

LAMP PIR

Requirement E1, Env-E1/3/4

Commentary on Track Plots for Portsmouth CTA1 and CTA2
Post-implementation of LAMP Phase 1A

Prepared by NATS Airspace Change Assurance (CPW)

For publication

NATS

The slide features several decorative orange lines. Two parallel lines run diagonally from the top right towards the bottom left. A third line starts from the bottom left, loops around, and extends towards the bottom right, crossing the other two lines.

Requirement E1, Env-E1/3/4 Commentary



This document provides a commentary on track plots provided for items E1, E-Env1/3/4 of the LAMP PIR. These pictures compare a ten-day data sample from August 2015 with the equivalent from August 2016. A sub-folder contains the relevant track whisker plots and density plots in PDF format.

Commentary: Bournemouth (HH) and Southampton (HI) arrivals from the east

Pre-implementation, most arrivals routed via GWC and their distribution was consistent with the description in the original consultation material.

As a condition of SARG's approval of LAMP Module E, they stated that the volume of controlled airspace needed to be reduced. One of the originally-consulted CTA volumes (base FL65) must be split, with one volume having a higher base to reduce potential impact on GA flights over the southern half of the Isle of Wight. The main volume, Portsmouth CTA1, would have a base of FL65 as originally consulted. The second volume, Portsmouth CTA2, would have a higher base of FL75 (this reducing the overall CAS volume as required by SARG). NATS' desired base was FL65 for the entire area. We believed arrival flows would be less optimal with the stipulated change, consequentially changing the location of arrival flows from the predictions illustrated in the original consultation.

Post-implementation, a small number of flights do not fly where we predicted they would.

This is explored in the following slides, with illustrations of actual behaviour vs predicted behaviour.

Portsmouth CTA2's base of FL75 is too high for HH arrivals at its western boundary, adjacent to Solent CTA8. Flights in this area must be c.FL70 to achieve the correct descent profile. Portsmouth CTA2 therefore appears to create a "dam" where the lowest usable FL is FL80, too high for descent into HH, illustrated by the lack of flights entering CTA2. This potentially contributes to the fact that the HH arrival flow from the east is further north than originally predicted, avoiding CTA2. The fact that the HH flow is further north than predicted may contribute to the HI flow also being pushed further north away from the relocated HH flow, and may increase the likelihood of Solent controllers tactically bypassing waypoint RUDMO on the SAM2D STAR.

This tactical bypass of RUDMO happens to c.50% of HI arrivals from the east. Flights then join the main arrival flows as illustrated in the main track plot PDFs and subsequent slides in this report.

The position of SAM2D STAR waypoint GIVUN, and associated LTC procedures for streaming into Solent's control, also increases the likelihood of a tactical bypass of RUDMO.

These two factors (Portsmouth CTA2 base FL65, and position of streaming waypoint GIVUN) contribute to c.50% of HI arrivals from the east routing via the full STAR GIVUN-RUDMO-SAM as predicted in the original consultation, the other half GIVUN-tactical-direct-SAM outside the predicted area, and all HH arrivals from the east outside the predicted area.

However, the number of arrivals from the east (to both airports) in the sample is small, on a flights-per-day basis. Most of these flights are still FL55+, i.e. well above the DfT noise-priority altitude of 4,000ft. Southampton Airport has noticed no changes in the number, nor distribution, of noise complaints attributable to LAMP Module E. Therefore we conclude that these unpredicted differences in flightpaths do not cause noise-significant impacts to people in the region, nor to the IOW AONB.

Commentary continued



Commentary: Farnborough (LF) arrivals from the southeast and southwest

Pre-implementation, most arrivals routed from the SW via GWC, some arrived from the SE via HAZEL, and their distribution was consistent with the description in the original consultation material.

Post-implementation, most arrivals routed from the SW via GWC, some arrived from the SE via HAZEL, and their distribution was similar to pre-LAMP.

In the Module E ACP para 5.4 we stated:

Farnborough arrivals would follow the new routes but are expected to be vectored into the same broad swathes as seen today on making landfall.

We conclude that the main track plots, and the slides later in this document, show that the pre-and-post-LAMP flows are in the same broad swathes as predicted.

TAG Farnborough Airport has submitted a separate ACP which would change their traffic flows as per their consultation material.

The result of their ACP is pending with SARG at the time of writing this report, and is outwith LAMP1A Module E.

Commentary: Airspace boundary review

As noted above, TAG Farnborough Airport's ACP is pending a decision from SARG at time of writing. If approved, controlled airspace in the vicinity would change, and traffic flows would change as per TAG's consultation material.

NATS is also proposing other higher-level changes in the vicinity, work is in progress on these.

As agreed with SARG Case Officer on 15/9/16, CTA bases to the south of the LTMA would only be reviewed once the decision on TAG Farnborough's ACP is made, likewise with NATS' other higher-level changes, and (presuming approval) only after a suitable period of implementation.

Bournemouth (HH) arrivals

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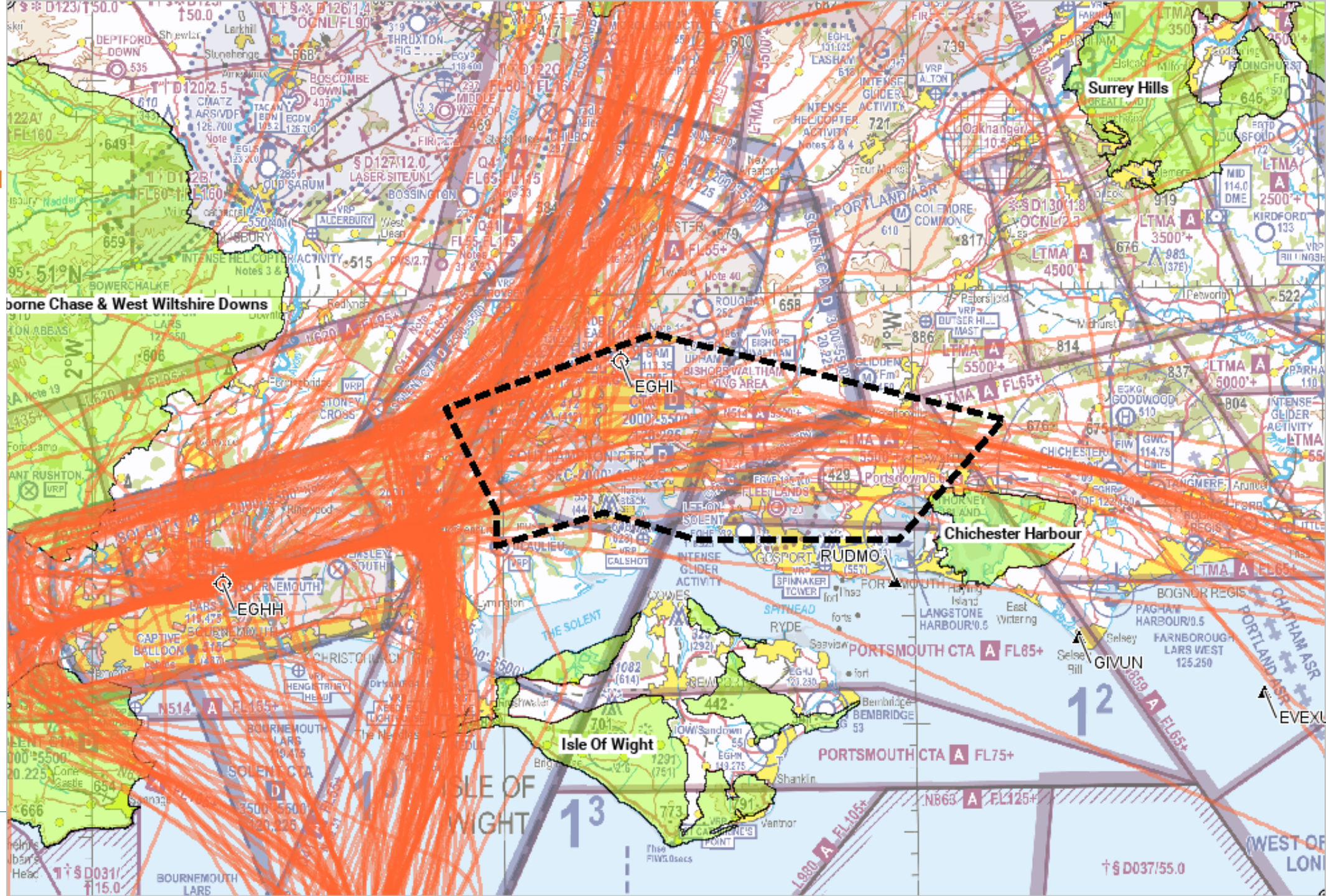
The image features several decorative orange lines on a dark teal background. Two thick lines curve upwards from the bottom left towards the top right. A thinner line forms a loop on the left side, crossing the thicker lines. Another thin line extends from the bottom left towards the bottom right.

