



Where the lagoons boiled

Summer in the delta. The mussels died in the heat, the clams are failing, and in the same water the first oysters are going in.

Photographs and reporting by Simone Padovani 49 images / Podelta, Italy / July - August 2026



(Sacca di Goro, Italy) A sandbank exposed at low tide on 3 August 2026. That week the Po was running at 246 cubic metres per second at Pontelagoscuro, its last gauging station before the delta, against a seasonal average of 709 and well below the 450 threshold at which seawater starts pushing up the river. The shadow at the centre is cast by a mooring pole, the only measure of scale; the pipe at the top of the frame is part of the system used to keep the lagoon's water moving. Less fresh water coming down the river means less exchange with the sea: in a lagoon this shallow, that is what let temperatures reach around 32 degrees this summer, strip the oxygen out and kill up to 90 per cent of the clams on the beds.



(Sacca di Goro, Italy) Farmers sow clam seed on their plot in the lagoon at the end of the day, on 3 August 2026, during a heatwave. They work on foot in water up to their waists, among the poles that mark out the concessions. The seed will stay in open water until it reaches market size, with no way of controlling the temperature or the oxygen. In the weeks around this picture the water in the Sacca di Goro reached around 32 degrees. They sowed anyway.



(Finittica, Goro, Italy) Clams go into the purification tanks at Finittica on 3 August 2026. Shellfish beds are graded A, B or C by the level of E. coli in the flesh: what comes off a class B bed cannot be sold until it has been through a plant like this one, where the animals sit in clean seawater and filter themselves clean, for anything from hours to days. Finittica's circuit is closed and handles more than 20 tonnes per cycle, in a plant of about a thousand square metres a few kilometres from the beds. The company was founded in 2018 by people already working in the lagoon, and follows the animals from fertilisation to packing. This summer the water outside reached around 32 degrees, growers reported losing up to 90 per cent of the clams on the beds, and what arrives at these tanks is what survived.

WHERE THE LAGOONS BOILED

PO RIVER DELTA, ITALY / SUMMER 2026

A mussel farmer points an infrared thermometer at the surface of his beds and reads 28.5 degrees. In laboratory conditions almost no Mediterranean mussels die below 26. At 28 a fifth are dead within five days, at 30 four out of five within a fortnight, and what kills is duration as much as peak. In the days around that reading the lagoon touched 32. July 2026 was the hottest month ever recorded in the Mediterranean, a basin average of 27.07 degrees, with 94 per cent of its surface above normal and 79 per cent under an intense marine heatwave at some point, the highest share ever measured in July. The northern Adriatic reached 31 degrees, five to six above its seasonal values; the sea is warming here at roughly twice the rate of the global ocean. At the same time the river was failing. At Pontelagoscuro, its last gauging station, the Po was carrying 246 cubic metres a second against a seasonal average of 709, and the district remained in extreme drought even after the rains of late August. The sea had moved into the riverbed, up to 28 kilometres inland on the Goro branch, with two delta channels salt from mouth to top. The government declared a state of emergency in the Veneto, where the first half of the summer was the hottest since records began in 1992 and among the driest. The lagoons are the last stretch of that river, and they are shallow: 60 to 70 centimetres on average at Goro, a metre and a half at Scardovari. Less fresh water means less exchange with the sea. Still water heats faster, holds less oxygen, and feeds the algae that consume what is left when they decompose. In the Sacca degli Scardovari around a hundred tonnes of Cozza di Scardovari died within days, the last of the season's crop, still in the water and ready to harvest. Of roughly 1,300 tonnes produced this year, growers put the loss on what remained at close to 99 per cent. The consortium suspended sales of the only Italian shellfish with protected designation of origin status, keeping only what it grows offshore. In the Sacca di Goro, the leading site for Manila clams in Europe, growers reported losing up to 90 per cent of the clams on the beds. On 29 August the die-off reached the open sea as well, between Goro and Porto Garibaldi, where more than 60 per cent of the region's marine farming is concentrated: over 90 per cent of the crop lost, twenty to twenty-five thousand tonnes of market-ready mussels and of the seed that should have started next year. Direct damage has passed 50 million euros. The growers have asked Rome to declare a natural disaster. Nationally, climate change is reckoned to cost Italian professional fishing around 200 million euros a year. None of this landed on a healthy industry. Since the invasive Atlantic blue crab took hold in 2022 it has cut commercial-size clam production by more than 70 per cent in places, with damage in Emilia-Romagna alone put at 16.8 million euros. Landings of the crab in the Veneto delta went from 97 tonnes in 2022 to around 630 the next year and more than 2,000 between April and August 2025; in the Sacca di Goro, 1,400 tonnes were taken in 2024 and 2,000 in 2025, and researchers describe this as the visible part only. A study published this year by the University of Bologna counted between one and 2.7 million eggs per female, averaging 1.6 million a brood. The species does best between 18 and 28 degrees, so the water that is killing the mussels suits it. It is also moving inland: work by the University of Ferrara, built on sightings gathered with fishermen, has tracked it more than 160 kilometres up the Po, the longest freshwater advance recorded in the Mediterranean basin, and links its first push upriver to the drought of 2022, when the weakened river let the sea in. Catching it does not pay. Fishermen are forbidden by emergency order to put any crab back in the water and are paid 90 cents to a euro a kilo, while the bait for the traps alone costs two; most of the catch has no market. In 2025 the Veneto growers' consortium spent 1.39 million euros to destroy 1,163 tonnes of unsellable crab, at a cost per kilo higher than its price. The defences

