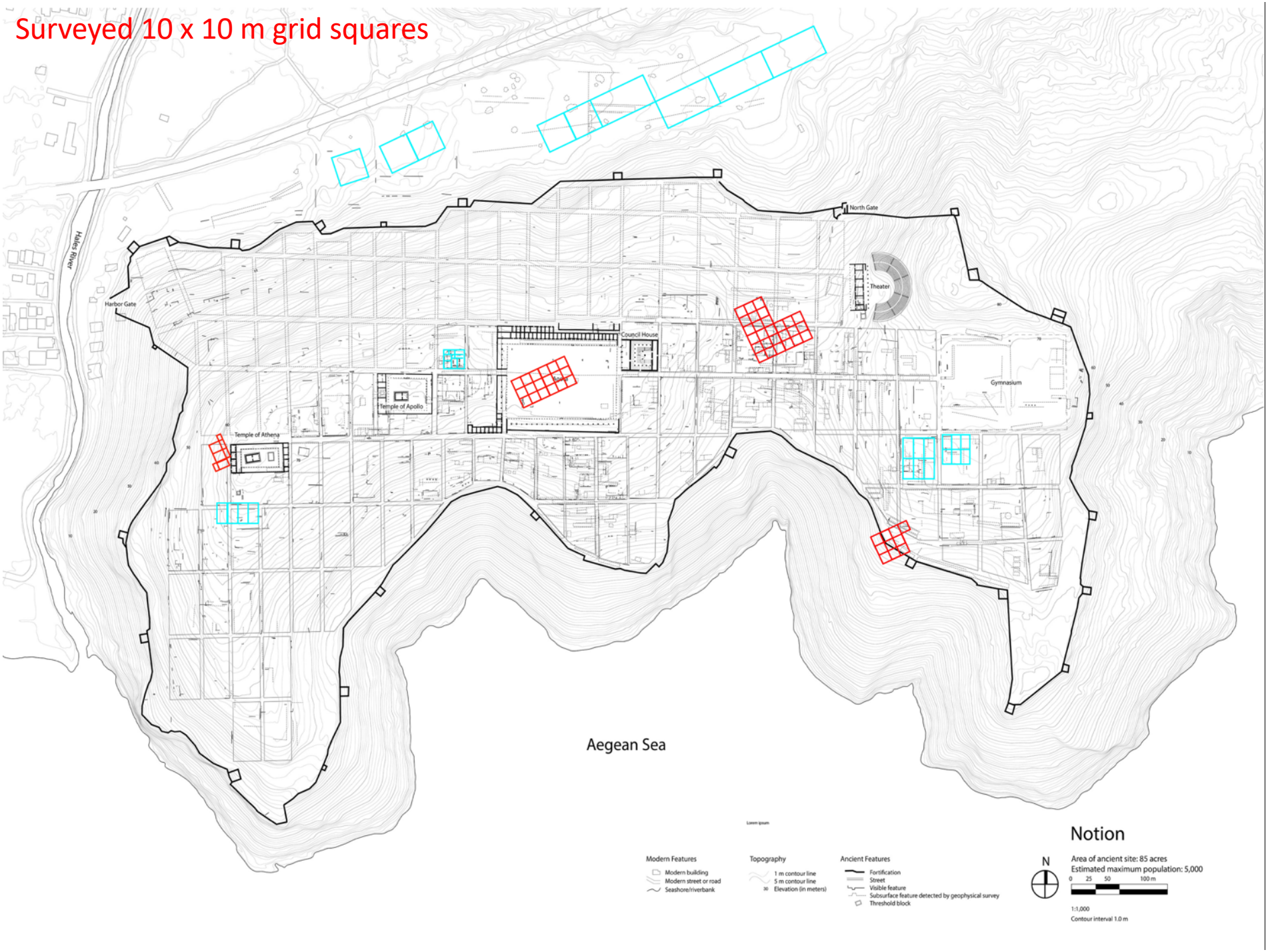
Surface Collection at Notion

Angela Commito, Union College


Aerial view of Notion, looking northeast

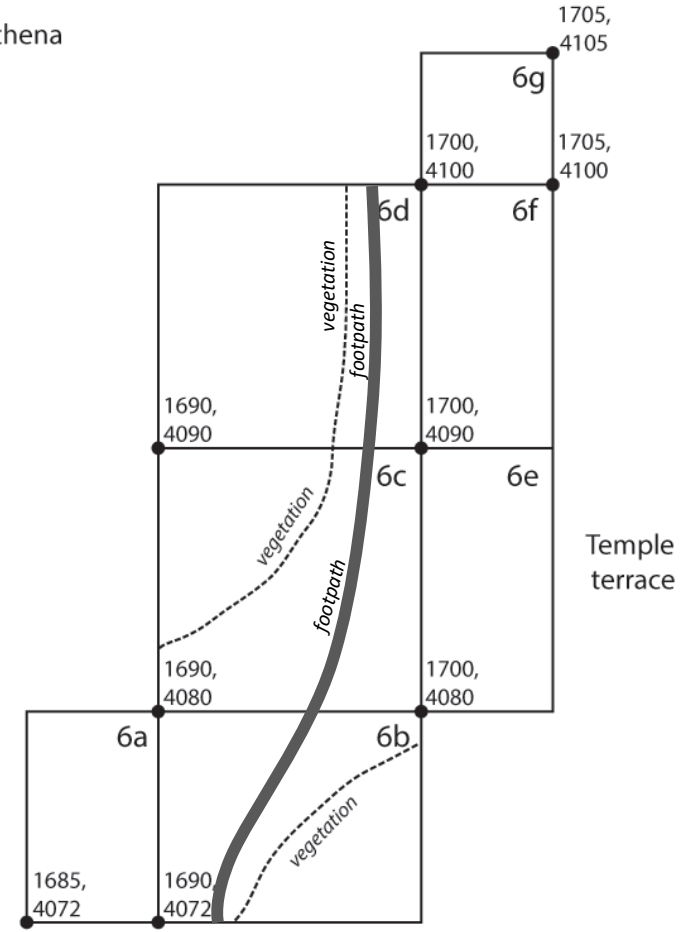
Southern slopes of the site

Collection in a 10 x 10 m grid square


Surveyed 10 x 10 m grid squares
Halys River
Harbor Gate
North Gate
Theater
Council House
Agora
Temple of Apollo
Temple of Athena
Gymnasium
Aegean Sea
Notion
Modern Features
Modern building
Modern street or road
Seashore/riverbank
Topography
1 m contour line
5 m contour line
30 Elevation (in meters)
Ancient Features
Fortification
Street
Visible feature
Subsurface feature detected by geophysical survey
Threshold block
N
Area of ancient site: 85 acres
Estimated maximum population: 5,000
0 25 50 100 m
1:1,000
Contour interval 1.0 m