EGHH arrs FL90-0
2015 pre LAMP
from the east

Major flow from east was
GWC-SAM then to HH final
- see arrows on next slide

AONBs highlighted in
light green

10 day August sample

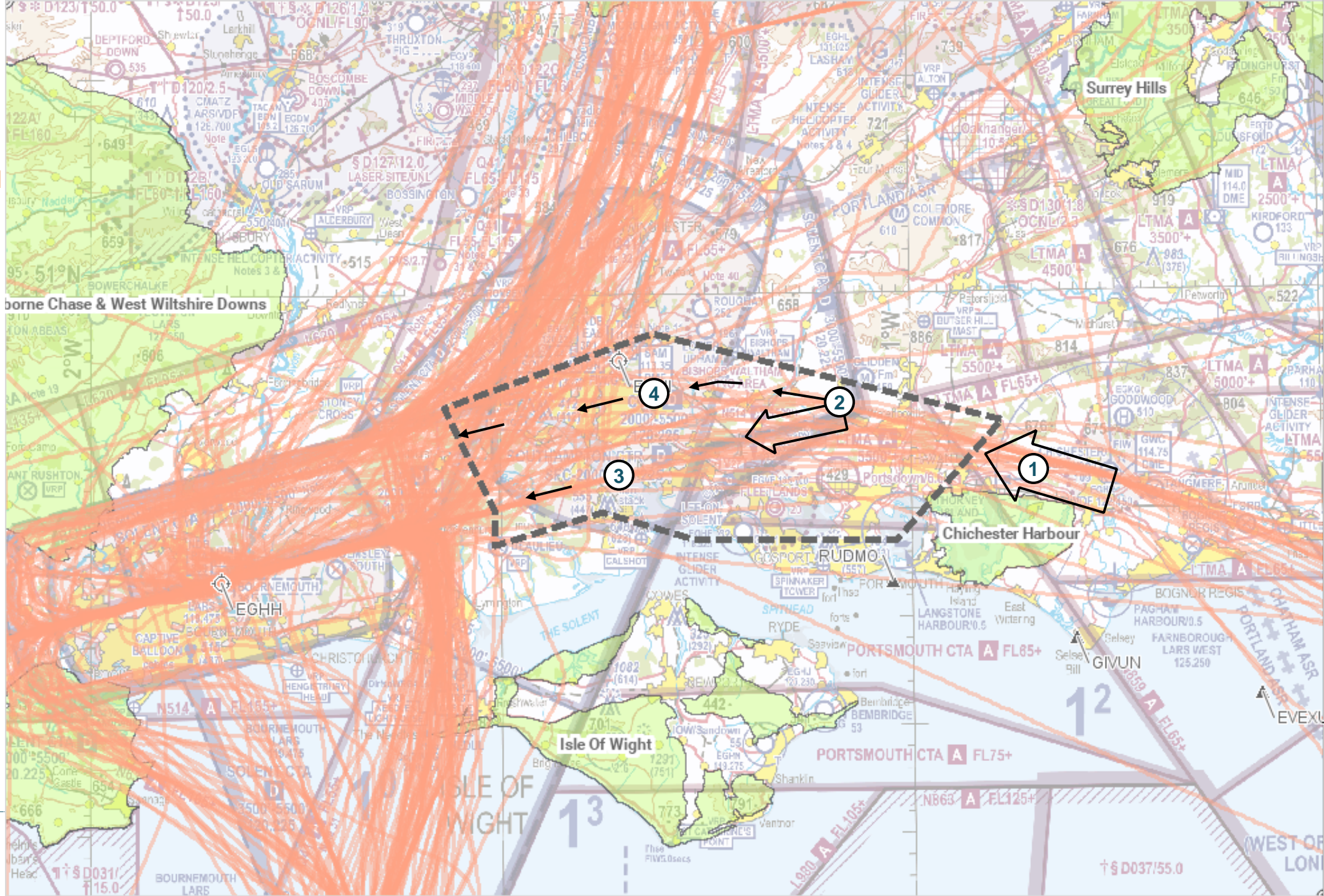


EGHH arrs FL90-0
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Major flow from east was
GWC-SAM then to HH final
- see arrows

AONBs highlighted in
light green

10 day August sample



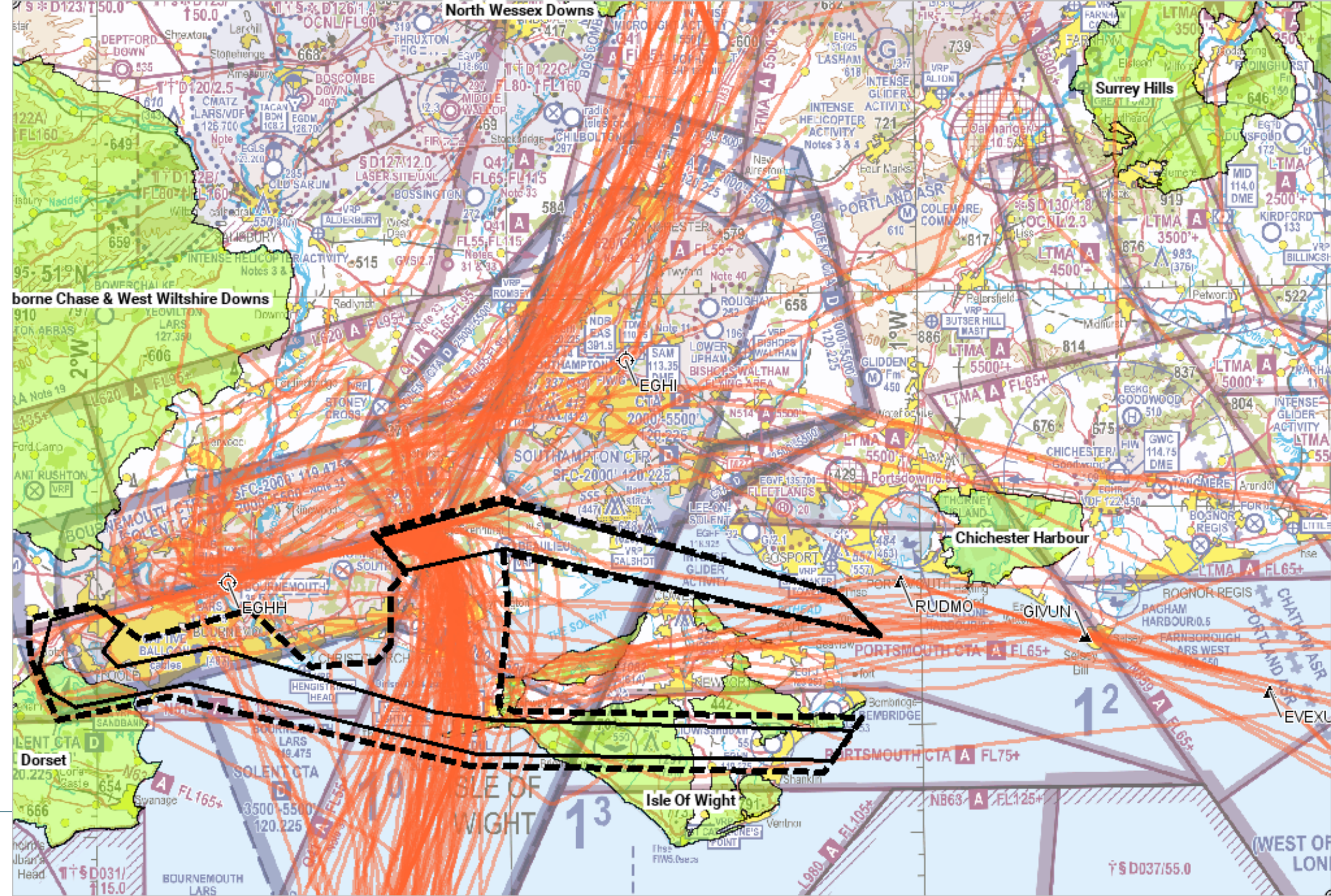
EGHH arrrs FL90-2016 post LAMP from the east

Major flow from east is now over northern IOW, minor flow remains as consulted.