carry their own penalty: the anti-crab enclosures went from around ten to more than 120, and by slowing the movement of water inside them they made this summer worse. The accounting is human. Between Comacchio and Goro the number of registered fishing businesses has fallen from around 350 to fewer than a hundred in two years. Across the river, aquaculture firms in the province of Rovigo are down 38.8 per cent and the workforce 35.1 per cent since 2023. The Goro system alone supports around 1,600 jobs and turns over more than 100 million euros a year. In Porto Tolle, of the roughly 1,450 people who work the beds, 680 are women, a share with no equivalent in European fishing; most came to the lagoon in the 1980s, when the local textile mills closed. This is a place with a long memory of leaving. In November 1951 the river broke and flooded the Polesine, on land that methane extraction had sunk by two to four metres; about a hundred people died, 180,000 were made homeless and some 80,000 left, one in three, most of them for good. Until 2007 it was the poorest province in northern Italy. What makes this more than a story of loss is what the same people are doing about it. In the hatchery at Goro, clam seed is bred in tanks, fed on microalgae cultured on the premises and grown to 12 or 15 millimetres, the size at which a crab can no longer easily crush it, before being sown on the beds; the response to this summer has been to increase the pure oxygen injected into those tanks. On the beds there is nothing to inject. Seed is now the scarcest thing in the delta: the wild nursery grounds have been failing for three or four years for reasons nobody has established, the industry needs seven to eight billion juveniles a year to hold its production target, and imports have risen ten to twentyfold. In May the first clam hatchery in Goro opened, run with the University of Ferrara, six cooperatives and the local council, to study the crab, the anoxia and the heat together. Others have changed species. Growers who farmed mussels all their lives have moved to oysters, which the crab cannot crush and which stand a marine heatwave better; they are grown in baskets and cages it cannot enter. Italian oyster production has gone from 33 tonnes in 2015 to around 500, against 85,000 in France, and in March last year oysters from the Sacca di Goro were served at the Italian Senate as the crab-proof shellfish. At Scardovari a former mussel farmer, who accepted a challenge from a French oysterman in 2010 and spent six years testing, now runs nine installations producing 350,000 oysters a year, lifting them clear of the water with a winch powered by solar and wind, a machine built to imitate Atlantic tides and improve a flavour, and now the only device in this lagoon capable of taking an animal out of water at 32 degrees. Public money is moving too, slowly: 1.5 million euros from Emilia-Romagna for 2026, an emergency commissioner and more than 50 million committed nationally against the crab, 150,000 laboratory-bred octopus released off the Romagna coast in August to test whether a native predator can hold it down, and a 14 million euro plan to dredge the delta channels and reopen the mouths to the sea, due to be completed in June 2031. A mussel is dead in five days. And some have left the water altogether. In April a fisherman who lost forty years of work to the crab reopened his family boathouse on the lagoon as a restaurant, the first of a series planned along the same embankment. Three months later the mussels he serves could no longer be sold under their protected name. Here a whole supply chain, from the birth of a clam to the plate, is adapting in real time to a sea that will not go back to what it was.

AVAILABILITY

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PROJECT

Part of PADUS, a two-year project on the Po and its food system. The main body of that work is not distributed.



(Sacca degli Scardovari, Italy) The line of cavane, the numbered wooden stilt huts that serve as the fishermen's stores and workshops, along the embankment of the lagoon on 29 July 2026. Fishermen settled here around 1780, taking their name from the scardova, a freshwater fish then common in these waters; the first cooperative dates from 1935, and the embankments that enclose the lagoon run for eighteen kilometres. Everything inside them depends on the water still moving. For years the growers have asked for the channels to be dredged and the mouths to the sea reopened, and the works, worth 14 million euros across the delta lagoons, are now scheduled to finish in June 2031. The Veneto region says the first half of this summer was the hottest since records began in 1992 and among the driest; the government has declared a state of emergency.



(Sacca degli Scardovari, Italy) Stefano, a mussel farmer with the Consorzio Cooperative Pescatori del Polesine, arrives at his beds on 29 July 2026. The green of the water is what the growers had been watching all month: heat and poor exchange with the sea drive the microalgae, and when the algae decompose the oxygen goes. Sales of the PDO mussel grown in the lagoon had been suspended since late June, and of the roughly 1,300 tonnes produced this season the last hundred, still in the water, were lost. The consortium kept selling the mussels from its offshore concessions in front of the delta, around 5,000 tonnes a year against 3,000 in the lagoon. By the end of August the die-off had reached those too.



(Sacca di Goro, Italy) A clam farmer works his plot among the poles at first light on 3 August 2026. The lagoon is about 1,600 hectares of protected water, with another 800 of nursery grounds where wild seed settles, and it is shallow throughout: 60 to 70 centimetres on average. A third of it is under concession, divided into fields worked plot by plot, 620 hectares of clam beds and about 1,100 of mussel lines. The Goro consortium alone has 543 members and 400 fishing businesses; the whole system supports around 1,600 jobs and turns over more than 100 million euros a year. Everything you can see is engineered, and none of it can be cooled: this summer the water reached around 32 degrees and growers reported losing up to 90 per cent of the clams on the beds.



(Sacca degli Scardovari, Italy) An aerial view of the shellfish farming grounds in the Scardovari lagoon on 29 July 2026. The lagoon covers around 3,200 hectares and is between one and a half and two metres deep. Fourteen cooperatives with some 1,470 members work here, the largest employer in the province of Rovigo, farming mussels, clams and oysters. In July the water reached 32 degrees. Sales of the Cozza di Scardovari, the only Italian shellfish with protected designation of origin status, had already been suspended since late June.



(Sacca degli Scardovari, Italy) Stefano, a mussel farmer with the Consorzio Cooperative Pescatori del Polesine, lifts a sock of mussels from his lines on 29 July 2026. Months of work, he said, and then you find it all dead. The mussels are grown from local seed of one to three centimetres and transferred at five into these nets, a cycle that takes most of a year. In the province of Rovigo the number of aquaculture businesses has fallen 38.8 per cent since 2023 and the workforce 35.1 per cent; in February the regional government wrote to Rome describing an ecological and economic collapse, asking for emergency payments for some 500 operators who had been out of work for a year and a half, and for the national fisheries solidarity fund, currently empty, to be refinanced.



(Sacca degli Scardovari, Italy) Stefano, a mussel farmer with the Consorzio Cooperative Pescatori del Polesine, opens a dead mussel from his lines on 29 July 2026: the shell gapes, the flesh is gone. Behind his hand are the socks stripped from the frames, a year of work thrown on the jetty. Around a hundred tonnes of Cozza di Scardovari died in the lagoon within days, and growers put the loss on the crop still in the water at close to 99 per cent. Research in this lagoon and the neighbouring Canarin has already documented the other collapse: as the blue crab population grew, clam production fell to almost nothing by early 2024. Both are measurable, and both happened inside four years.



(Sacca di Goro, Italy) Blue crab traps left upturned on poles to dry above the lagoon on 3 August 2026. Catching the crab has become part of the daily routine of clam farming here, but it does not pay: fishermen are given 90 cents to one euro for every kilo they land, while the bait for the traps alone costs two euros. Most of the catch has no market. In 2025 the growers' consortium in the Veneto delta spent 1.39 million euros to dispose of 1,163 tonnes of unsellable crab, at a cost per kilo higher than the price the crab fetches. Between Comacchio and Goro, the number of registered fishing businesses has fallen from around 350 to fewer than a hundred in two years.



(Sacca di Goro, Italy) A trap for invasive Atlantic blue crabs set just below the surface of the lagoon on 3 August 2026. Since the crab established itself here in 2022 it has cut commercial-size clam production by more than 70 per cent in some areas, and the regional authorities put the direct damage in Emilia-Romagna at close to 17 million euros. Trapping is the everyday defence, alongside nets and enclosures around the beds. This month researchers went further, releasing around 150,000 laboratory-bred juvenile octopus off the coast to the south to test whether a native predator can hold the species down, an experiment they hope to extend to the waters off Goro.



