



Laurent Louyer and Creatmosphere
Sources

Spheres of Engagement

When Laurent Louyer and his studio took hold of the Bow for a week in August, they made the river's complex and fundamental character spectacularly tangible. *River of Light*, an innovative nighttime event, loosed five hundred internally lit spheres into the Bow at Edworthy Park. As they free-floated toward a companion installation at Prince's Island lagoon, the river's multiple roles — force of nature, touchstone for community, transportation system, supporter of life and thing of beauty — became gloriously evident. With his dexterous grasp of light, his unwavering artistic vision and the tenacious support of his team, Louyer carved a space for insight and participation out of the Calgary night.

"Light is fundamental, like water and air," explains Louyer.¹ Using it as an artistic medium, Louyer invites us to appreciate it for its own sake and take a closer look at the spaces it illuminates. Artists who work with light tend to challenge perceptual norms. James Turrell, a pioneer in the artistic use of light and space in 1960s California, currently isolates light to investigate celestial phenomena in a crater in Arizona's Painted Desert.² Meanwhile, Olafur Eliasson in his Berlin studio manipulates light, colour and atmosphere to create environments that ground viewers in the present moment.³ Louyer counts both men among his artistic influences. Like them, he forges lasting impressions from an ephemeral substance.

Louyer founded and directs Creatmosphere, a studio in London, England dedicated to the exploration and presentation of light. His core team of dedicated professionals works

alongside project-specific contractors. For the Sources team, Louyer recruited studio manager Denice Dever, technical and production guru David Abra, software designer Hayden Anyasi, and data analyzer and visualizer Carmen Torrecillas. The studio's wide-ranging endeavours demonstrate how light can be manipulated to subtle and fantastical effect. Past projects include: *Breathing Trees*, a series of installations in diverse locations that visually transformed trees into the lungs of a city; and a one night commercial spectacle involving 3D mapping and laser drawing on the ruins of the West Pier in Brighton. In 2008, Creatmosphere originated *River of Light* on the River Thames at Windsor. It was the culmination of an outreach program for local school children and part of the launch of the four-year Cultural Olympiad leading up to the 2012 Summer Olympics in London.⁴

Spheres figure prominently in Creatmosphere's work. People collectively relate to them — we understand them as echoes of the familiar shapes of the earth and moon. The Creatmosphere team explores them as symbols of creativity. For Sources they coaxed magic out of heavy duty latex balloons and battery-powered light-emitting diodes (LEDs) as part of their most ambitious project yet. In comparison to the Thames event, the number of *River of Light* spheres doubled and the distance they travelled was extended to approximately eight kilometers. Stationary installations were added: *The Light Matrix* artfully transmitted data about the river at Prince's Island lagoon; five unlit clusters known as the *Daylight Spheres* were anchored between it and *River of Light's* starting point; coloured lights



▲ The LIGHT MATRIX forms a grid pattern on the lagoon's fluid surface.



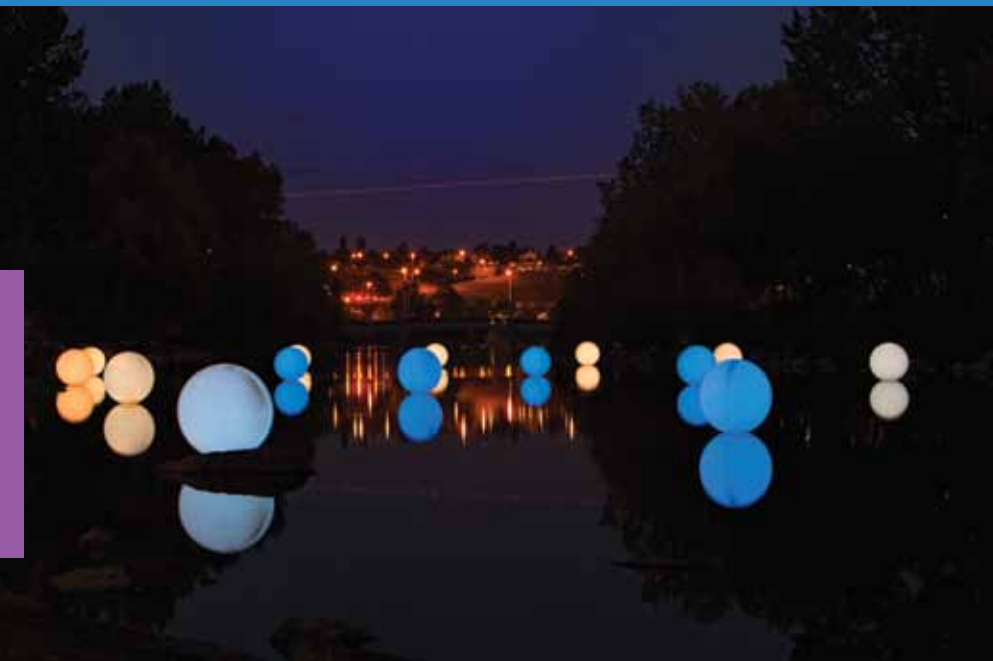
▲ David Abra anchors spheres in Prince's Island Lagoon.