Footpath in 10 x 10 m grid squares

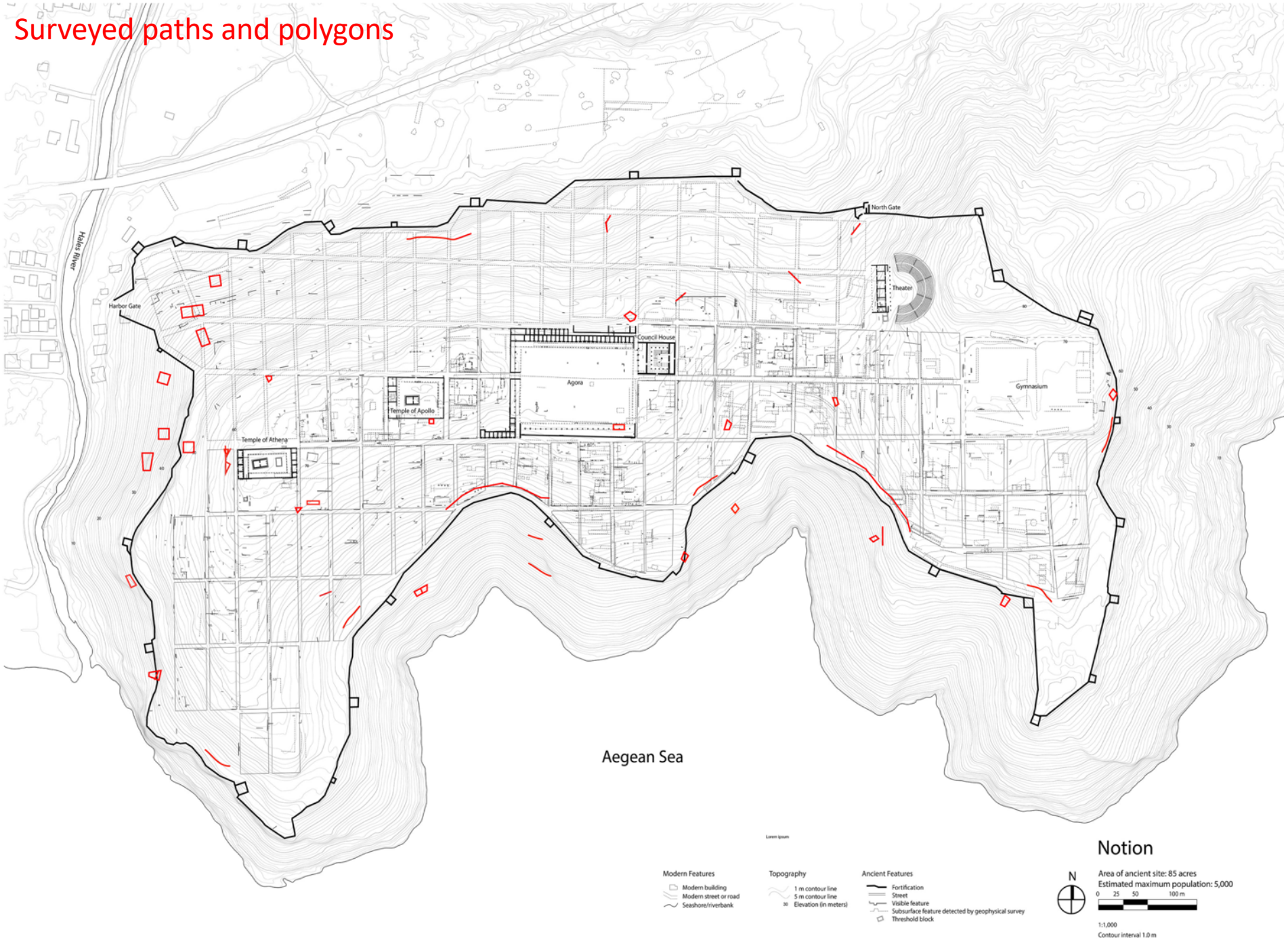
Notion Archaeological Survey 2015
Surface Collection
Grid 6, Temple of Athena
Schematic Plan