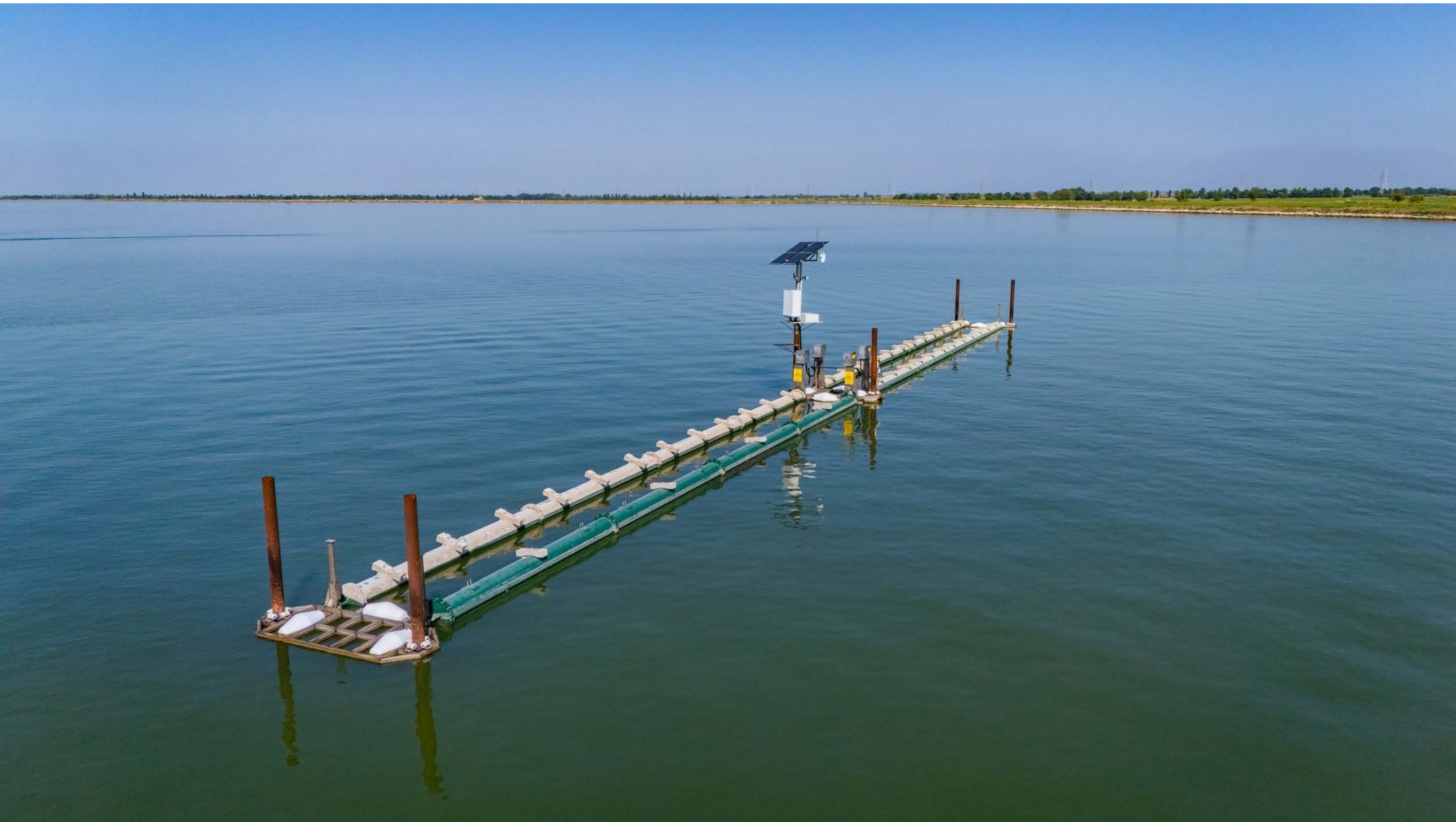
(Sacca degli Scardovari, Italy) A blue crab on the deck of a boat on 29 July 2026, lifted out of the lagoon with a rope of mussels. It is not caught, it comes up with the harvest. *Callinectes sapidus* exploded here in May 2023 and has not stopped: 1,400 tonnes of adults were taken from the neighbouring Sacca di Goro in 2024, 2,000 in 2025, and 2026 was running higher still, which researchers describe as the visible part only, since the traps take the larger animals and the young survive inside them. The species does best between 18 and 28 degrees, so the lagoon that is killing the mussels suits it, and a large well-fed female can carry millions of eggs. It is also moving inland: a study by the University of Ferrara, built on sightings collected with fishermen between 2022 and 2025, tracked the crab more than 160 kilometres up the Po, the longest freshwater advance recorded anywhere in the Mediterranean basin, and links its first push upriver to the drought year of 2022, when the weakened river let the sea in.



(Sacca di Goro, Italy) Anti-crab enclosures in the lagoon at dusk on 3 August 2026. The nets are there to keep the invasive Atlantic blue crab off the clam beds, which since 2022 have lost more than 70 per cent of their commercial-size production in some areas. But the same barriers slow the movement of the water inside them, and in a shallow lagoon still water heats faster and holds less oxygen. This summer, with the water at around 32 degrees, growers reported losing up to 90 per cent of the clams on the beds.



(Sacca degli Scardovari, Italy) An oyster farm in the lagoon on 29 July 2026, the animals held in cages hung from steel frames. As the clam and mussel beds fail, growers here are moving into oysters: the species stands the heat better and, farmed in baskets and lanterns, is out of reach of the blue crab. Italian oyster production has gone from 33 tonnes in 2015 to around 500 today, and the producers' associations argue that converting delta clam grounds could build a 60 million euro business, one grower in each fishing community. It is not a simple swap. Italy has little experience with the species, French farms produce some 85,000 tonnes a year and undercut Italian prices, oysters are sold raw to a different market than clams, and the associations have been asking parliament to cut VAT on oysters from 22 to 10 per cent to match the rest of Europe. In this same lagoon, in these same weeks, around a hundred tonnes of PDO mussels died.



(Sacca degli Scardovari, Italy) A solar-tide oyster system in the lagoon on 29 July 2026. A winch powered by the solar panel and wind turbine on the platform lifts the ropes clear of the water once a day for a few hours, varying with the weather and controlled remotely from a phone: it reproduces the Atlantic tides these oysters would never otherwise feel, building the adductor muscle and marking the shells with the pink veining that gives them their name. The grower who runs it was farming mussels here until 2016, when he gave them up for a species nobody in the delta had tried, on a method patented by a French oysterman from the Thau lagoon. It took six years of testing. The farm now works nine installations and produces around 350,000 oysters a year, sold almost entirely to restaurants, and the pink oyster of the delta is ranked among the five finest in the world. A few hundred metres away, this summer, the mussels he used to farm were dying by the tonne.