See arrows on next slide

AONBs highlighted in light green

10 day August sample



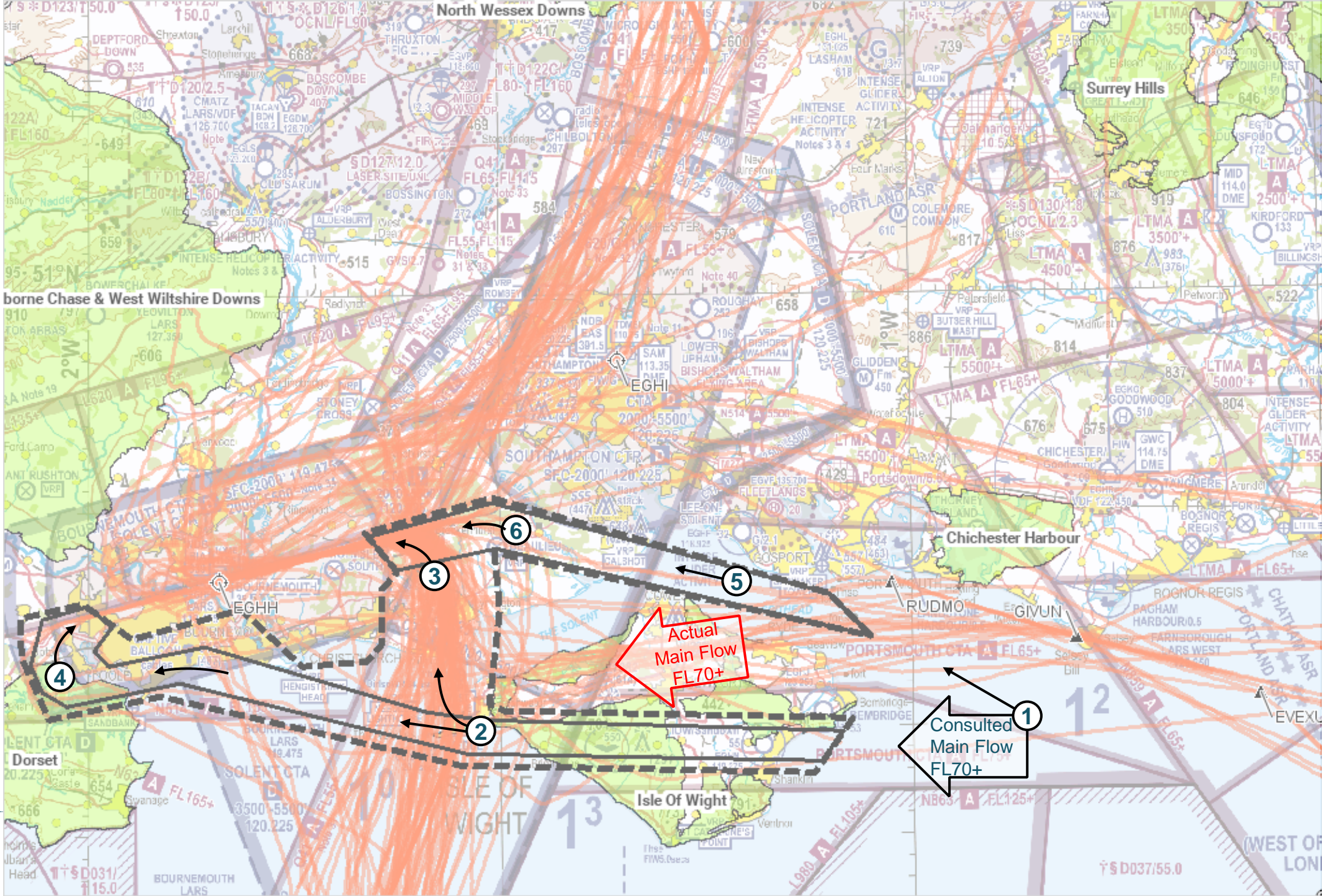
EGHH arrrs FL90-2016 post LAMP from the east

Major flow from east is now over northern IOW
Was predicted to be within the dashed lines over southern IOW.

AONBs highlighted in light green

Note the northern boundary of Portsmouth CTA2

10 day August sample



EGHH arrs FL90-2016 post LAMP from the east

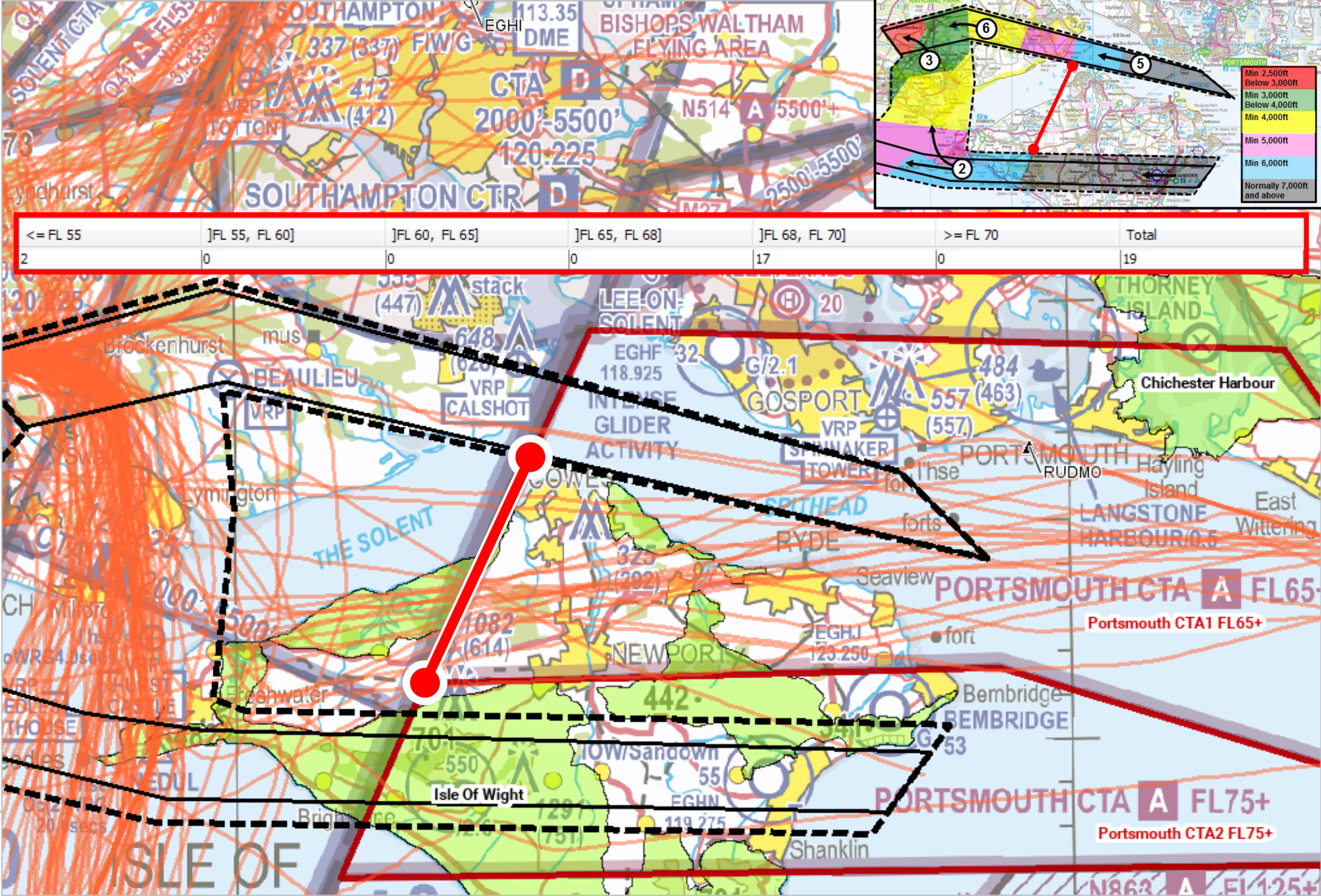
10 day August sample
Flights thru red gate – see red flight profile box

17 were FL68-FL70
2 were below FL55 and must've descended outside CAS early

19 flights in 10 days through red gate <=FL70, most within 200ft of FL70.

NATS contends this is not a significant change in impact below FL70.

Gate location is at Portsmouth CTA1 boundary with Solent CTA2. Shows that flights must be at lowest usable FL (FL70) at this boundary to make the descent profile. See box top right.