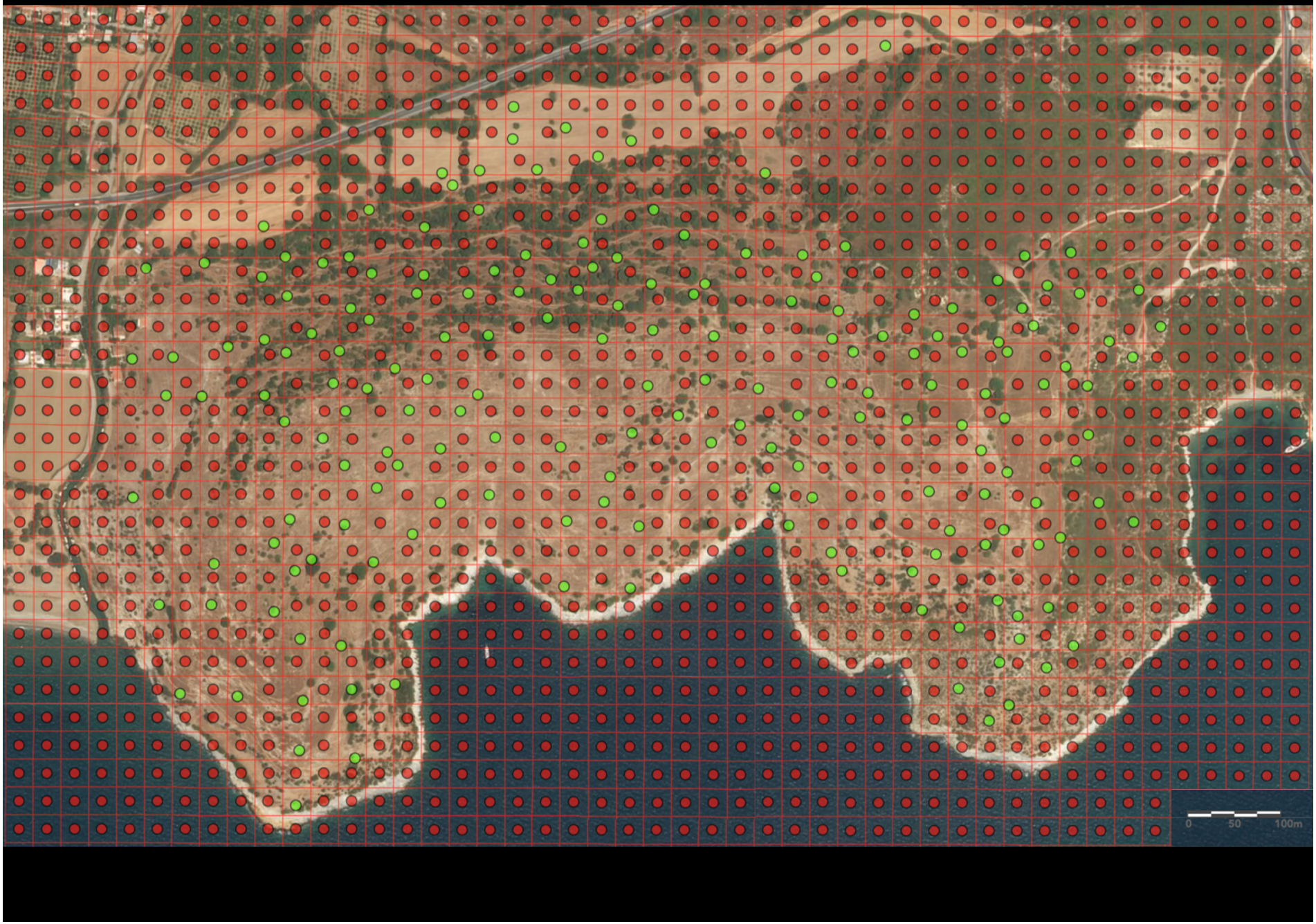
Temple terrace

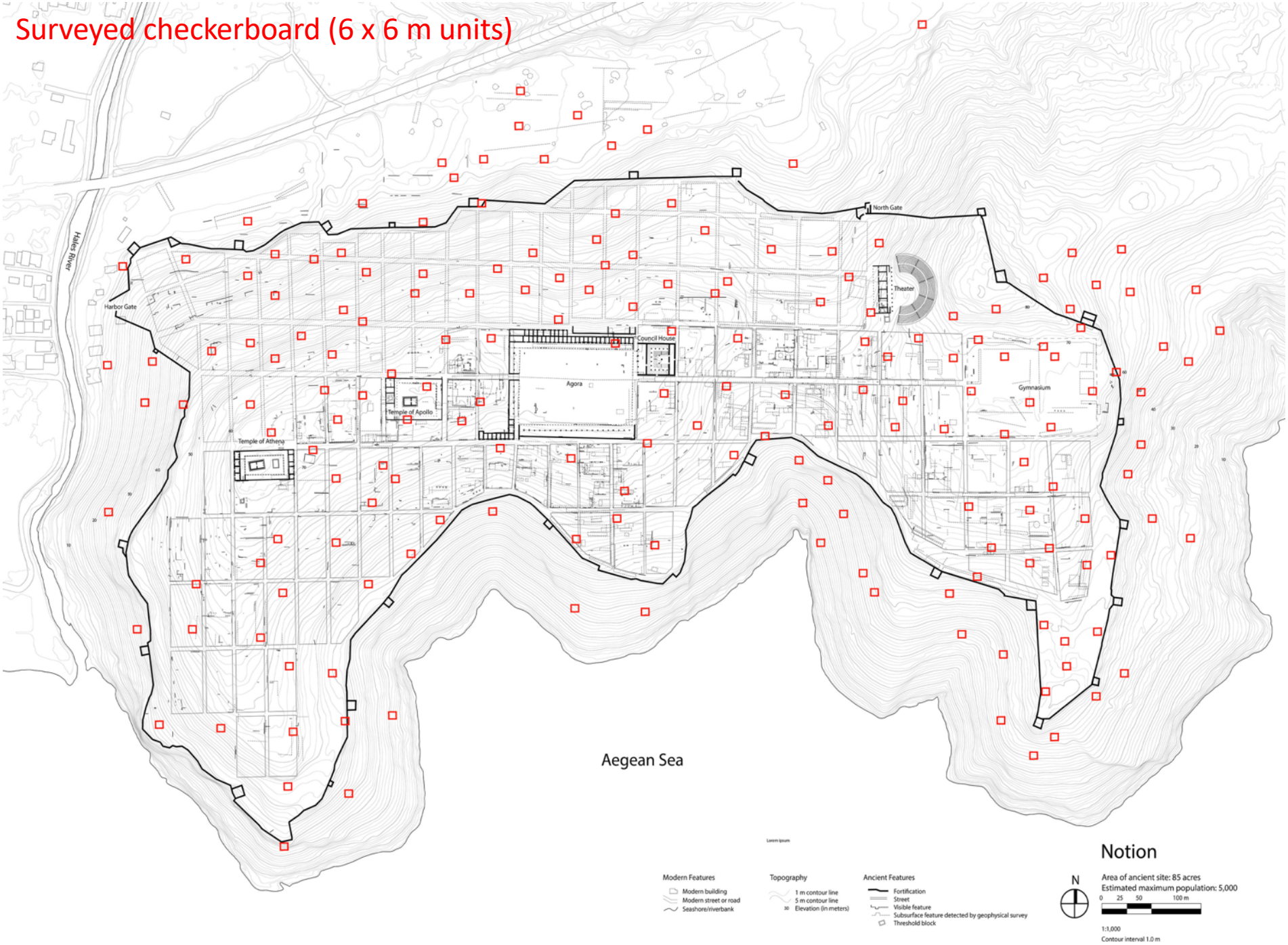
Collection in a footpath

Surveyed paths and polygons



30 x 30 m grid squares used for “checkerboard,” overlaid on satellite image of Notion