(Sacca di Goro, Italy) Oysters are packed in wooden crates on 3 August 2026, bedded in wood wool, ready for shipping. This is the industry's bet on its own survival. After the blue crab took the clam beds and the heat took the mussels, the oyster is the one bivalve that answers both: its shell is too hard for the crab to crush, it is farmed in baskets and cages the crab cannot enter, and it withstands a marine heatwave better than a mussel does. Italy grows almost none of what it eats, a few hundred tonnes against 85,000 in France, and in one industry survey 85 per cent of Italians assumed all oysters were French: the gap is the opportunity. The seed in these crates still comes from French hatcheries, and Goro is working on breeding its own. The bet is not safe either. In July, with the lagoons at 32 degrees, the growers' consortium said it was worried about the oysters too.



(Finittica, Goro, Italy) A technician tends the outdoor growing tanks on 3 August 2026, during a heatwave. This is where the clam seed is raised before it goes out to the cooperatives, and where the company's response to the summer is concentrated: staff say they have increased the dosage of pure oxygen injected into the tanks, to compensate for what the higher water temperatures take out. Outside, in the Sacca di Goro, the water reached around 32 degrees and there is nothing to compensate with



(Finittica, Goro, Italy) Microalgae cultures at Finittica, the company that breeds clam seed for the farmers of the lagoon, on 3 August 2026. The flasks on the upper shelf hold the starter strains; the tanks below scale them up into feed for the juvenile clams. Founded in 2018 by local shellfish operators, the company follows the animals from fertilisation and hatching through to seeding on the lagoon beds, and takes the harvest back at the other end for purification and packing. Against a summer in which the water outside reached around 32 degrees, the response here has been to increase the dosage of pure oxygen injected into the growing tanks, compensating for what the heat takes out of the water. On the beds there is nothing to compensate with.



(Finittica, Goro, Italy) Two drums of clam seed at Finittica, ready to go out to the growers of the lagoon, on 3 August 2026. Seed is now the scarcest thing here. For three or four years the clams have been reproducing poorly and the wild nursery beds have been failing, in Goro and in the Veneto lagoons alike, for reasons nobody has established; farmers make up the shortfall by buying seed, which as one of their representatives put it used to be free and now costs millions. The scale of the need is the problem: the delta requires something like three to four billion juveniles a year, more than any hatchery can supply. Founded in 2018 by people already working in the lagoon, Finittica breeds the seed in controlled conditions, feeds it on microalgae cultured on the premises and takes the harvest back at the other end for purification and packing. This summer the heat killed not only the clams on the beds but the seed meant to start the next cycle.



(Sacca di Goro, Italy) Clams pass over the rollers of a grading machine aboard a boat, at first light on 3 August 2026. The Manila clam is not native here: a Venetian research cooperative imported three kilos of seed from an English hatchery in 1983, and the first were sown in this lagoon in 1986. Within twenty years the delta was producing more of them than anywhere else in Europe. The machine sorts by size, because the legal minimum is 25 millimetres and the marketable clam runs from three to five centimetres; what falls through goes back in the water. In the weeks around this morning the lagoon had been at around 32 degrees, and growers were reporting losses of up to 90 per cent of what was on the beds.



(Sacca degli Scardovari, Italy) Workers clean the morning's harvest inside a cavana, one of the wooden stilt huts built along the embankment, on 29 July 2026. This is where the shellfish is stripped from the nets, graded and cleaned before it goes to the plant, and it is largely women's work: of the roughly 1,450 people who work the beds in the municipality of Porto Tolle, 680 are women, a share with no equivalent in the European fishing industry. Most of them came to the lagoon in the 1980s, when the collapse of the local textile mills left them without work. That is the scale of what the summer is threatening: not a trade but the employment of a whole delta, which is why, when the water reached 32 degrees and the mussels died, the growers went to the government to ask for a natural disaster to be declared.



(Sacca di Goro, Italy) A clam farmer aboard his boat on 3 August 2026, after an afternoon spent sowing seed on the beds of a lagoon that had been at around 32 degrees. Goro and Scardovari, the two lagoons of the Po delta, once produced most of Italy's clams: Goro alone accounted for 42 per cent of national output, Scardovari for another 29, and around 1,300 fishermen worked the Goro beds. Since the invasive Atlantic blue crab arrived in 2022, production has fallen by about 70 per cent, and the consortiums of the two lagoons put their losses at 120 million euros. Between Comacchio and Goro the number of registered fishing businesses has gone from around 350 to fewer than a hundred in two years; in the Veneto delta, aquaculture firms are down 38.8 per cent and jobs 35.1 per cent since 2023. There is no other work here. The men on these beds have done nothing else, and the villages behind them live on the same lagoon.



(Sacca degli Scardovari, Italy) A husband and wife empty a crab trap from their boat on 29 July 2026. In the municipality of Porto Tolle around 1,450 people work the clam beds, 770 men and 680 women: shellfish farming here has been family work since the 1980s, when the collapse of the local textile industry sent women into the lagoon alongside the men. The consortium that groups the fourteen cooperatives has 1,470 members and is the largest employer in the province of Rovigo, in a sector that supports more than 2,000 jobs. It was already shrinking before this summer: the Scardovari clam harvest fell from 10,000 tonnes in 2010 to 5,200 in 2022, mussels from 5,400 to 3,000. Now the same boats go out for the crab that took their beds, and the consortium was landing around three tonnes of it a day in June.



(Sacca degli Scardovari, Italy) Massimo Boscolo cleans Scardovari mussels in the kitchen of Il Poeta, the ittiturismo he opened with his wife Mirna in the family's boathouse on the lagoon, on 29 July 2026. He had fished these waters for forty years when the blue crab crisis left him, as he put it at the opening, suddenly without the work that had become part of his identity. A storm had already taken the boathouse itself, and it took two years of permits and rebuilding to turn what was left into a restaurant, named after his grandfather Berto, a fisherman known locally as the poet. It opened in April, the first of a series planned in the boathouses along this lagoon. Three months later the mussels he serves could no longer be sold as Cozza di Scardovari, the only Italian shellfish with protected designation of origin status: the consortium suspended sales in late June, and around a hundred tonnes died in the lagoon in the weeks that followed.



