Helmsman Kevin Cooper noses the pilot cutter out of Ramsgate harbour and steers towards an orange smudge on the horizon.

It’s nine in the morning and the night mist is fading.

Kevin guns the throttle and, as the cutter carves through the sea at 20 knots, his target sharpens into the shape of a ship.

She’s the Cap Cleveland, a container vessel that’s spent the night seven miles off Kent’s North Foreland, waiting for a rising tide to carry her into the Thames.

She’s huge - almost one and a half times the length of Canterbury Cathedral, with a bridge that towers seven storeys above the deck.

When fully loaded she can carry 1,400 large containers, each similar in size to a lorry trailer. She’s also a Panamax - one of the largest vessels to squeeze through the Panama Canal.

As the pilot cutter closes on her, she literally blots out the morning sun.

Midway along her deck, two storeys above sea level on her port side, crewmen in yellow overalls appear. They lower a rope ladder - it’s an invitation.

The pilot boat starts to slow, edging in towards the Cap until it's matching her boarding speed - 6.5 knots. The sea's slapping, hissing and spitting through the narrowing gap between the two vessels.

Port of London Authority pilot Bob Ward walks up to the cutter’s fore deck and, as the 16 metre support boat nudges against the Cap’s hull, he grabs the ladder and begins to climb.

He’s met on deck by a member of the crew and led through a labyrinth of walkways and stairwells to Captain Poprochalo on the bridge.

For the next four hours and 45 minutes, Bob will be responsible for guiding this ocean-going giant through the shoals and channels of the tidal Thames.

It’s taken the ship just eight days to steam from Philadelphia, but her time in the cross-currents of the Thames will be among the most challenging.

“She’ll be riding a flooding tide, so the water’s not at its deepest as she passes through the channels. In fact, in parts, she’ll have just a metre - the length of an adult’s leg - between her and the bottom.”

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“Where there’s a metre of water under us, we’ve got to be very careful - if the sea swell gets up, we’ll have less depth in the troughs.

“We’ve also got to watch our speed. If we go too fast, the water passing between us and the sea or river bed can cause a suction that pulls the ship towards the bottom - we call it squatting.

“There’s a similar effect if ships pass too close in a channel - they’re literally drawn into each other.”

“I’ve also got to keep an eye on the wind because it can have a major impact on the way a high-sided vessel like this behaves.”

But the airs are light today, and the Cap slides calmly through a maze of channels. The Fishermans Gat takes her roughly north, then she swings left into the Black Deep - heading south west towards the Thames.

A fog bank is hanging on the horizon and, out here, it feels like the Cap’s gliding across the open ocean.

Only the occasional marker buoy gives a clue to the complex canyons, shallows and obstacles that run beneath this glassy expanse of sea.

Bob, a pilot for 17 years and a seafarer since leaving school, has two electronic GPS charts and two radar screens to refer to on the bridge.

They track the Cap’s progress as she eases through the Knock John Channel, dwarfing a rust-blasted World War II fortress tower that shares the channel’s name.

“The technology is a great help,” he says. “But it’s not a replacement...”
Cap Cleveland: prediction of the future.

The prediction of the future.

of the past rather than a

so we’re always seeing a reflection

moment a ship manoeuvres and

small coaster or “scoot” one day

they can be navigating a relatively

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us as trainee pilots.

vessels at sea before they joined

of its imports and exports, they’re

since the days of Henry VIII. And,

guiding ships through the Thames

Pilots are among our most

way to us in these channels.”

The breadth of experience and

professional expertise

required to do this job

is considerable.”

The Cap, packing goods as varied as

refrigerated food, passes into the

Oaze Deep. The Shivering Sands

Tower and Kentish Flats Wind

Farm are picked out against the

fierce blaze of the sun that now

hangs over Kent.

Through the Oaze and along Sea

Reach, which cuts a swathe

between Southend and the Isle of

Grain, Bob constantly adjusts the

Cap’s course and regulates her speed.

Now other ships are steaming

downstairs. The Thames and, off

Southend, white flecks of yacht

sails are scattered around the

dockside. Walking out onto the bridge

wing

On the bridge wing

for traditional skills.

“There’s a time lag between the

moment a ship manoeuvres and

when that registers on the screen,

so we’re always seeing a reflection

of the past rather than a

prediction of the future.”