EGHH arrs FL90-2016 post LAMP from the east

10 day August sample
Flights thru red gate – see red flight profile box

2 were FL68-FL70

12 were below FL68

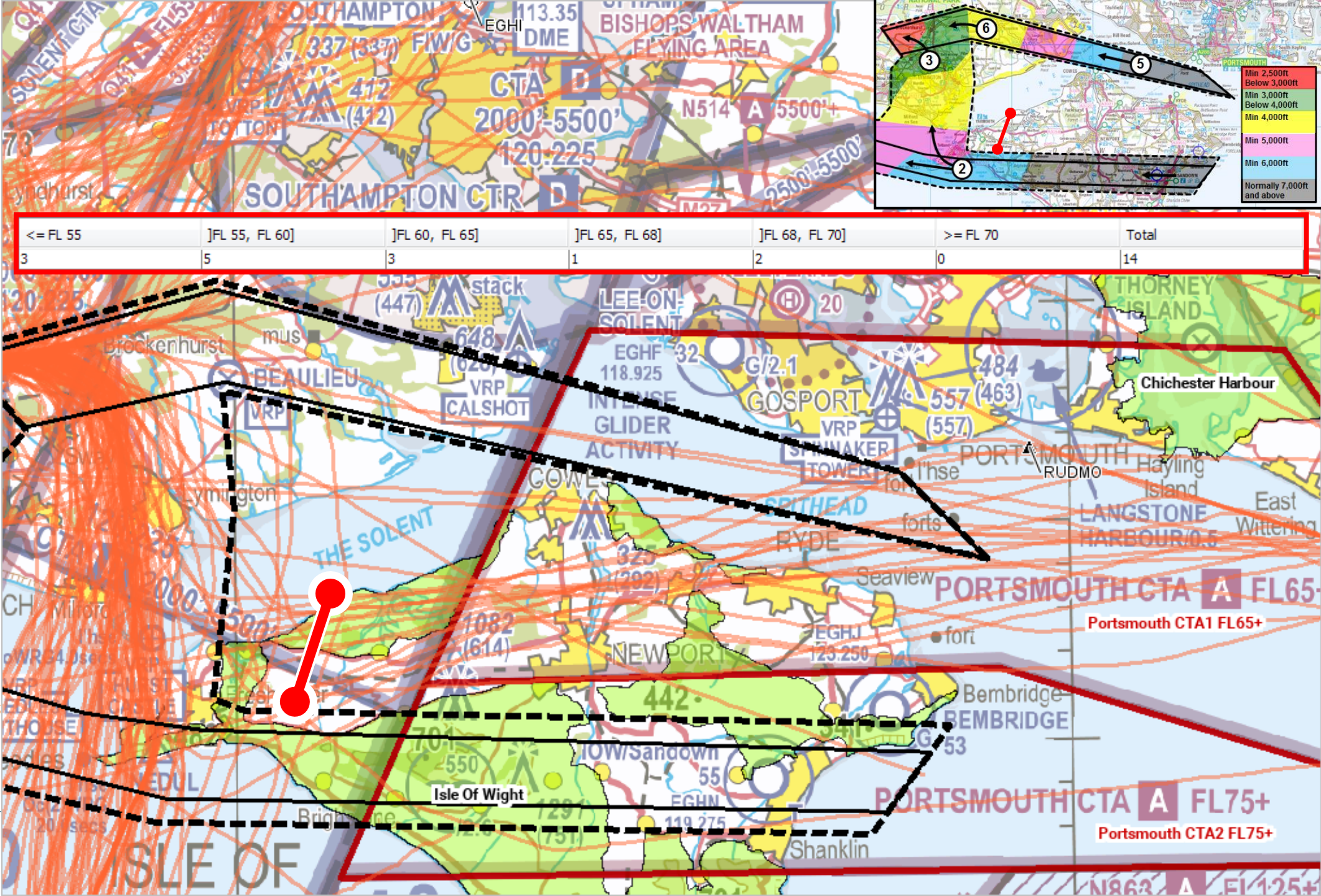
11 were above FL55

14 flights through the red gate <=FL70

14 flights in 10 days is 1.4 flights per day

NATS contends this is not a significant change in impact below FL70.

Gate location is part way across the Solent CTA.
Illustrates likely impacts as flights descend after crossing the previous gate.
See box top right.



Southampton (HI) arrivals

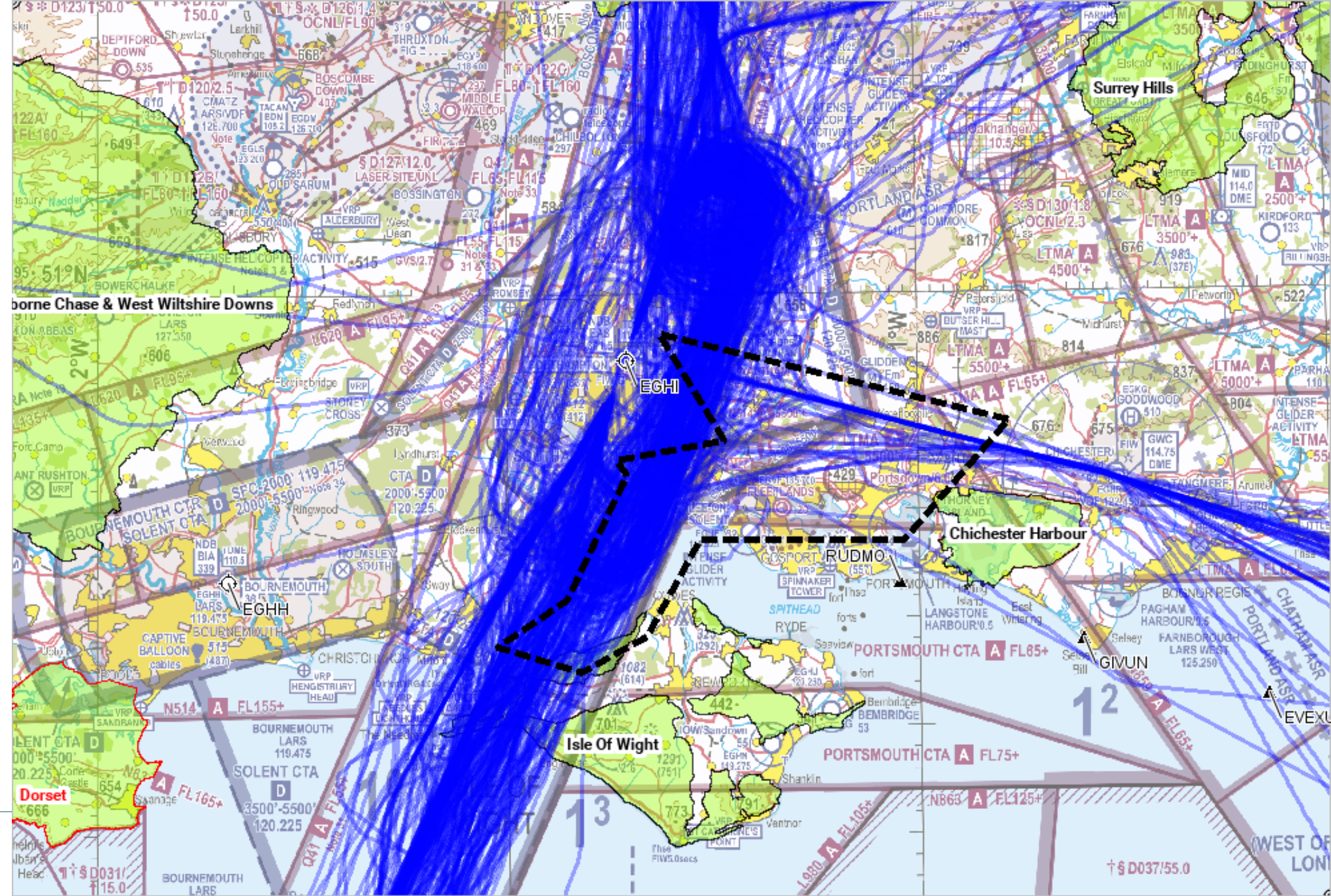
NATS

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EGHI arrs FL90-2015 pre LAMP from the east