(Finittica, Goro, Italy) Workers purify, grade and pack clams for supermarkets and restaurants on 3 August 2026. This is the last stage of a chain that runs entirely around the lagoon, from hatchery and seeding to harvest and dispatch, and the point where the summer's losses arrive as smaller volumes: growers in the Sacca di Goro reported losing up to 90 per cent of the clams on the beds, on top of a fall of more than 70 per cent in commercial-size production in some areas since the arrival of the invasive Atlantic blue crab in 2022.



(Sacca di Goro, Italy) Farmed oysters on 3 August 2026. The oyster came to this lagoon from France, brought by a single grower from Alsace who settled in Goro, and it is now the sector's way out: the blue crab cannot break the shell as it breaks a clam, and the animals are grown in cages it cannot enter. In March last year oysters from the Sacca, farmed by the Goro fishermen's consortium, were served at the Senate in Rome as the crab-proof shellfish. The economics are modest and real: an average plant works around 110 days a year, produces some 8.5 tonnes and returns between 10,000 and 18,000 euros. Against that, the clam beds that surround it lost up to 90 per cent of their stock this summer.



(Finittica, Goro, Italy) Packed clams on pallets at Finittica, ready to ship, on 3 August 2026, each net carrying its traceability label. Founded in 2018 by people already working in the lagoon, the company follows the animals from fertilisation to this point: hatchery, seeding on the beds, harvest, purification, packing. Before the blue crab, Italian clams were a 300 million euro business; national production has since fallen by around 70 per cent against 2022, and in places by everything. The price followed, up 76 per cent on the wholesale index, from about 9 euros a kilo to peaks of 20 in Rome, and starting at 18 in the shops last Christmas, with buyers switching to cheaper species. Recovery was expected this year. Instead the lagoon reached 32 degrees in July, growers reported losing up to 90 per cent of the clams on the beds, and what reaches Italian tables increasingly comes from France, Portugal and Spain, which is also where the delta now looks for the seed to start again.



(Sacca degli Scardovari, Italy) Inside one of the stilt huts on the lagoon, on 29 July 2026. Family photographs, newspaper cuttings and books about the river cover the wall; the window opens onto the beds. The Polesine, the strip of land between the Po and the Adige, is the most water-worked country in Italy and the one that has paid most for it. In November 1951 the river broke and flooded it: about a hundred dead, 180,000 people homeless, and an exodus of some 80,000, one inhabitant in three, most of whom never came back. The land itself had been sinking, by two to four metres in places, drained by hundreds of methane wells drilled through the delta until the state stopped the extraction in the early 1960s. More floods followed, in 1957, 1960 and 1966, when the sea broke the embankment of this lagoon and swamped the island of Donzella. Everything visible from this window, the huts, the beds, the embankments, was built after that. Until 2007 this was the poorest province in northern Italy.



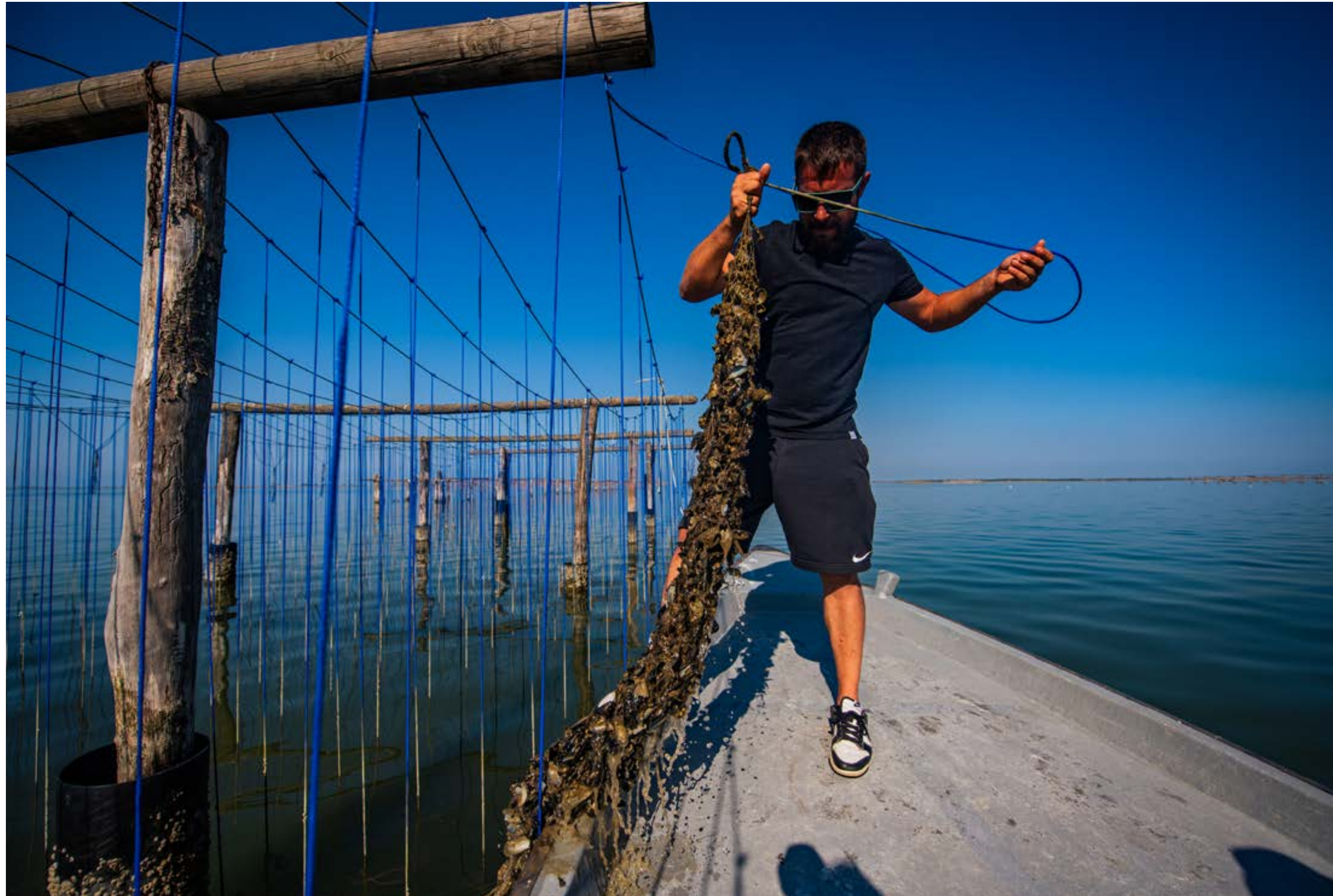
(Sacca di Goro, Italy) Water and exposed mudflat in the lagoon on 3 August 2026. This is one of the fastest-warming stretches of sea in Europe: Copernicus recorded surface temperatures up to six degrees above the seasonal average this summer. That week the Po was carrying 246 cubic metres of water per second at its last gauging station, against a seasonal average of 709, and the sea had pushed 28 kilometres up the Goro branch of the river, with two delta channels salt from mouth to top. Less river, more sea, warmer water: the Italian fishing industry now puts the cost of climate change at around 200 million euros a year.