▲ LEDs and computer chips control the spheres' changing hues.



▲ The shifting colour patterns communicate data about the river.



▲ At night, THE LIGHT MATRIX pulses with glacier-inspired colours.

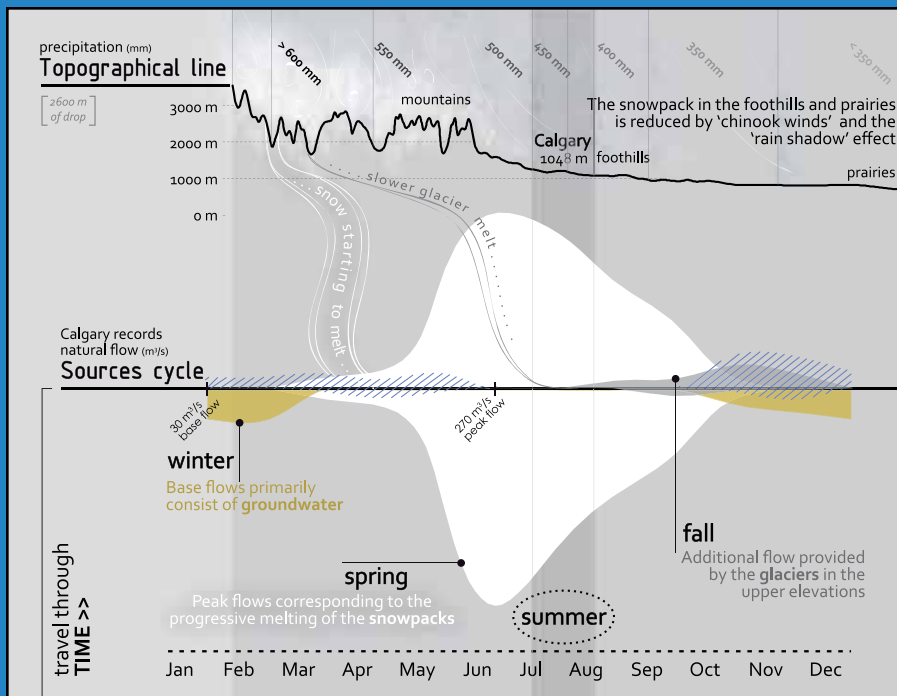
illuminated bridges and trees along the route. Together, the river transformations were called *Sources*. Preparing steadily for seven days, Louyer and Abra waded into the lagoon in wetsuits to lay out *The Light Matrix*. They troubleshooted technical issues and revised plans in response to the vagaries of Calgary weather, city construction and river conditions. They doggedly installed the *Daylight* clusters to mark where the shifting riverbed has formed islands while heavy rains, erratic winds and thefts deterred their efforts. Dever arrived in Calgary amid it all and preparations for the concluding event, *River of Light*, began in earnest.

Everything about this project was either new or bigger for Creatmosphere. The familiar layering of scientific data and visual art within a natural environment was tensioned by the unknowns of such a multifaceted program delivered on unfamiliar terrain. Trust among team members, their willingness to learn from trial and error, and belief in the project saw them through. "You start with a vision of what you want to see and you do what it takes to get there," an undaunted Louyer said. "Delivering the idea is 95 per cent of the work."⁵ Vision and hard work was in no short supply on this team of able light-smiths.