Major flow from east was GWC-SAM vicinity – see arrows on next slide

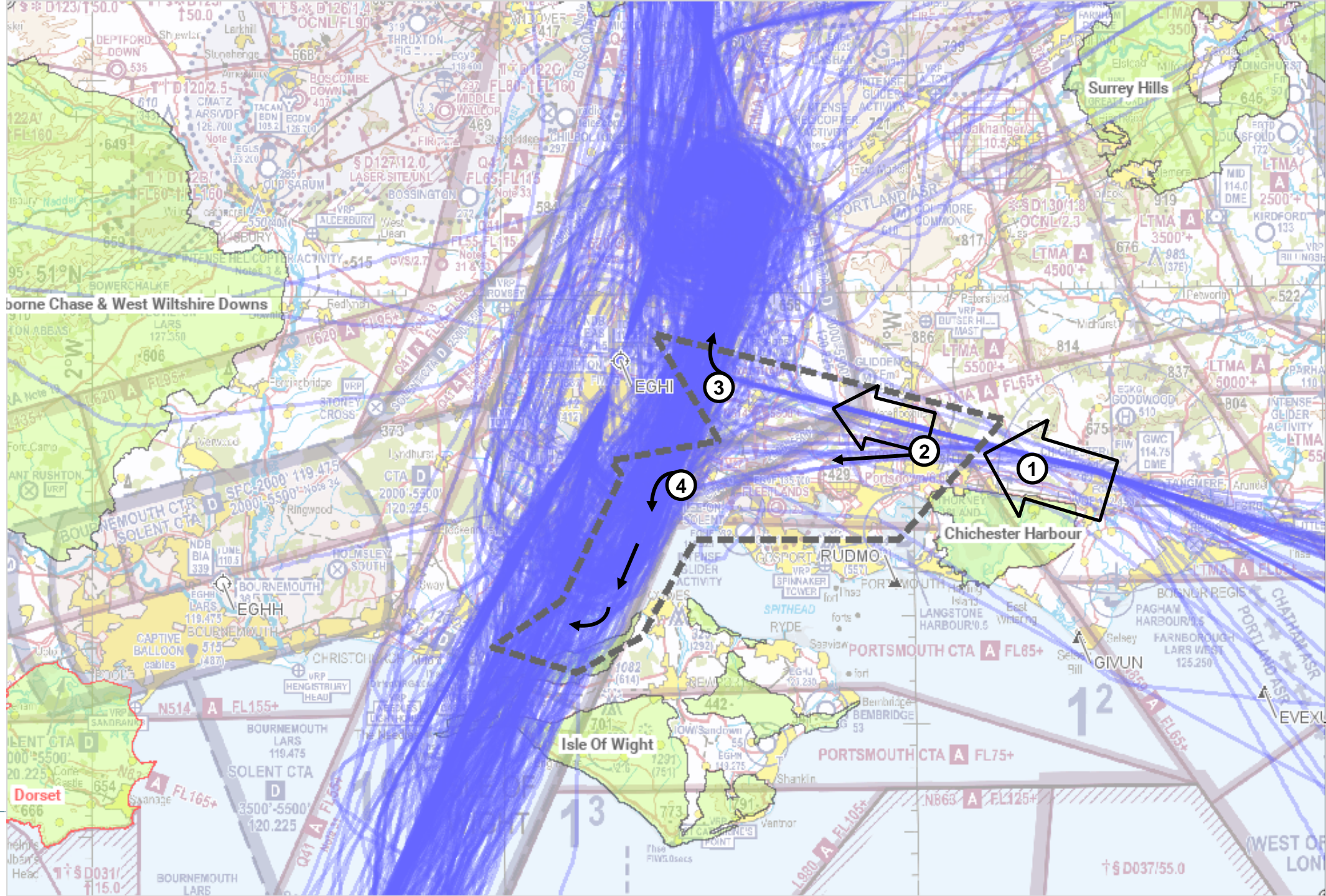
10 day August sample



EGHI arrs FL90-2015 pre LAMP from the east

Major flow from east was GWC-SAM vicinity – see arrows

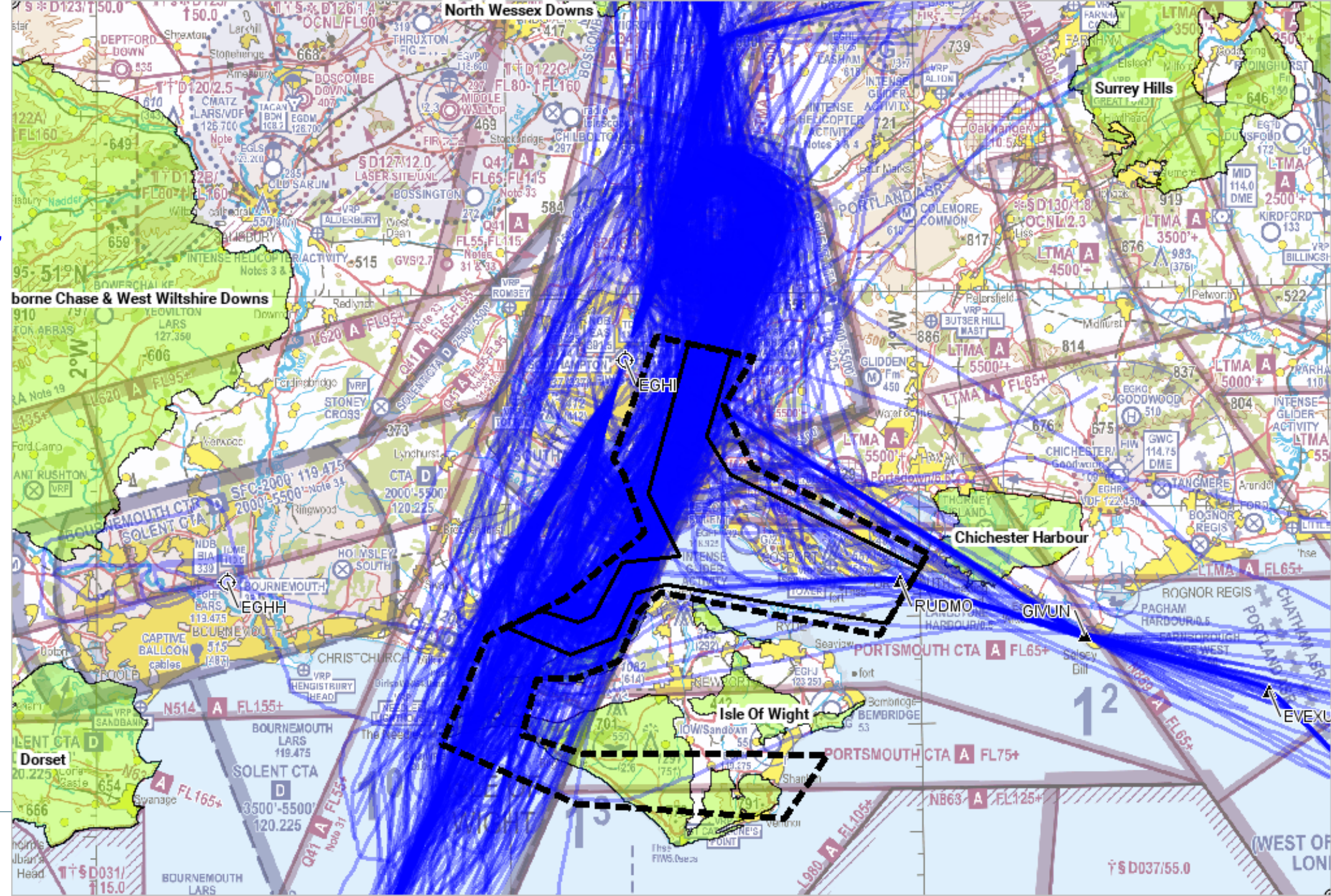
10 day August sample



EGHI arrs FL90-2016 post LAMP from the east

Major flow from east now splits roughly 50-50 near Selsey, half routing within the dashed line prediction, the other half slightly north.