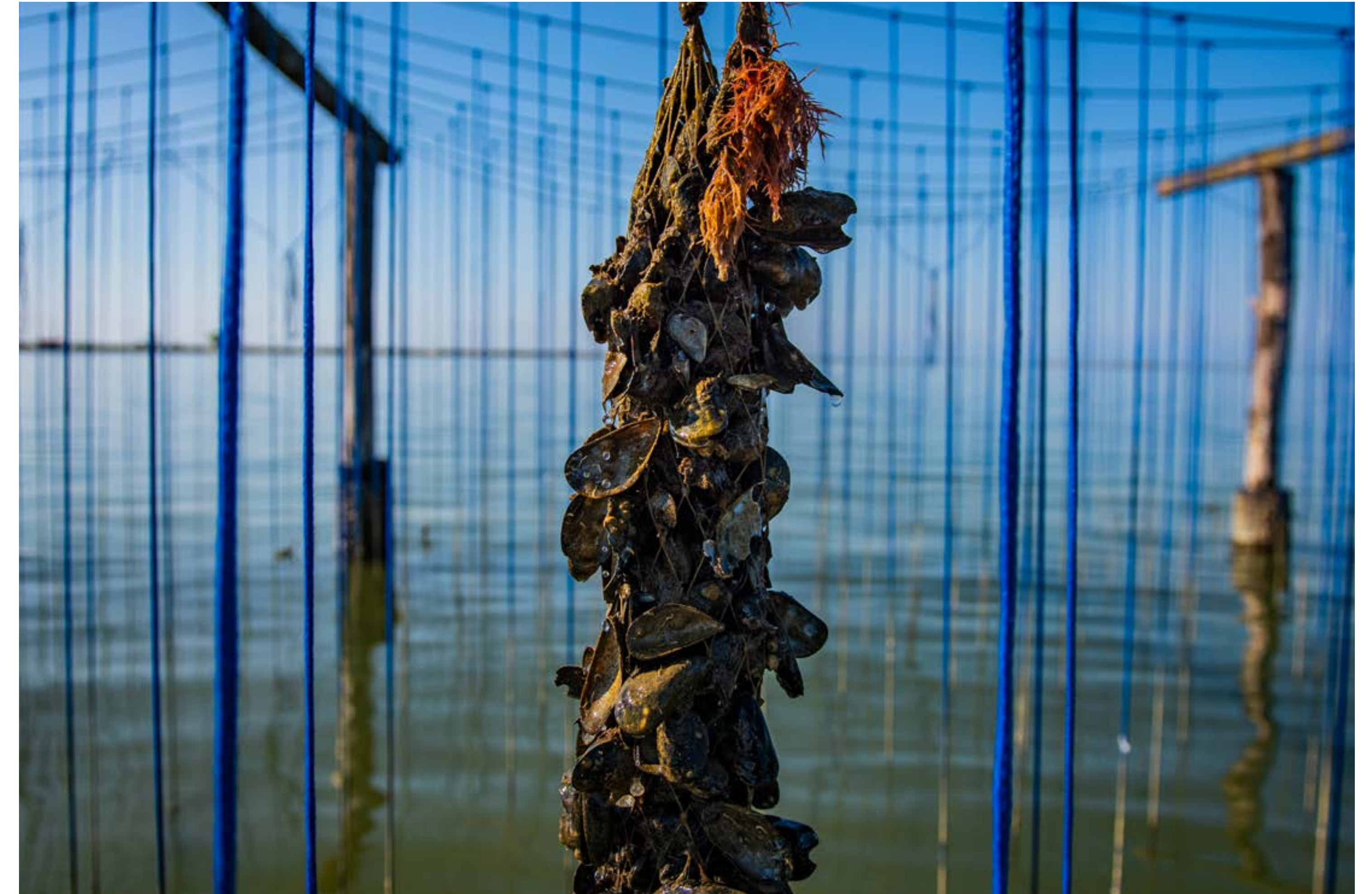
(Sacca di Goro, Italy) Clam farmers work standing in the lagoon at first light on 3 August 2026, raking the beds with long-handled nets and loading the catch into crates on a floating platform. The water reaches just above their knees. It is that shallowness, in a lagoon with poor exchange with the sea, that let temperatures climb to around 32 degrees this summer, stripping the oxygen out and killing much of what was on the beds. The Sacca di Goro is one of Europe's main centres for Manila clam farming, with the whole chain worked locally: hatchery, seeding, harvest, purification and packing.



(Sacca degli Scardovari, Italy) Stefano, a mussel farmer with the Consorzio Cooperative Pescatori del Polesine, reads 28.5 degrees off the surface of his beds with an infrared thermometer, on 29 July 2026. In laboratory conditions almost no Mediterranean mussels die below 26 degrees; at 28 a fifth are dead within five days, at 30 four out of five within a fortnight, and what kills is duration as much as peak. July 2026 was the hottest month ever recorded in the Mediterranean, with a basin average of 27.07 degrees and 79 per cent of its surface under an intense marine heatwave at some point, the highest share ever measured in July. The northern Adriatic, shallow and half-enclosed, has gone from a historical summer average of 24 to 25 degrees to peaks near 30; the Mediterranean as a whole is warming at roughly twice the rate of the global ocean. In the days around this reading, the lagoon reached 32.



(Sacca degli Scardovari, Italy) Stefano, a mussel farmer with the Consorzio Cooperative Pescatori del Polesine, hauls a rope of mussels aboard on 29 July 2026. Mussel farming here runs on a fixed calendar: the seed is set in autumn, grows through winter and reaches market size between March and the end of August. What he is lifting is the end of that year, in the weeks when it should have been sold, from a lagoon that had reached 32 degrees and lost its oxygen; sales of the PDO mussel had been suspended since late June. Italy is the second largest mussel producer in Europe, but the industry was contracting long before this summer: national output fell from more than 79,000 tonnes in 2011 to under 51,000 by 2020, and by a further 10 per cent between 2014 and 2023, while imports rose. Most of what is left is farmed on this coast. A month after this picture the die-off reached the open-sea farms as well, and the growers began asking Rome to recognise a natural disaster.



(Sacca degli Scardovari, Italy) Dead mussels on a sock lifted from the water on 29 July 2026, their shells open, the line fouled with algae. Around a hundred tonnes of Cozza di Scardovari died here within days, the last of the season's crop, still in the water and ready to harvest: of roughly 1,300 tonnes produced this year, growers put the loss on what remained at close to 99 per cent. The water in the lagoon had reached 32 degrees. Sales of the PDO mussel had already been suspended since late June.