Surveyed checkerboard (6 x 6 m units)
Helle River
Harbor Gate
North Gate
Theater
Council House
Agora
Temple of Apollo
Temple of Athena
Gymnasium
Aegean Sea
Notion
Modern Features
Modern building
Modern street or road
Seashore/riverbank
Topography
1 m contour line
5 m contour line
30 Elevation (in meters)
Ancient Features
Fortification
Street
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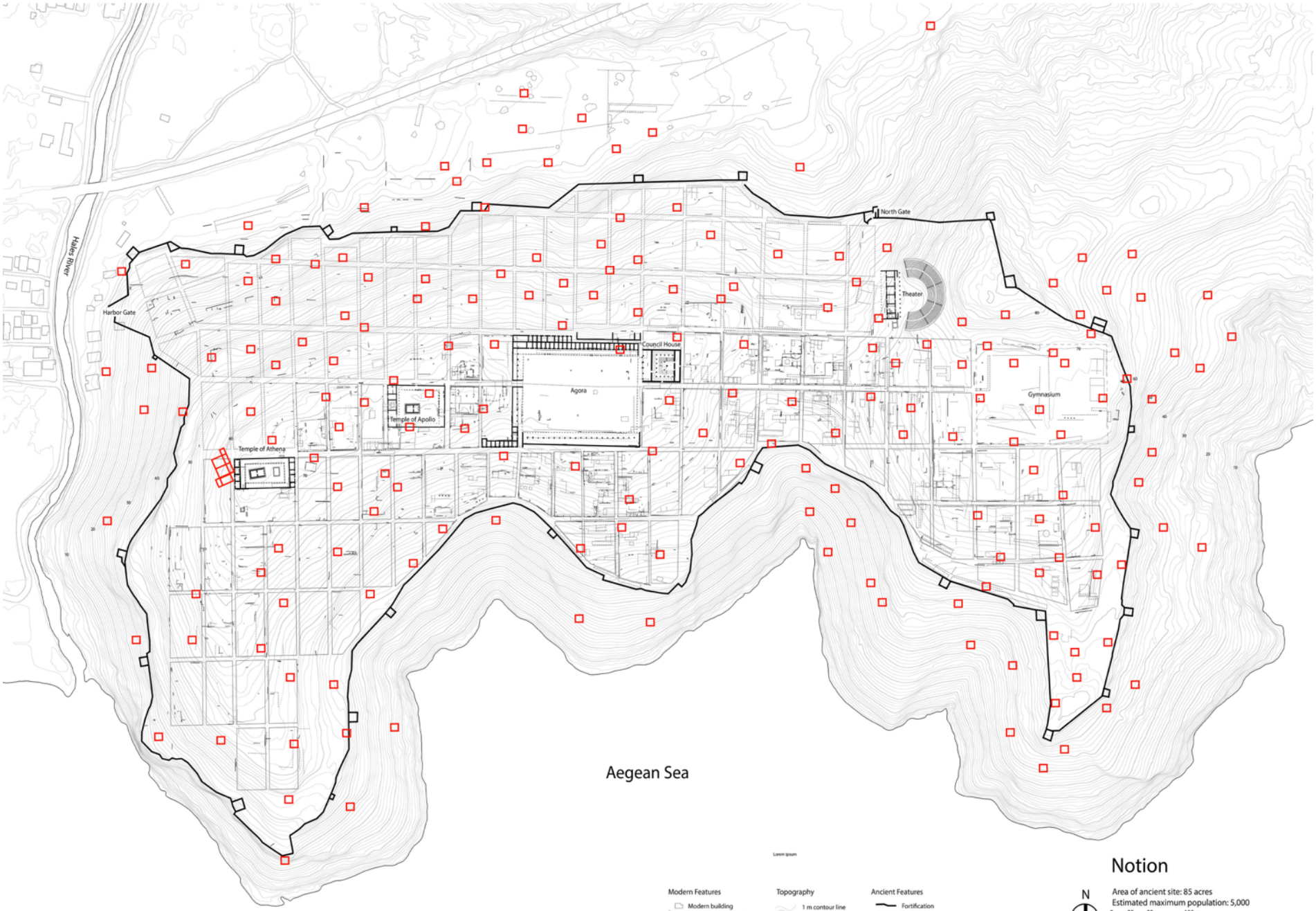
Comparison of surface collection results, 2015-2018.

Method	Total area covered (sq m)	Average visibility (1-5)	Total no. sherds	Total no. diagnostic sherds	Percent diagnostic	Person-days	No. sherds per person-day	No. diagnostic sherds per person-day	Areal extent (approx. sq m)
1) Grid	5945	3.8	10,935	1491	13.6	24	455.6	62.1	110
2) Path/polygon	1517	4.8	20,344	2781	13.7	39	521.6	71.3	326
3) Checkerboard	6732	2.7	24,449	2537	10.4	63	388.1	40.3	558

Ranking of surface collection methods, 2015-2018.