10 day August sample

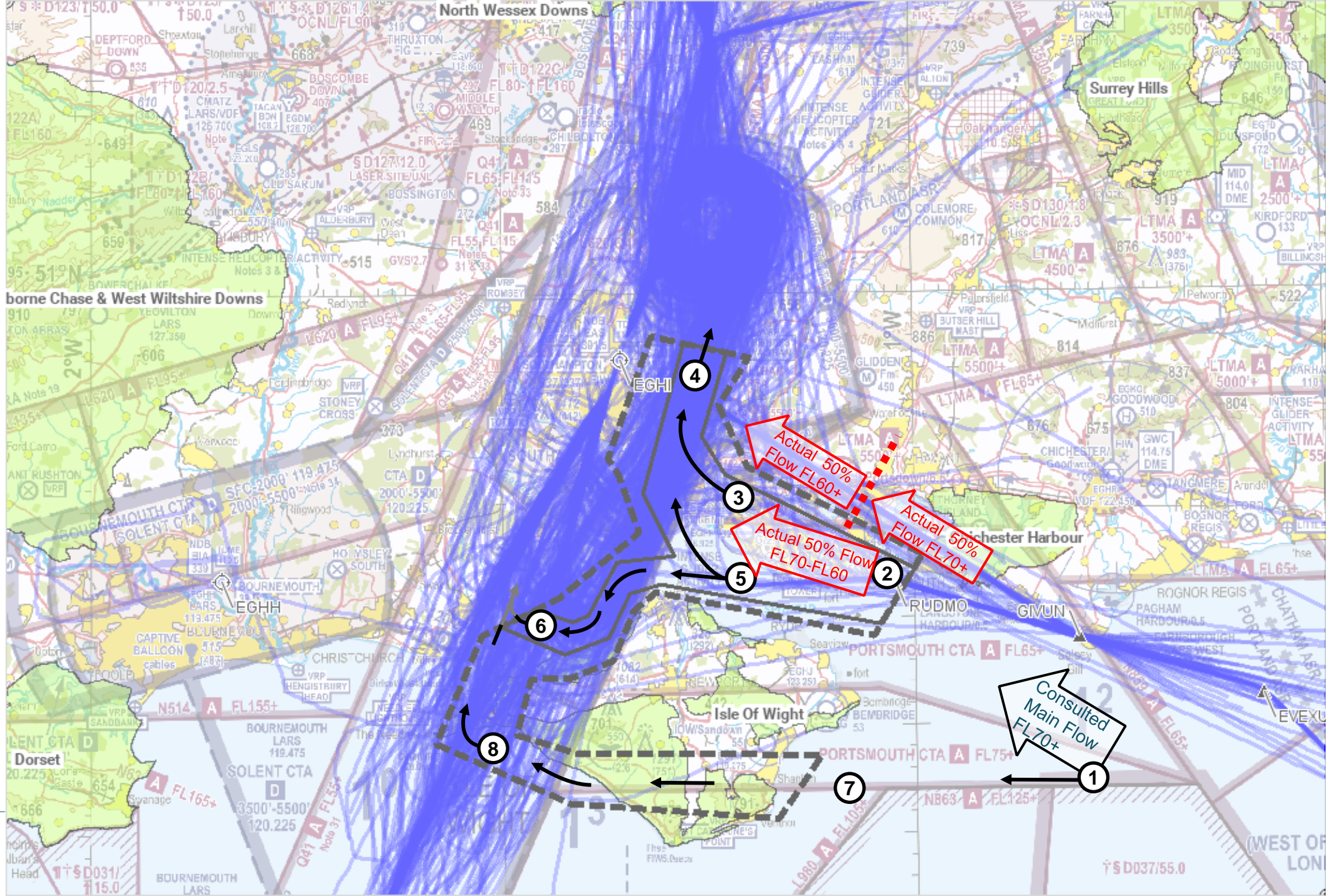


EGHH arrrs FL90-2016 post LAMP from the east

Major flow from east now splits roughly 50-50 near Selsey, half routing within the dashed line prediction, the other half slightly north.

None used the southern IOW route via 1-7-8

10 day August sample



EGHI arrs FL90-2016 post LAMP from the east

10 day August sample

Flights through the red gate - see red profile box

All 35 were >FL60

32 were >FL65

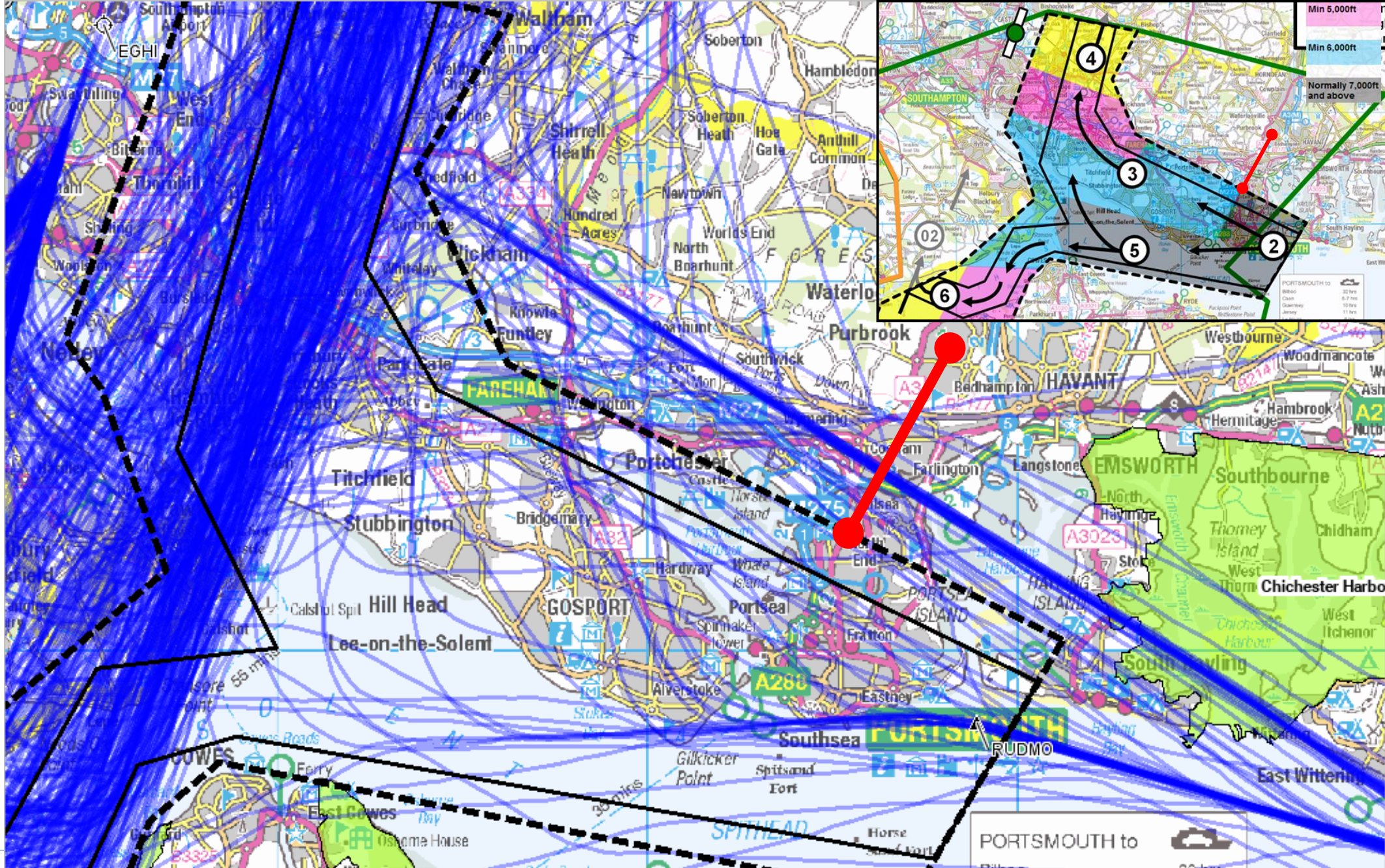
22 were >FL68

27 were <=FL70

27 flights in 10 days is 2.7 flights per day <=FL70

NATS contends this is not a significant change in impact below FL70.

Gate placement aligned with original consultation FL70 (grey shading) to FL60 (cyan shading). See box top right.



