerous other flood risk management assets upstream including embankments forming the adjacent Didsbury Flood Storage Reservoir.



Figure 1: Helicopter helped to fill the Taplow scour area with rock bags

Due to the urgent nature of these works, a novel way of working was deployed. We used a helicopter to position 100 one-tonne rock bags to dewater a section of the weir for inspection and assessment. We chose this method for its efficiency and cost-effectiveness, enabling rapid deployment of temporary works.

This unconventional, but innovative, method for dewatering proved to be successful. It has since been used for other emergency works in the Didsbury area where significant rainfall on New Years Day caused breaches of the embankment along the River Mersey by Northenden Golf Club and sports ground. A helicopter deployed 2,000 one-tonne bags at embankment breaches in four locations, which again enabled

Article Continued Overleaf...

temporary repairs to be carried out rapidly and reduced the length of the works fourfold from twelve weeks to three.

The Environment Agency's quick thinking has helped to maintain strong relationships with stakeholders who will be critical to the success of future projects along the River Mersey.

The success of these projects comes from careful planning and communication with the community. Local residents, councillors and other stakeholders were engaged to keep the public away from work areas, which are normally used for recreation.

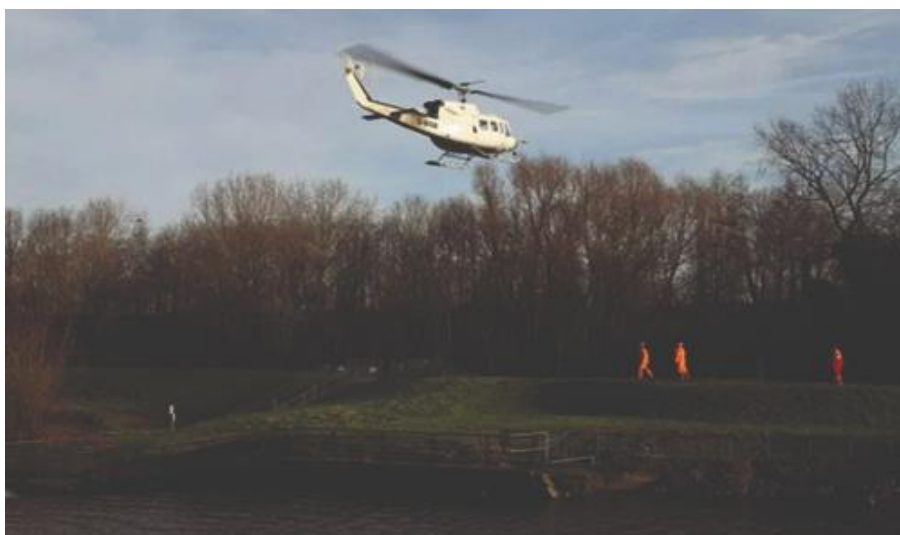


Figure 2: Helicopter use for positioning rock bags in Didsbury

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FEEDBACK REQUEST

We are always seeking for ways to improve this newsletter content and topical areas, and would welcome your feedback too

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