Method	Total area covered (sq m)	No. sherds per person-day	Areal extent	Uniformity	Median of ranks	**Overall rank**
1) Grid	2	2	3	3	2.5	**3**
2) Path/polygon	3	1	2	2	2	**2**
3) Checkerboard	1	3	1	1	1	**1**

Selection of pottery collected from survey unit west of Temple of Athena



Notion

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Estimated maximum population: 5,000

Surface Collection at Notion
AIA 2019 San Diego
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[2] In 2015 we began a program of surface collection at Notion and have now completed four seasons of fieldwork. Our primary goal was to determine the chronology of occupation of the site, and thereby to complement the geophysical and architectural aspects of the survey by providing information about the city's foundation, its period of most intensive occupation, and the timing of its abandonment.

[3] The topography of Notion and its status as a protected archaeological site present an interesting set of challenges for the collection of surface remains. There is no agricultural plowing or other cultivation and therefore no conventional plow zone. Much of the ground is covered with vegetation, and surface materials are visible only in discrete areas disturbed by the foot traffic of humans and of sheep, which regularly graze on the site, and in areas, such as steep hill-slopes, that are subject to other forms of erosion.

[4] Our program of surface collection is not comprehensive or systematic in a traditional sense, but rather a flexible and experimental program that allowed us to test different collection methods, gather information about the site, and address our main goal while taking into account a number of constraints: first, the presence of dense vegetation and the resulting patchwork visibility of the surface artifact record, and second, limited resources in terms of time and labor. In addition, we are restricted by our permit to work only on the city site and immediately outside the walls. And, in accordance with the requirements of the Turkish authorities, only some of the

materials we collected could be saved for future study, while the remainder had to be re-deposited on-site. As our program progressed, we tried to optimize sampling efficiency but also the areal extent of coverage across the site, as well as uniformity of coverage.

[5] We started in 2015 by collecting in 10 x 10 m survey units subdivided from the 30 x 30 m grids laid out for the geophysical survey. These are shown in red. We completed 57 10 x 10 m units, plus 5 partial units, located in four areas across the site within the fortification walls. This was full coverage survey, and we collected all materials. We also surveyed in 26 units with low visibility but of interest because they correspond to visible architectural features that appear to be the remains of houses, shown here in blue. Also in blue, in the open, plowed fields north of the city wall, we the entire 30 x 30 m or 30 x 60 m grid squares of the geophysical survey and walked them in three transects. For the purposes of this paper, however, only the 10 x 10 m grids will be discussed, since they were sampled in the same way.

[6] During this initial stage of collection, we noticed that the visibility of the surface record varied wildly depending on vegetation and slope. In some survey units, the only areas where surface materials were visible were clearly bounded paths running through the vegetation. We began to experiment with a different collection method that targeted areas of high visibility. Our reasons for doing so were, one, we were limited by constraints in time and labor, but two, we also wanted to collect an adequately large sample of surface finds from which to make suggestions about the chronology of occupation of the site. Ideally, obtaining a sample of adequate size is achieved by collecting over as large as area as possible. However, given our constraints, we felt that it would not be possible to cover an adequately large area, and so instead

we tried to maximize our sampling efficiency in an attempt to increase the chronological resolution of our sample, since reconstructing the chronology of occupation of the site was our primary goal. We also aimed to collect in survey units that were more uniformly distributed across the site.

[7] Where we could identify a discrete area of very high visibility, we defined it as one or more survey units and mapped it directly into our GIS in the field on an iPad. These units corresponded either to irregular polygons where erosion had removed vegetation, or linear footpaths where the foot traffic of sheep and humans had achieved the same result.