(Sacca degli Scardovari, Italy) Massimo Boscolo cleans mussels by hand in his ittiturismo on the lagoon, on 29 July 2026. The Cozza di Scardovari is defined by a legal specification: more than 25 per cent flesh by weight, under 210 milligrams of sodium per hundred grams, harvested by hand from the ropes, sorted in the stilt huts along the embankment, purified and packed in water from this lagoon and nowhere else. It is sold live, from late May to August. The cycle begins in September, when the water cools, because above 30 degrees the mussel dies. Of the 2,500 tonnes of mussels the lagoon produced in 2022 only a hundred qualified as PDO, from 47 of its 300 farms; this year the water reached 32 degrees in July, and sales of the protected mussel were suspended.



(Sacca di Goro, Italy) A grown Manila clam held up for inspection on 3 August 2026. This is what the whole chain exists to produce: a shell of three to five centimetres, above the legal minimum of 25 millimetres, sold live at around 14 euros a kilo by the local consortium. It takes roughly two years to get here from the hatchery, through seeding on the beds and months of growth in open lagoon water, and this year most of them did not make it: growers in the Sacca di Goro reported losing up to 90 per cent of the clams on the beds when the water reached around 32 degrees, on top of a fall of more than 70 per cent in commercial-size production since the blue crab arrived in 2022.



(Sacca degli Scardovari, Italy) Stefano, a mussel farmer with the Consorzio Cooperative Pescatori del Polesine, holds a blue crab found among his mussels on 29 July 2026. *Callinectes sapidus*, native to the western Atlantic, went from 97 tonnes landed in the Veneto delta in 2022 to around 630 the following year and more than 2,000 between April and August 2025; in this lagoon a December clam harvest came in at 16 tonnes against a ten-year average of 1,200 to 1,500. Everything has been tried. The Italian government appointed an emergency commissioner and has committed more than 50 million euros, with a plan to remove some 2,600 tonnes of crab across the two regions; the two regions have added their own funds for restoring the beds. Fishermen are forbidden to throw the crab back and are paid one euro a kilo to land it, and a local processing chain now turns it into packed crab meat for export. In August, researchers released about 150,000 laboratory-bred octopus off the Romagna coast to test whether a native predator can hold it down. None of it has yet restored the beds.



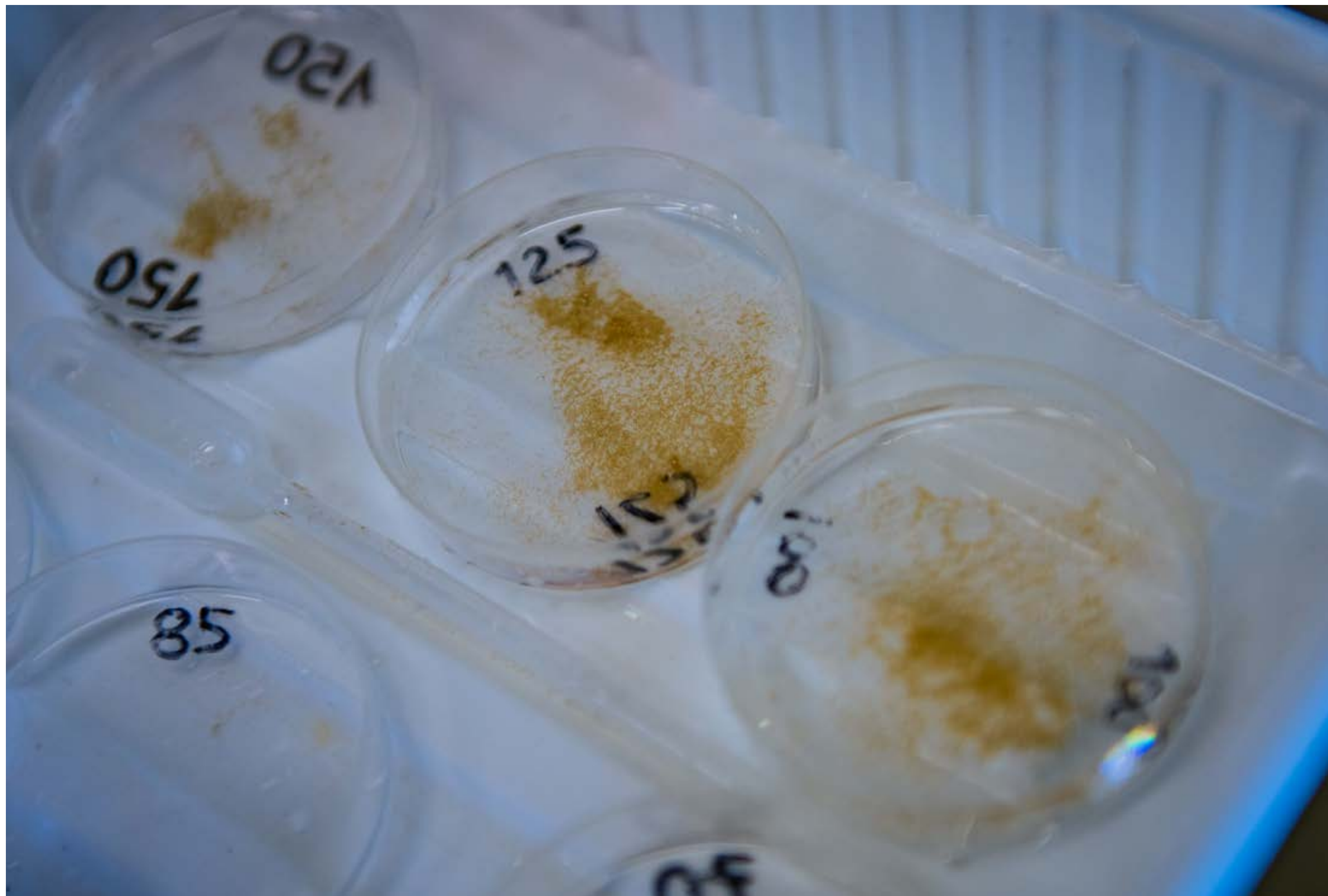
(Sacca di Goro, Italy) Luca Cinti, a clam farmer with the Consorzio Pescatori di Goro, checks a trap he has just lifted from the lagoon on 3 August 2026. Under an emergency plan run by a government commissioner, fishermen in the Po delta are forbidden to throw caught blue crabs back into the water and are reimbursed one euro a kilo for what they land, plus fifty cents for disposal at authorised plants, with breeding females the priority target: each carries around two million eggs. The economics do not work. The bait for the traps alone costs two euros a kilo, most of the catch has no market, and in 2025 the growers' consortium across the river in the Veneto delta spent 1.39 million euros to destroy 1,163 tonnes of unsellable crab. Landings in the Sacca di Goro went from 90 tonnes in 2022 to 936 in 2023.



