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Azione A.13

Vegetational characterization of the areas mapped

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Azione A.13

30/09/2022

LIFE IPE IMAGINE

LIFE19 IPE/IT/00015

Dipartimento di Chimica, Biologia e Biotecnologie

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Gruppo di lavoro:

G. Tesei, P. Angelini, M. Ceccarelli, F. Maneli

Sommario

ABSTRACT

The activities presented here aim to characterize the vegetation and the habitats of Directive 92/43/EEC present in the SAC IT5210003 and SAC IT5210046/SPA IT5220025 sites and to create cartography expanding and improving the knowledge already acquired through previous projects.

Both bibliographic research and field activities were carried out (verification points and phytosociological surveys) to obtain precise data on the phytocoenoses present in the three N2000 sites investigated.

The field data collected on the presence of the plant communities and habitats in the three sites were reported in the GIS environment, allowing the creation of a 1: 10,000 scale map.

INTRODUCTION

Following the first phase of action, focused on the identification and restoration of areas with high presence of Robinia pseudoacacia within the N2000 SAC IT5210003 (River Tiber) and SAC IT5210046/SPA IT5220025 (Valnerina) areas, a phytosociological characterization was carried out in the three sites in order to deepen the knowledge on the vegetation types and habitats present, useful for planning the containment of *Robinia pseudoacacia* and the improvement of the conservation status of the habitats. Subsequently, the information obtained was reported in the GIS environment, allowing the creation of distribution maps of the main vegetation communities and habitats.

DESCRIPTION OF ACTIVITIES AND METHODOLOGY

The activities carried out in order to create a cartography of the vegetation and habitats of Directive 92/43/EEC in the River Tiber and Valnerina sites can be summarized in three main phases.

The first activity carried out involved extensive bibliographic research. In particular, bibliographic material was searched regarding the riparian plant communities and the habitats associated, including the maps already produced for the River Tiber sites in the SAC IT5210003, the Valnerina site on the SAC IT5210046 and SPA IT5220025 and the others N2000 site of Umbria region.

In the second phase, field activities within the three selected N2000 sites (River Tiber in the SAC IT5210003 and the Valnerina on the SAC IT5210046 and SPA IT5220025), to identify the areas with the presence of different vegetation types and habitats were carried out. In detail, a total of 10 field trips were carried out along approximately 40 km of the Nera river and 45 km of the Tiber river in the sections included within the three N2000 areas. For this activity, a GPS was used to memorize the coordinates of the starting and ending points of the areas characterized by the presence of different plant communities. In total, over 200 points were recorded. In addition to GPS, a tablet was also used to indicate the main characteristics of the phytocoenoses present in the various areas identified, such as the dominant species and those typical of the habitats. The collected data were then reported in the GIS environment in order to identify the polygons characterized by the presence of different plant communities. Subsequently, the comparison of the data collected concerning the main characteristics of the plant communities, with those obtained through the bibliographic material, has allowed us to obtain information regarding the presence of habitats. Finally, the field investigations were implemented through the execution of 20 floristic-vegetational surveys according to the phytosociological method. The surveys were carried out in representative areas characterized by different types of vegetation and habitats of community interest.

The results of this second phase made it possible to obtain precise data on the characteristics of the vegetation and habitat detected with the field activities.

In particular, as regards the N2000 site of the Tiber river, three habitats of Community interest have been identified: 3270" Rivers with muddy banks with *Chenopodion rubri* p.p. and *Bidention* p.p.

vegetation", 6430" Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels" and 92A0 "*Salix alba* and *Populus alba* galleries".

The phytosociological typology identified and classifiable in habitat 3270 is dominated by *Persicaria mitis*, and *Bidens tripartita* and is frequently found on humid silty substrates, reaching its maximum development in the summer-autumn period. This vegetation refers to the *Bidenti-Polygonetum mitis* e association and is locally present in a very fragmented manner and often with a punctiform distribution in correspondence with the gravelly islets emerging during the summer season and therefore not mapped.

The plant communities referring to habitat 6430 are quite varied and difficult to place in a single and well-defined phytosociological unit (plant association). Among the most common species are *Epilobium hirsutum, Ballota nigra, Calystegia sepium, Aristolochia rotunda, Urtica dioica, Rubus ulmifolius, Rubus caesius, Eupatorium cannabinum*. These coenoses are found on the edges of riparian tree formations or in areas without forest vegetation subjected to periodic disturbances and periodically flooded on soils rich in nitrogenous substances. From the point of view of their distribution within the SAC, this is very fragmented and hard to map. From a syntaxonomic point of view, these coenoses can be classified within the *Calystegion sepium* alliance (order *Calystegietalia sepium*, class *Filipendulo ulmariae-Convolvuletea sepium*) which brings together nitrophilous plant communities, large species, in humid, periodically flooded environments subject to long periods of drainage and which are favored by the anthropic disturbance in fluvial or marshy environments.

The 92A0 habitat is certainly the most widespread. The phytosociological typology identified in the site and classifiable in this habitat is the *Rubo ulmifolii-Salicetum albae* (*Salicion albae* alliance, order *Salicetalia purpureae*, class *Salicetea purpureae*). Within the SAC, these communities dominated by *Salix alba* are often confined to a narrow strip close to the river bed, but in some cases, they also reach considerable dimensions and for this reason, they are particularly important. In the SAC, in addition to the *Rubo ulmifolii-Salicetum albae* association, other plant communities have been identified that can be classified within the 92A0 habitat, but from a syntaxonomic point of view, they are difficult to refer to plant associations. These communities have been defined as a "Group of *Populus canescens*, *Populus canadensis, Salix alba*. In fact, these coenosis present in the tree layer *Populus canescens, P. canadensis, P. nigra, Robinia pseudoacacia* and *Salix alba* in which the first two species alternate their dominance or are co-dominated. From a floristic point of view, these communities are rather degraded and this is demonstrated by the presence of a high number of synanthropic, ruderal and nitrophilous species. This is mainly due to strong anthropic disturbance to which these areas are subjected, also underlined by the presence of *Robina pseudoacacia* which in some cases reaches high coverage values.