[8] We completed 84 of these "paths and polygons." Using these two methods of collection we recorded over 30,000 sherds, 14% of which were diagnostic. We had achieved our goal of obtaining a relatively large sample with a small team: the equivalent of 2.5 weeks by a team of 5 people (63 person-days). However, we were concerned with a number of issues: one, the area covered was very small (0.75 hectares); two, it took time to identify and locate areas of high visibility; and three, we wanted to distribute our survey units across the entirety of the site and with more uniform coverage.

[9] For these reasons, in 2018 we designed a new approach and dedicated more time and person-power to surface collection. We overlaid a grid of 30 x 30 m squares on the site and sampled squares in a checkerboard pattern, avoiding only the areas already covered in previous seasons – such as the Agora in the center of the site here – as well as areas where we knew from drone imagery and from experience that the vegetation was too dense for collection – such as northeast

of the theater here. Within each sampled 30 x 30 m grid square, we selected a 6 x 6 m area for collection covering the area of highest visibility within the 30 x 30 m square. The green dots here mark the southwest corners of the collection units; the red dots are unsampled grid squares.

[10] We completed a total of 187 of these checkerboard collection units using about the same amount of time and energy we had been able to devote to collection with the other methods: that is, the equivalent of 2.5 weeks with a team of 5 people, nearly doubling both the number of materials collected and the area of coverage. This strategy allowed us to be flexible and to respond to the locally specific challenges of the landscape. It also allowed us to increase the areal extent and uniformity of coverage across the site.

[11] Here I've compiled some of the results of using these three methods. The paths and polygons covered the least area but had the highest average visibility (since that was the basis of their selection) and sherd densities (not included here), resulting in the greatest sampling efficiency, shown here as number of sherds and diagnostic sherds per person-day. The checkerboard method covered the largest area but had the lowest sampling efficiency. In terms of overall areal extent – distribution – the grids were the smallest and the checkboard the largest.

[12] To summarize, each method varied in terms of the factors we were trying to optimize: the area covered, our sampling efficiency, the areal extent of coverage across the entire site, and the uniformity of coverage. Though the checkerboard method ranks worst for sampling efficiency, it is best in the other categories, since it allowed us to have the largest number of samples covering the greatest area and distributed most widely and uniformly across the site.

[13] The most striking outcome of our program, however, is that all three methods yielded the same result in terms of the period of major occupation of the site, which was our ultimate goal for surface collection. The overwhelming majority of datable pottery we collected falls within a relatively circumscribed timespan: from the 3rd century BCE through the 1st century CE. We are very fortunate to have Andrea Berlin as our ceramics specialist. This material includes typical Hellenistic and early Roman table wares commonly found in Asia Minor, such as Hellenistic mold-made bowls, Eastern Sigillata A, Eastern Sigillata B, and Italian Sigillata, along with regionally and locally produced table wares from western Asia Minor, and transport amphorae, primarily from Rhodes, Kos, and the Black Sea and Adriatic. Certainly older and later materials have been identified, but they are outliers. While the lack of earlier materials makes sense, given that we are looking at surface finds, what is remarkable is the near absence of recognizable later Roman fine wares or of late Roman amphora types, which one would anticipate finding if present, because we would expect the latest pottery to be the most visible, and because much late Roman pottery is readily identifiable.

[14] The survey units located west and downslope of the Temple of Athena – these grid squares here – yielded the highest sherd densities and the most varied assemblages of surface finds, including not only pottery in table, plain, and cooking wares, but also tile, pipe, lamps, coins, metal objects, tesserae, glass, painted wall plaster, shell, and bone. The greatest concentration of material dated later than the 1st century CE – such as sherds of Late Roman Amphora 3 – is found in the plowed fields northwest of the city outside the walls, in these survey units here. The striking pattern resulting from all three methods – namely, that the site identified as Notion was

largely occupied only from the 3rd century BCE to the 1st century CE – is also suggested by the materials excavated at the site in the 20th century, which Christina DiFabio just discussed, as well as by the results of architectural analysis of the city's major monuments, including the fortifications and sacred buildings. These monuments will be discussed by Felipe Rojas and Alex Marko, and by Christopher Ratté, in the next two papers.

Thank you very much.