(Sacca di Goro, Italy) Clam farmers clean the netting of a protective enclosure at dawn with a pressure washer, on 3 August 2026. The enclosures went up after the blue crab arrived: from around ten farms the lagoon now has more than 120 fenced plots, and nearly every cooperative went back to producing clams behind them. The nets have to be cleaned constantly, and they carry their own penalty, because they slow the movement of water inside. In late June an algal bloom covered the Sacca and took the oxygen out of the enclosures themselves, the last defence against the crab: nets that keep the crab out cannot keep out dead water. The growers say the consortium responsible for dredging the channels and the mouth to the sea has had no money for the work since the crab emergency began. The region has committed 1.5 million euros for 2026, plus 450,000 for environmental works in this lagoon.



(Sacca degli Scardovari, Italy) Oyster growers work their lines on 29 July 2026. The oysters are glued to the ropes by hand, one at a time, and a winch powered by the solar panel and small wind turbine on the frame lifts them clear of the water at set intervals, alternating immersion with exposure to air and sun. It reproduces the Atlantic tides the Mediterranean does not have, and which make an oyster tougher: an animal trained to spend hours out of the water builds a stronger muscle and takes on the pink veining that gives the delta oyster its name. Everything else in this lagoon is engineered too, the embankments, the channels, the beds, the seed, but nothing in it can be moved when the water turns hot. This is the one machine here that can lift an animal out of a lagoon at 32 degrees, and it was built to improve a flavour.



(Finittica, Goro, Italy) Juvenile Manila clams in the hatchery on 3 August 2026, sorted by size and no bigger than grains of sand: the figures on the dishes are their measurement in microns. From fertilisation, the animals spend months here in controlled conditions before they are sown on the lagoon beds, where they need up to thirty months in total to reach market size. This summer the water in the Sacca di Goro reached around 32 degrees, and growers reported losing up to 90 per cent of the clams on the beds.



(Finittica, Goro, Italy) The third stage: the seed now has recognisable shells, each animal a few millimetres across, held by Serena Finotti at the hatchery on 3 August 2026. The clams have spent months in controlled tanks, fed on the microalgae cultured on the premises, growing from larvae smaller than grains of sand to this.



(Finittica, Goro, Italy) The fourth and final stage before delivery: clam seed ready to leave the hatchery, held by Serena Finotti on 3 August 2026. From here the cooperatives will sow it on the beds of the Sacca di Goro, where the animals finish their growth in open water. The whole cycle, from fertilisation to market size, can take up to thirty months. This summer the lagoon reached around 32 degrees and growers reported losing up to 90 per cent of what was on the beds, and along the coast the heat killed the seed meant to start the next cycle as well.



(Finittica, Goro, Italy) A technician lifts a handful of juvenile clams from a growing tank at Finittica on 3 August 2026, close to the size at which they can be sold to the growers. Everything in the chain now turns on this. Clams are only sown on the open bed once they pass 12 to 15 millimetres, the size at which a crab can no longer crush them easily; below that they have to be raised in protected tanks like this one. To keep Italian production at its target of 30,000 tonnes a year the industry needs seven to eight billion juveniles, and with the wild nursery beds failing, seed imports have risen ten to twentyfold in three years. Then the summer takes what has just been sown: this year growers in the lagoon reported losing up to 90 per cent of the clams on the beds.



(Sacca di Goro, Italy) A male and a female blue crab, identified as a mating pair by the fisherman who lifted the trap, inside a capture cage on 3 August 2026. The female mates once in her life, immediately after her final moult, and stores the sperm to fertilise her eggs later: a study published this year by the University of Bologna on specimens from the northern Adriatic counted between one and 2.7 million eggs per female, averaging around 1.6 million a brood, with the largest females producing more. That is why the national containment plan makes egg-bearing females the priority target, and why fishermen are forbidden to return any crab to the water. It is also why the traps cannot keep up: what is happening inside this one is the reason the population has not stopped growing since 2023.



(Sacca di Goro, Italy) A farmer holds a harvested Manila clam with its shell bored through, damage he attributes to the invasive Atlantic blue crab, on 3 August 2026. The Sacca di Goro is one of Europe's main centres for Manila clam farming, with the whole chain in the lagoon and the villages around it: hatchery, seeding, harvest, purification and packing. Since 2022 the crab has cut commercial-size clam production here by more than 70 per cent in some areas, and this summer, with the water at 32 degrees, growers reported losing up to 90 per cent of what was left.



(Sacca degli Scardovari, Italy) Fishermen's stilt huts stand over the lagoon on 29 July 2026. The Scardovari lagoon, in the Po delta, produces the Cozza di Scardovari, the only Italian mussel with protected designation of origin status. In July the water here reached 32 degrees; poor exchange with the Adriatic and decomposing algal mats stripped the oxygen out, and the cooperative lost around 100 tonnes of PDO mussels in a few days, the last of the season's crop, still in the water and ready to harvest. Of roughly 1,300 tonnes produced this year, the loss on what remained was put at close to 99 per cent, and the consortium suspended sales of the lagoon mussel altogether, keeping only what it grows offshore. A month after this picture the die-off reached the open-sea farms too, along the coast between Goro and Porto Garibaldi, where more than 90 per cent of the crop was lost, some 20,000 to 25,000 tonnes of market-ready mussels and of the seed that was to start next year. Direct damage across the two regions has passed 50 million euros, and the growers are now asking the government to declare a natural disaster.

Simone Padovani

Documentary photographer

BIO

Simone Padovani is a documentary photographer and community psychologist based in Venice, working since 2007 on people, their communities and the way they live through environmental and social change. He has been published by the New York Times, The Guardian, Le Monde, El País, Der Spiegel, the BBC, CNN, the Washington Post and many other. National Geographic Italia gave his story on Murano's glassmakers its February 2024 cover. His work runs from reportage on climate, human rights and endangered crafts to environmental portraiture, from Nobel laureates and artists to the survivors of SHAME, European Stories, a project sponsored by the Council of Europe portraying nearly 150 people abused as children, exhibited in more than twenty European cities. He has photographed for UNESCO, the European Commission and the Council of Europe, and for clients including Jaguar, Audemars Piguet, Airbnb and Google. An EU Climate Pact Ambassador, he created Photo Story, a participatory visual method developed for the European Commission and adapted from Photovoice, which he has taught at the University of Padua since 2007, and led masters on the technique at University of La Sapienza, Roma 3 and Federico II of Naples.

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