Creatmosphere delivered a powerful piece of mentorship through it all, demonstrating the commitment and practices required to orchestrate a large-scale public art event. Close to 100 local volunteers were involved at various stages. Four of them worked tirelessly alongside the artists. Barb Maier was one such volunteer and believes that this project has broadened Calgary's understanding of what public art can be. In return for sharing her time, considerable skills, and local knowledge, Creatmosphere provided her with "a crazy, once in a lifetime opportunity" to participate in the making of a grand experience that unified people around temporal beauty.⁶

Louyer's first visit to Alberta in August 2009 included a trip to Bow Glacier. He felt it was important to see the river's source. Experiencing the glacier and surrounding lake, mountains and sky crystallized his vision for the project. "I'd never seen colours like those before."⁷ Those colours inspired the ones he selected to light up the Bow. *The Light Matrix* featured 28 large spheres (1.2 metres in diameter) anchored in the lagoon's shallow waters in four orderly rows. In daylight its neatly arranged white pointillist dots of surreal proportions appeared both stately and other-worldly. At nightfall the scene became sublime. As the first blue and gold lights pulsed through the floating matrix, a spontaneous expression of awe rose from the gathering crowd. Subtle silver, vivid green and the occasional shot of magenta lit up the grid in changing patterns that conveyed a visceral sense of our river's dynamic character.

In addition to being objects of beauty and fascination, the spheres functioned as oversized, three-dimensional pixels that interpreted data about the river. Custom software controlled a computer chip installed in each sphere. The software synchronized the LEDs' colour changes with projections on nearby screens that displayed information about the Bow River in four categories: seasonal cycles, water quality, flow and usage. The matrix captured the data in its most basic visual form. 'Cycles' examined seasonal components of the Bow's water content. It showed that in summer, snowmelt contributes 80 per cent, while 10 per cent is rainfall, eight per cent is groundwater and two per cent is glacier runoff.⁸ Correspondingly, 22 of 28 spheres in the lagoon glowed white for snow, three showed blue for rain, two were yellow for groundwater and a lone silver represented glacial melt. As the projected schematic advanced through the year, the colour ratios in the matrix changed according to seasonal variances.



The Bow River as a large system that varies greatly SEASONALLY

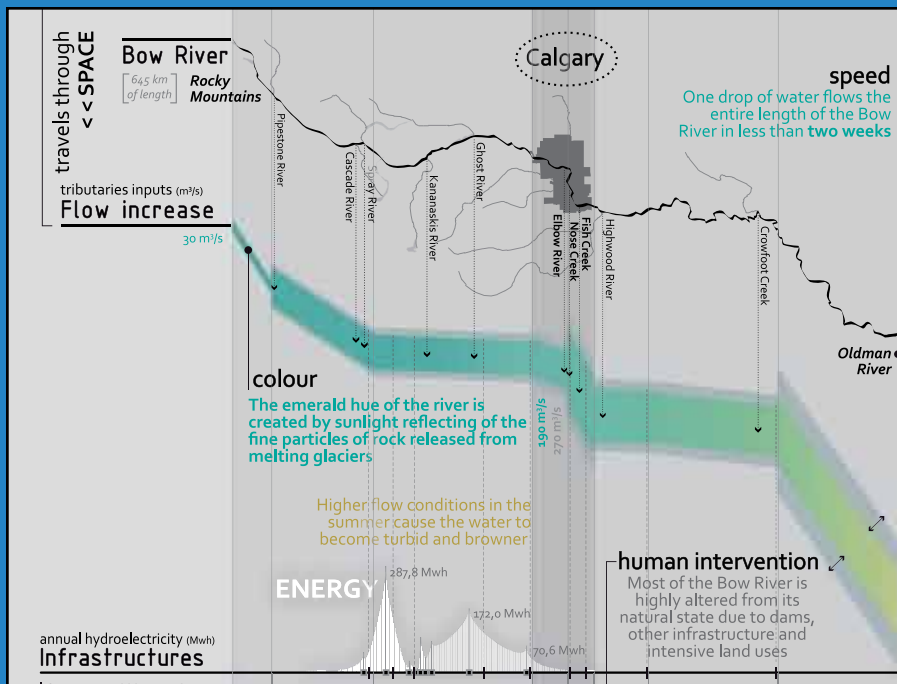
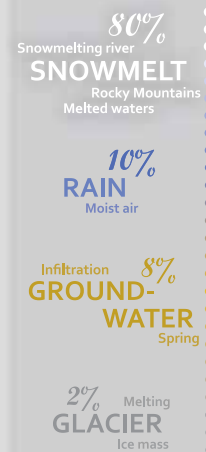
I. WATER CYCLE

the seasonal pattern of the Bow River

Although not obvious at first, snowmelt, rainwater, ground water, and glacier melt, together form the sources of the river that flows through Calgary. The ratios in which they combine, vary depending on the time of year.