<= FL 55]FL 55, FL 60]]FL 60, FL 65]]FL 65, FL 68]]FL 68, FL 70]	>= FL 70	Total
0	0	3	10	14	8	35

EGHI arrs FL90-2016 post LAMP from the east

10 day August sample

Flights through the red gate - see red profile box

30 were >FL55

11 were >FL65

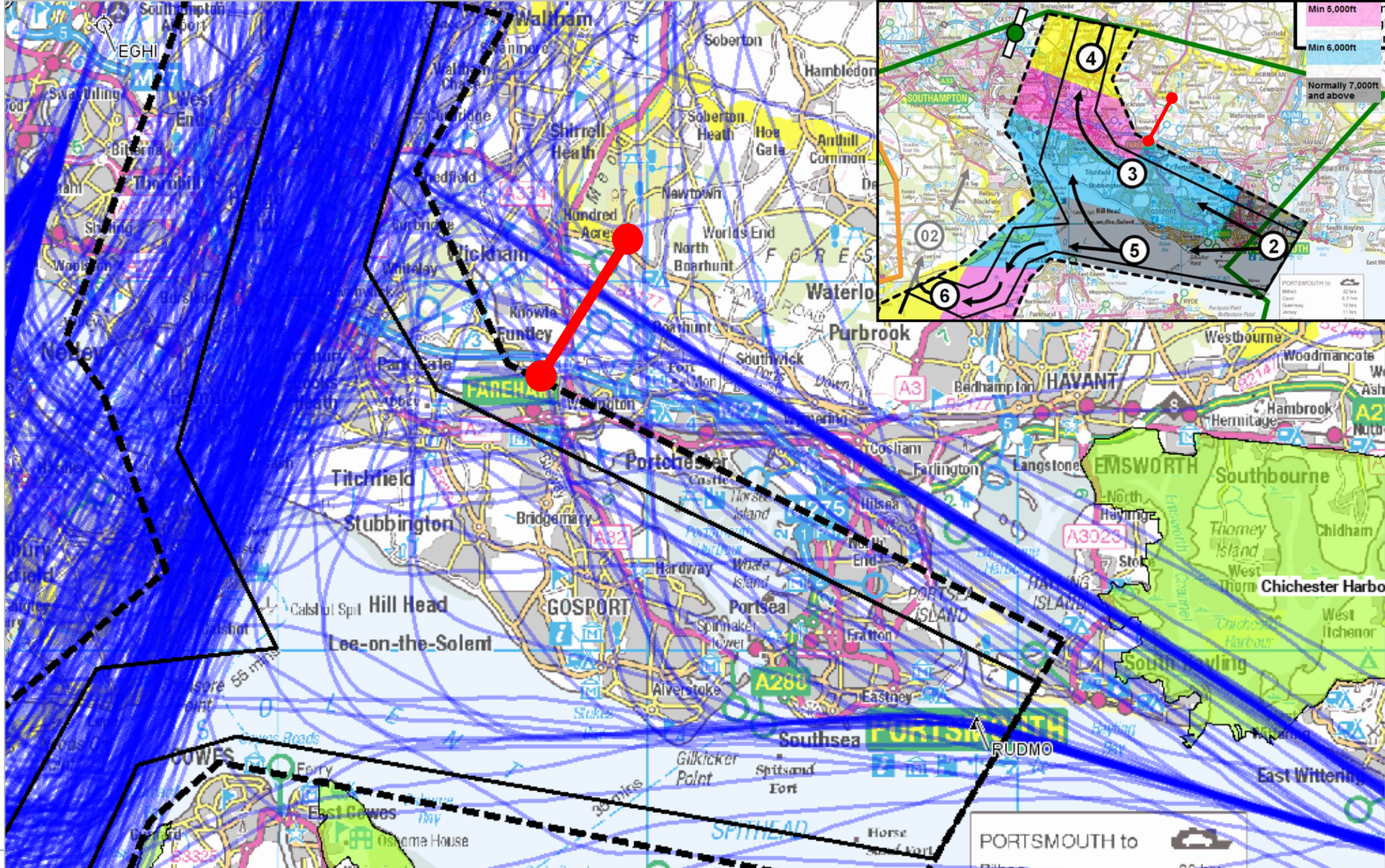
6 were >FL68

All 33 were <=FL70

33 flights in 10 days is 3.3 flights per day <=FL70

NATS contends this is not a significant change in impact below FL70.

Gate placement aligned with original consultation FL60 (cyan shading) to FL50 (pink shading). See box top right.



<= FL 55]FL 55, FL 60]]FL 60, FL 65]]FL 65, FL 68]]FL 68, FL 70]	>= FL 70	Total
3	8	11	5	6	0	33

Southampton Airport info

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The image features several decorative orange lines. Two thick lines run diagonally from the bottom left towards the top right. A thinner line forms a loop on the left side, crossing the thicker lines. The background is a dark teal gradient.

Statement from GM ATC Southampton Airport:

“There have been no noticeable changes in noise complaints as a result of the LAMP1a airspace changes. I have had verbal confirmation of this from the airport, and I have requested something in writing which I will forward on once it is received.

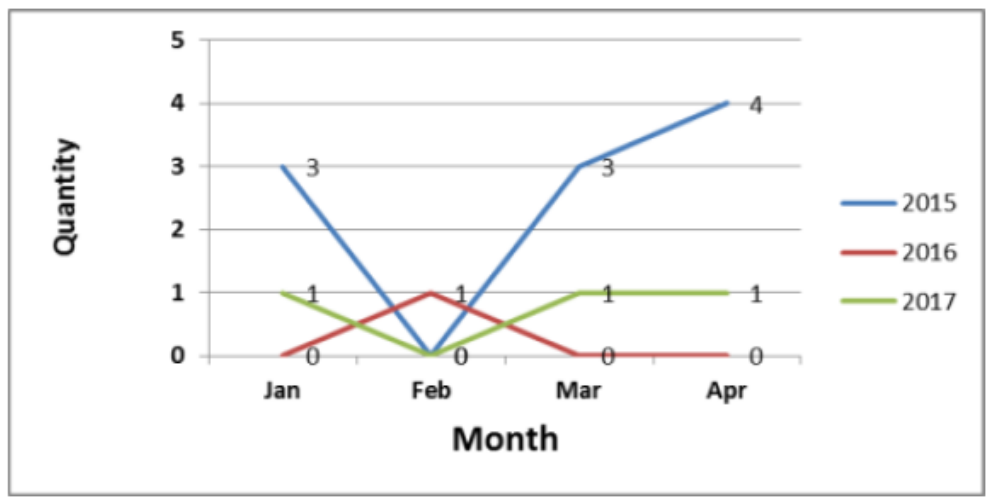
The few complaints received are from final approach track areas.”

Next slide:

Southampton Airport noise complaints info

Southampton Airport Noise complaint statistics Jan-April 2015/16/17

	2015	2016	2017
Jan	3	0	1
Feb	0	1	0
Mar	3	0	1
Apr	4	0	1
Total	10	1	3

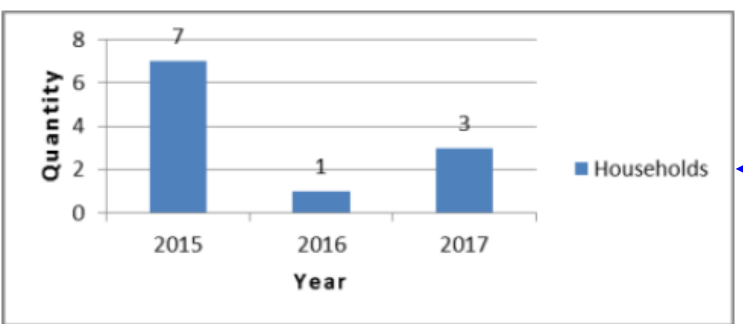


Total number, and number by month
(table and graph)

	Ops to South		Ops to North	
	Arr 02	Dep 20	Arr 20	Dep 02
Jan	0	0	0	1
Feb	0	0	0	0
Mar	0	0	0	1
Apr	0	1	0	0
Totals	0	1	0	2

Jan-Apr 2017
By runway

	Households
2015	7
2016	1
2017	3



Jan-April 2015/16/17
By household
(table and chart)

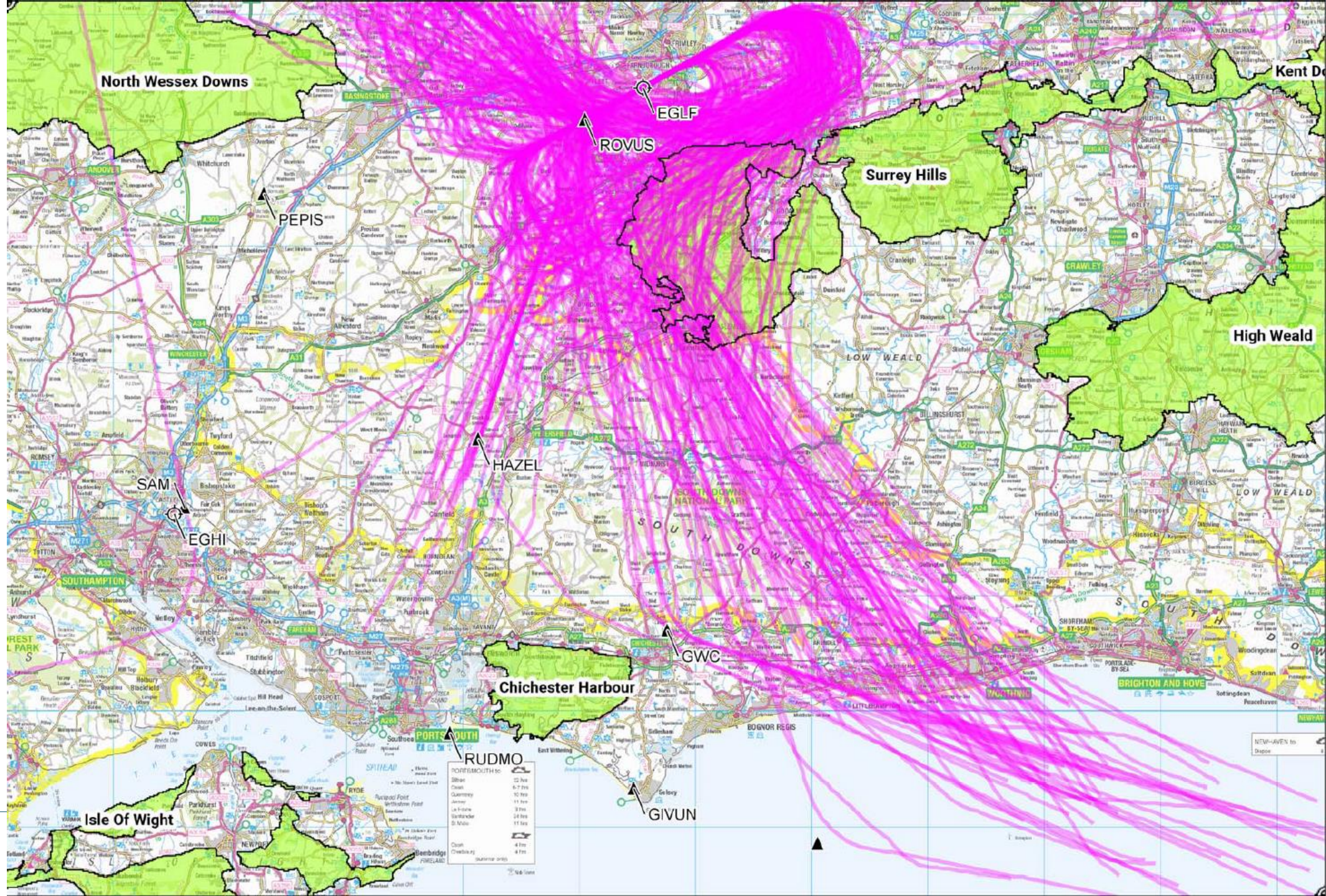
Farnborough (LF) arrivals

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The image features several decorative orange lines on a dark blue background. Two thick lines curve upwards from the bottom left towards the top right. A thinner line forms a loop on the left side, crossing the thicker lines. The NATS logo is positioned in the lower right area.