“That’s why you still need to

feel the ship moving beneath the

soles of your feet. You still have

to know where you are relative to

the real world.”

Pilots are among our most

skilled seafarers. They’ve been

guiding ships through the Thames

since the days of Henry VIII. And,

for an island nation that relies on

the sea for more than 95 per cent

of its imports and exports, they’re

crucial to the economy.

Ed Hadnett, the Port’s pilotage

operations manager who’s

travelling with Bob, says: “Many

of our people commanded their own

vessels at sea before they joined

us as trainee pilots.

“Unlike most ship’s masters,

they can be navigating a relatively

small coaster or “scoot” one day

and ocean liners or an aircraft

carrier the next.

“The breadth of experience and

At Coryton Oil Refinery, the

Cap’s running at around eight

knots. The mist’s gone completely

and, in the blinding sunlight, the

river snakes away towards the

west like a gold thread.

Bob’s checking a small black

notebook where he’s listed a

number of landmarks and

waypoints on the river. Next

to these he’s pencilled his

expected arrival times.

He says: “Before I’ve even

set foot on a ship, I draw up

a passage plan. I take a look

at the ship’s displacement,

its draught and speed.

“I look at the time we’re

expected on the berth. And I look

at the tidal predictions and

weather forecasts. (In fact, my

obsession with the TV weather

Bulletins drives my wife mad.)

On the back of this, I workout

what time we should pass various

markers on the way up the

Thames, and what the depth will

be at these points.

“At each marker, I compare the

ship’s performance against my

calculations and, if I have to,

adjust her speed to make sure

we’re on time with enough water

under us.”

Today, Bob’s timings have been

spotted on.

The Cap winds up river through

Lower Hope, then swings into

Gravesend Reach.

Tilbury’s sprawling docks - the

journey’s end - feel close

enough to touch. But the way

ahead’s blocked.

Two Svitzer tugs, Cecilia and

Mercia, are sitting mid-stream.

They don’t shift as the Cap

bears down of them. It’s like a

maritime stand-off.

“These two are crucial,” says

Bob, thumbing towards the tugs

and taking out a hand-held VHF

radio. “The slowest speed this

ship can do is 6.5 knots and it

has no brakes.

“We can stop the engine

but then we won’t be able to

steer her.

“So these tugs are our

steering and brakes instead.”

Bob talks into the radio and

the tugs break, Cecilia hurtling

downwards to the Cap’s port-

side and disappearing astern;

Mercia tucking, unseen, under

the bow.

Captain Valeri, on a separate

radio, orders his crew to the

bow and stern, to take the tugs’

towing lines.

Bob’s radio crackles, both

tugs have put lines aboard -

they’ve strapped themselves to

the Cap.

Now, with Tilbury Container

Services almost alongside, Bob’s

coordinating the crews of three

vessels with all the calm of a

man ordering pizza.

Walking out onto the bridge

wing, which overhangs the side

of the ship, he talks to the tug

teams and Captain Valeri

through the final stages of the

complex manoeuvre.

The Cap’s no longer moving

forwards, but sliding sideways

into a ‘parking space’ behind

another container vessel that’s

already unloading.

From the lofty bridge, the

huge dockside looks deceptively

small. But Bob isn’t daunted.

“Everyone who works for the

Port, regardless of their

occupation, contributes to the

same goal - the safe movement

of vessels on the tidal Thames.”

he says, as 35,000 tonnes of

ship and cargo gently kiss the

dockside and come to a

standstill.

* Although the Cap Cleveland’s

large at 222 metres long and

capable of carrying 2,824 teu

(capacity equivalent units), she’s

not the biggest vessel to call

at Tilbury Container Services. Earlier this year, Bob was

second pilot aboard the

Sovereign Maersk - 347

metres long, 8,050 teu.

On the bridge wing

On the bridge wing

On the bridge wing

Pilots by Numbers

- 73 sea pilots work the

waters between the North

Sea and Crayfordness.

- 12 river pilots take vessels

between Gravesend and

London Bridge.

- Three bridge pilots

guide specialist cargoes

through central London as

far as Putney.

- Six master mariners are

currently training to

come pilots for the Port.

- London pilots work from

four stations - Gravesend,

Sheerness, Ramsgate and

Harwich - where special

boats or cutters carry them

to and from ships travelling

between the Port and the

open sea.

- Around 13,000 pilot

boardings take place each

year for a port that’s the

third biggest in Britain.