The *Light Matrix* created a visual representation of the fluctuating ratios of the four sources. With each colour in *The Matrix* representing an individual source, animated patterns of colour reflected the river's changing make-up.

the light matrix



The Bow River as a large system that varies greatly GEOGRAPHICALLY

II. WATER FLOW

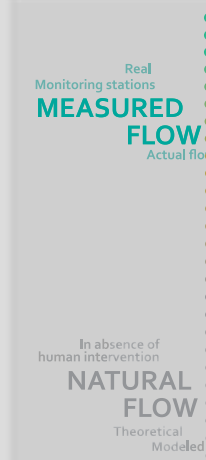
the increase of flow along the Bow River

The river's rate of flow increases as tributaries run into it. However rate of flow is also influenced by season and by man-made interventions, such as dams. This illustration describes the river's rate of flow, the impact of tributaries, and the variations in colour that result, over the course of a year.

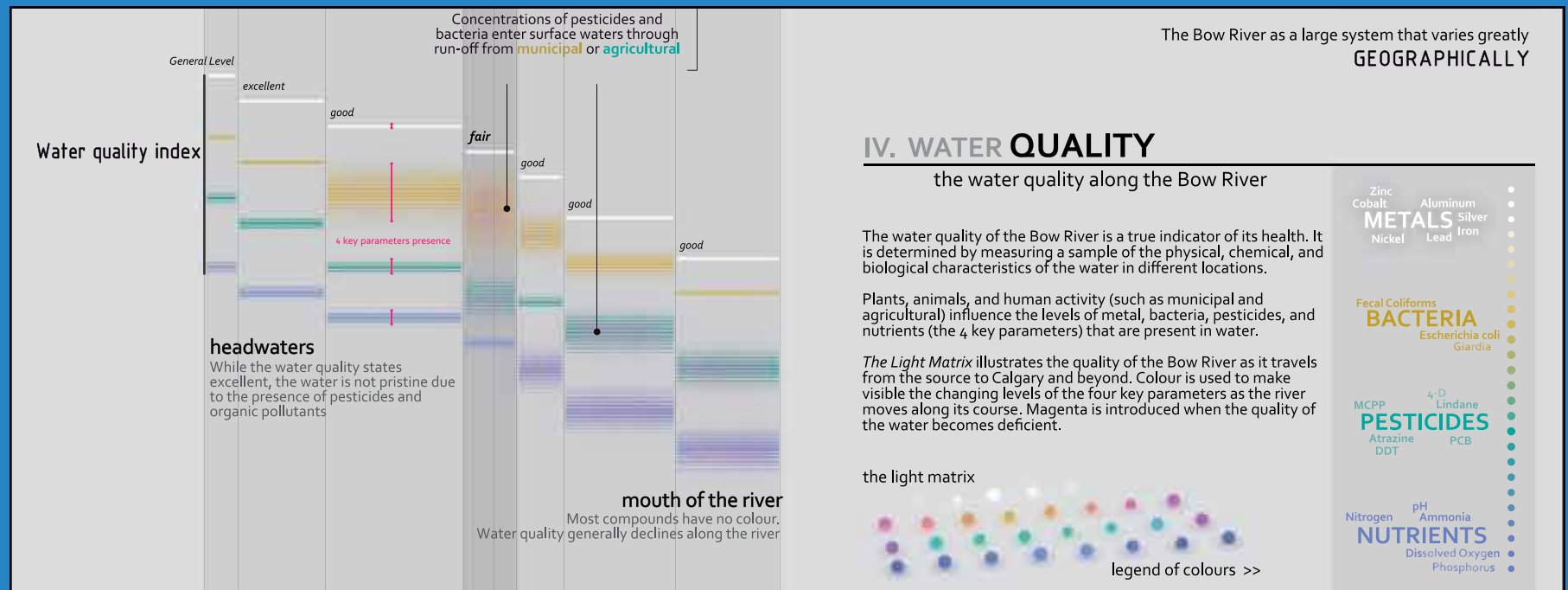
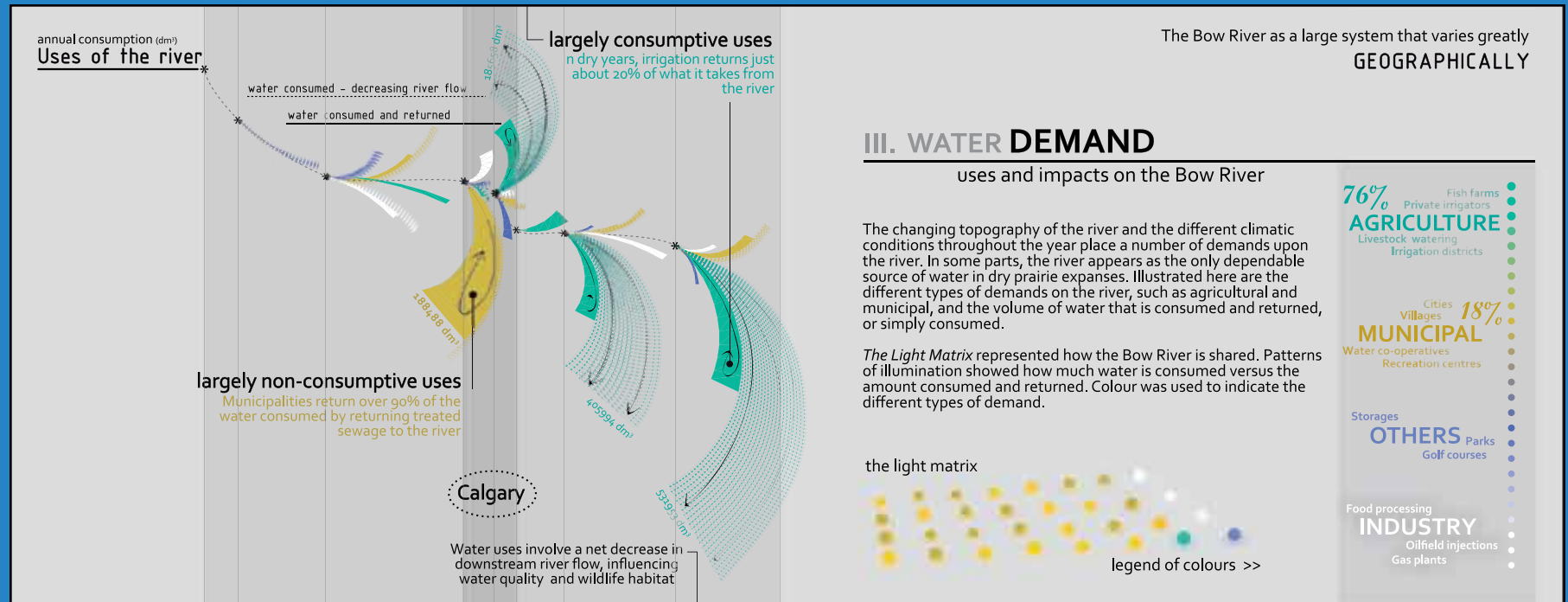
To represent this, the ratio of illuminated spheres in *The Light Matrix* fluctuated to reflect the rate of flow as it varied along the river's path.

The *River of Light* event further illustrated the river's rate of flow by visually mapping how the flow moves around islands and wetlands.

the light matrix



▲ Animated projections accompanied THE LIGHT MATRIX, sharing river data that informed the installation's changing patterns of light.



▲ Research and illustrations by Carmen Torrecillas for Creatmosphere



▲ Laurent Loyer readies hundreds of spheres for RIVER OF LIGHT.



▲ Volunteers perform sphere-launching practice.



▲ Forty volunteer kayakers will shepherd spheres to their destination.



▲ Spheres are launched at dusk from the Edworthy Park bridge.



▲ Kayaks glide alongside spheres as both proceed downstream.



▲ People line paths and riverbanks to glimpse the spectacle.



▲ Multi-coloured orbs emerge from the surrounding blackness.



▲ Five hundred glowing globes map the river's flow.

In the 'Flow' segment, a cursor moved along the onscreen diagram of the Bow from its source to its confluence with the South Saskatchewan River. The volume of water moving past a single point (described in cubic metres per second) fluctuated as the cursor met dams and other inhibitors.⁹ Simultaneously, emerald glowing spheres captured the distinct colour of glacier-fed Bow Lake;¹⁰ their bright tones shifted to earthy ones to reflect the turbulent waters of increased flow rates.