EGLF arrs FL90-2015 pre LAMP from the south

Major flow is from SW more than SE

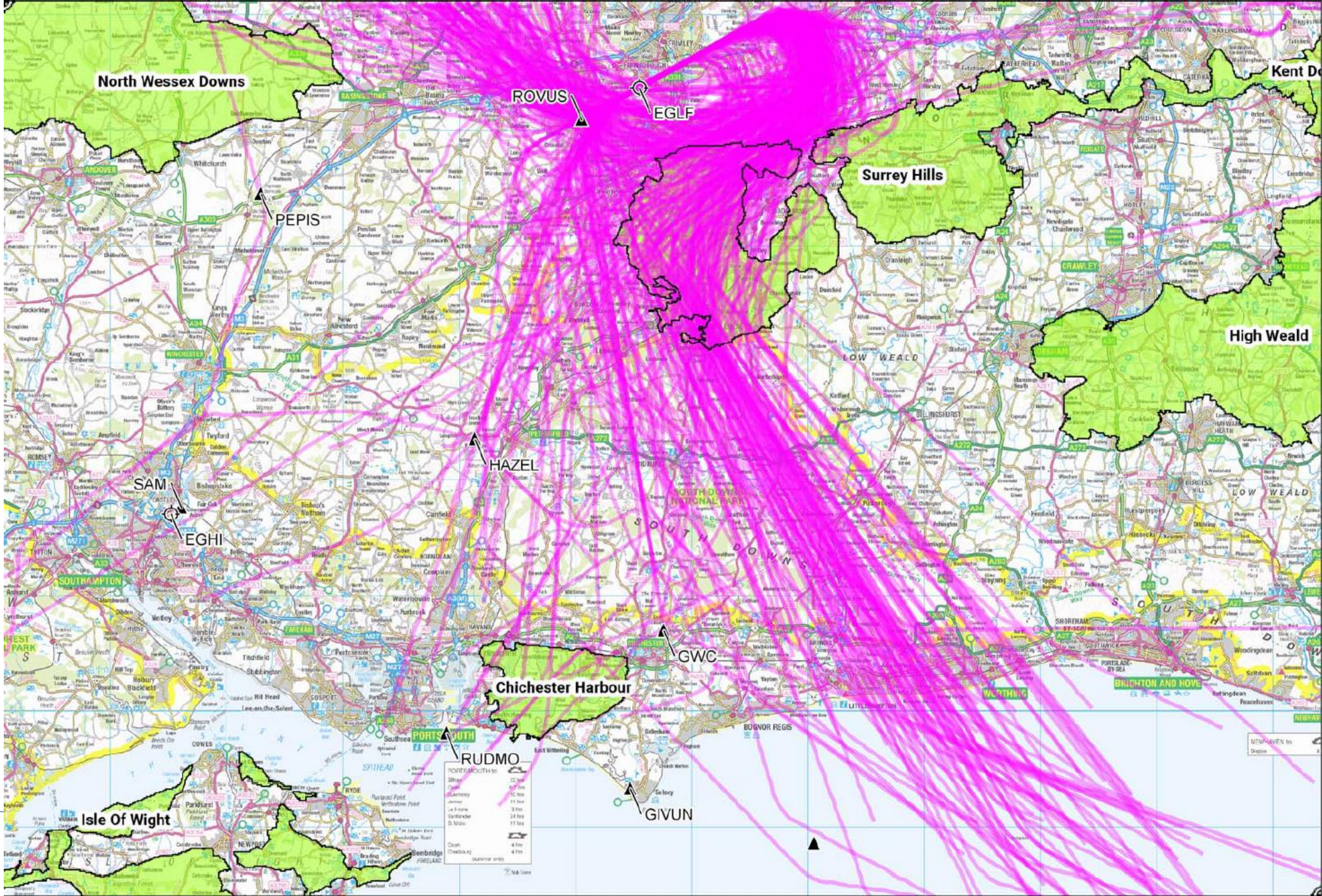


EGLF arrs FL90-2016 post LAMP from the south

Major flow is from SW more than SE

No significant change to distribution due to this proposal.

Farnborough arrivals were (and are) tactically vectored depending on the GA situation in the region



Sample data information

Density key

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The image features several decorative orange lines on a dark blue background. Two thick lines run diagonally from the bottom left towards the top right. A thinner line forms a loop on the left side, crossing the thicker lines. The overall aesthetic is modern and technical.

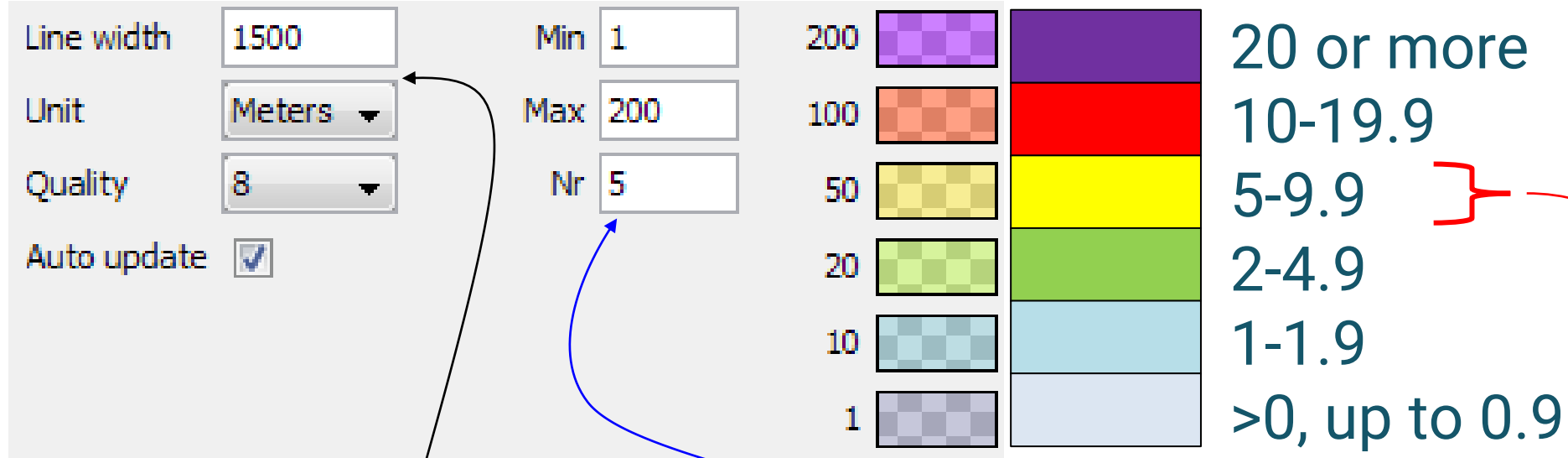
Radar Data Sample Information - 10 day sample for each, pre & post LAMP
5 days mainly easterly, 5 mainly westerly, representing typical flight behaviours pre & post implementation

<u>Airport, Year, Month</u>	<u>Dates Mainly Easterly</u>	<u>Dates Mainly Westerly</u>	<u>Total Arrivals</u>	<u>Module E arrivals</u>
HH 2015 August	12-13-15-17-30	02-03-04-05-06	248	27
HH 2016 August	08-09-14-24-29	01-02-03-04-07	164	22
HI 2015 August	12-13-15-17-30	02-03-04-05-06	568	41
HI 2016 August	08-09-14-24-29	01-02-03-04-07	683	68
LF 2015 August	12-13-15-17-30	02-03-04-05-06	270	134
LF 2016 August	08-09-14-24-29	01-02-03-04-07	297	164

10 days radar data sample, count based on spatial filtering of relevant traffic flows

Module E Density Plots for LAMP PIR

Updated density tool - Colour assignments – Flights Per Day



Each flight in this sample is set to be a 1500m wide track (750m either side of the radar trajectory)

Settings for number of *divisions* between densities, and what quantities define the min/max colour bands

Where a number of tracks overlap the same place within the 10 day sample period, it shows the appropriate colour.

E.g. for a yellow colour to be seen, 50-99 flights overflew within 750m of a location over the 10 day period

Dividing 50-99 flights by 10 days is "5 to (less than 10)", hence 5-9.9



End

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