The four succinct onscreen messages represented a year's worth of research by Creatmosphere.¹¹ Already significantly condensed, the information was further distilled into coded impulses of colour and light which viewers were invited to interpret as art. The genius of the installation lay in its ability to reach people on multiple levels. "It's . . . art in a natural setting. It's beautiful and peaceful and it expresses the meaning of the Bow. But people can appreciate it without understanding all the information behind it," observed one woman on her third visit.¹² People engaged, whether with the ethereal beauty, the wealth of data, the relationships drawn among nature, science and art, or simply in sharing a quiet evening moment in community. The nature of light itself could also be contemplated: the colours of the visible light spectrum that together make white (not coincidentally the colour of snow) were seen distinctly, each in its own sphere. With these layered readings in mind, this viewer was prompted to reexamine how we perceive, understand and embrace information embedded in the world around us.

The Light Matrix ran for eight consecutive nights. It completed one full cycle in approximately 15 minutes and repeated continuously until midnight. People came and went, moving in closer as space became available. Returnees were seen explaining the piece to newcomers. This demonstration of community engagement was part of the plan. "Public space is

about people," asserts Louyer. "The park belongs to them. This project delivers a message about the space, for the people."¹³ The message was deceptively simple, wrapped up in an intriguingly elaborate design.

Creatmosphere's tour de force finale, *River of Light*, took place on a warm August night. By midday the center of operations at Edworthy Park was buzzing. Volunteers used electric air inflators to fill spheres — a template ensured a consistent 50-centimetre diameter. Crews had spent the previous two days assembling 500 light units. After river trials demonstrated that the air-filled orbs were highly susceptible to headwinds, each light was outfitted with an improvised drag system to hold the sphere in the current.¹⁴ A ring of foam encircled each light stem so that even if its sphere burst it would remain afloat for easy retrieval. Grouped in 10s on lines pegged to the ground, the spheres were assembled and laid out in a field on the river's south side. It appeared as if a herd of perfect moons had been corralled in the afternoon sun.

As daylight began to fade, a sense of anticipation energized the park. A fresh crew of volunteers was put through its paces in sphere-launching practice. Dozens of kayakers and canoeists paddled in from upstream. Their important job was to shepherd the floating herd safely to its Prince's Island Park destination. The public gathered on foot, on bicycle and in vehicles, lining the river banks and crowding every available spot on the pedestrian bridge. Eventually, each LED was individually switched on. Dusk descended and an unearthly glow permeated the night.

The inaugural orb was dispatched by *Celebration of the Bow River* project manager Heather Aitken and her City colleague Paul Fesko of Utilities & Environmental Protection. They inscribed





▲ RIVER OF LIGHT spheres drift into still waters near Prince's Island.
◀ Spheres, river, paddlers, and crowds stream toward downtown.



▲ Spheres are pulled from the water at RIVER OF LIGHT's conclusion.

it with the handwritten message “protecting what’s precious” and dropped it from the upstream side of the pedestrian bridge. It hit the water with an audible splash. One cluster after another of blue, green, yellow and ultra-violet glowing globes followed and were quickly pulled in by the power of the current and watched over by attendant kayakers. As the floating parade snaked around a bend the crowd dispersed to follow. A three-quarter moon lit the way through a smoky sky.

Upon leaving the park and following the river eastward, the universal appeal of this nighttime flotilla was clear. The pathways and riverbanks were full of people. Some settled in on lawn chairs with refreshments, as if at a sporting event. Others pedaled bicycles or abandoned them to perch right at the water’s edge. There was conversation but mostly there was stillness. A sense of wonder pervaded as the multicoloured constellation emerged from the surrounding blackness. Converging and dispersing, the spheres mapped the river’s topography as they disappeared behind islands and then rematerialized into view. Illuminating the river’s flow patterns, they symbolized water molecules on their journey from source to city. Part performance piece, part installation, this artwork cast the river as both setting and lead performer.

Kayakers actively kept the bright shapes flowing, retrieving them out of eddies and from gravel beaches. As if bound together, spheres, river, paddlers and land-bound crowds flooded toward the city centre and the night became dense with people and anticipation. It is estimated that several thousand people took part — families, groups of youth, couples and seniors among them. Many remarked on the unprecedented turn out of Calgarians, at night, by the river, for art. Downtown lights echoed the floating galaxy’s glow and stole some of the sparkle but the sight of the globes drifting through the city

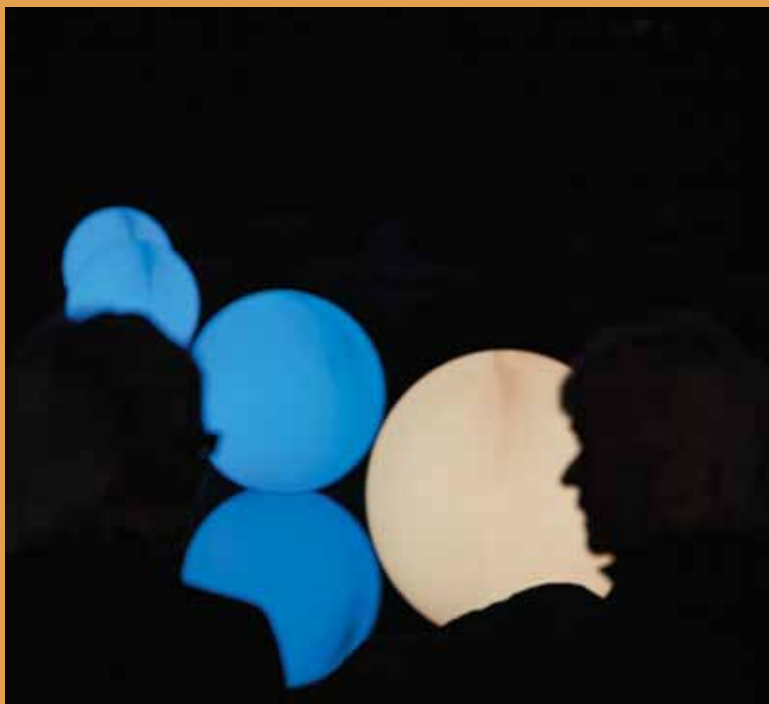
remained one of bewildering alien beauty. At Prince’s Island, a boom across the river diverted the spheres into still waters to the south of the park. Excitement built as people watched them drift in. Many clamored to claim one as a souvenir. A few metres away, others sat mesmerized by the quiet of *The Light Matrix*.

Our multifaceted relationship to the Bow swirls in the convergence of these two artworks. On one hand the river is ours to manage, as static and knowable as the man-made lagoon in which *The Light Matrix* rests. *River of Light*, on the other hand, shows us an elusive watershed, from which we might at best capture a small portion for our use as it wends its wild course. *Sources* suggests that our challenge is to treasure the river’s duality as both mysterious and quantifiable, knowing that the Bow is ours to keep and understanding that it will never be anyone’s to own.

Illuminated trees colour significant spots on RIVER OF LIGHT’S route. ►







▲ Light carves space for beauty and participation out of the darkness.

◀ Reflections create surreal impressions in THE LIGHT MATRIX.

Endnotes:

- 1 Laurent Louyer in conversation with the author, Calgary, August 18, 2010.
- 2 www.pbs.org/art21/artists/turrell/index.html.
- 3 www.artinfo.com/news/story/25573/olafur-eliasson.
- 4 www.creatmosphere.com/projects.html.
- 5 Louyer conversation, August 18, 2010.
- 6 Barbara Maier, conversation with the author, Calgary, August 21, 2010.
- 7 Louyer conversation, August 18, 2010.
- 8 Creatmosphere collected a large amount of data from the wealth of resources available at the Alberta WaterPortal website: www.albertawater.com/
- 9 Water travels the 587 km length of the Bow in less than two weeks. Average flow rate is 129m³/s. Source: www.wikipedia.org/wiki/Bow_River.
- 10 As a glacier moves, it grinds the rock beneath it into fine particles called rock flour which are released with the melting ice into the lake. The distinctive colour of glacier-fed lakes is a result of the reaction of light upon the suspended rock flour particles.
- 11 Carmen Torrecillas was the main researcher and distilled the information to create the charts seen on the projection screens and printed in this book.
- 12 Anonymous audience member in conversation with the author, Calgary, August 18, 2010.
- 13 Louyer conversation, August 18, 2010.
- 14 Plastic drink bottles were systematically vented and attached to the light's stem.