in addition to the plant communities attributable to habitats 3270, 6430 and 92A0, other vegetation typologies have been identified which are not attributable to habitats of Community interest. Among these, the most widespread is certainly the "*Robinia pseudoacacia*-dominated vegetation" which includes both riparian communities with a coverage of more than 50% black locust, and communities

in which *Robinia pseudoacacia* forms an almost monospecific tree layer. In the latter case, the *Robinia pseudoacacia* communty, difficult to classify at the level of association, can in any case refer to the *Chelidonio-Robinietalia pseudoacaciae* order. These communities are also characterized by a large contingent of synanthropic and nitrophilous species which confirms the high anthropic disturbance present in the areas in which these coenoses are present. Other plant communities that cannot be classified in habitats of Community interest are: those dominated by nitrophilous herbaceous and shrub species (group with *Artemisi vulgaris*, group with *Sambucus ebulus*, group with *Urtica dioica*, group with *Rubus ulmifolius*) which can be classified in the *Galio aparines-Urticetea dioicae* and *Artemisietea vulgaris* classes present on the edge of tree formations and in open areas; some sporadic wood formations dominated by *Quercus cerris* and *Q. pubescens* of the *Lonicero xilostei-Quercetum cerridis* association and finally rare communities with *Phragmites australis* in marshy environments.

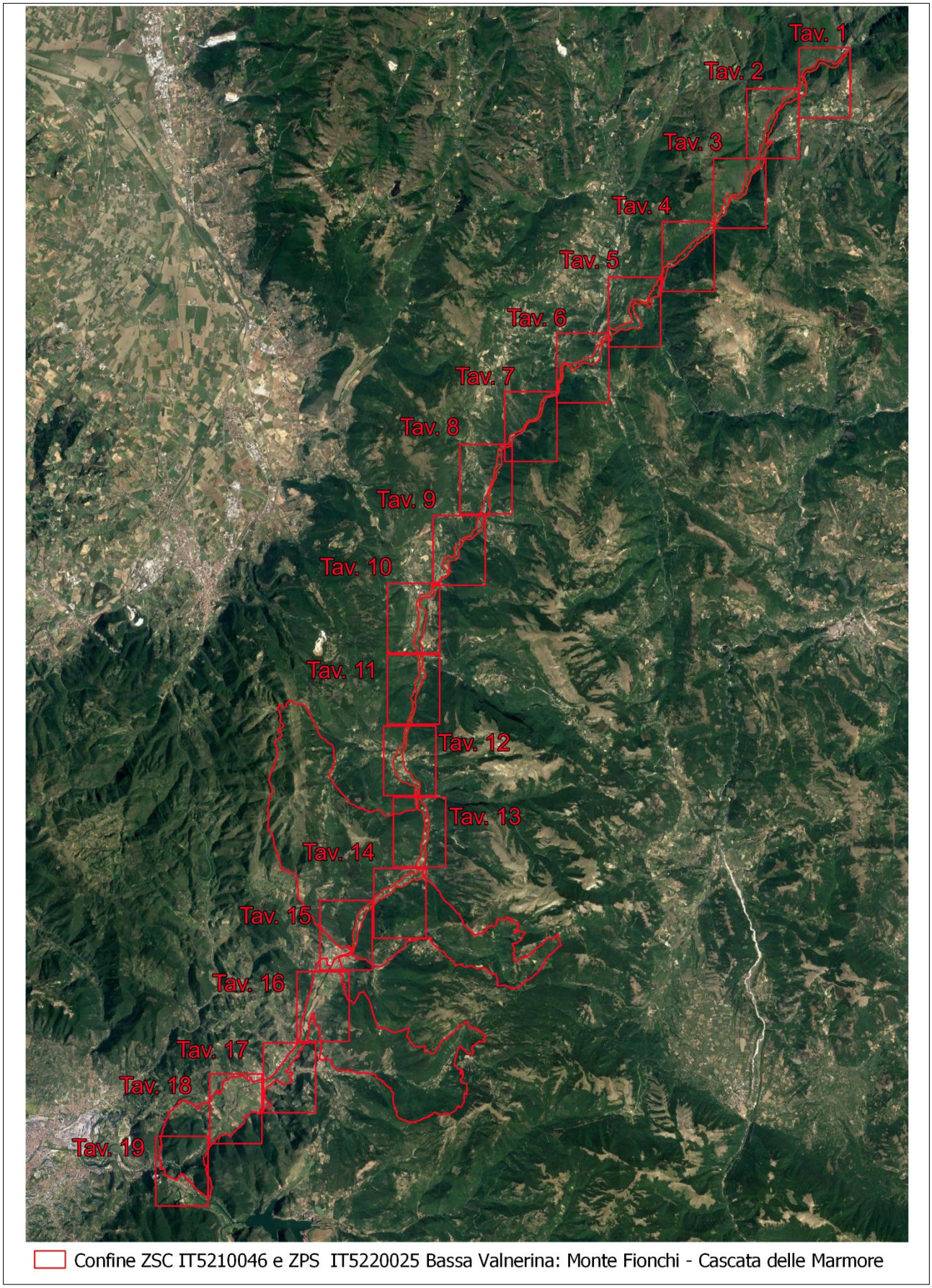
In the two N2000 sites of Valnerina, three habitats of Community interest have been identified: 91E0* "Alluvial forests with Alnus glutinosa and Fraxinus excelsior (*Alno-Padion, Alnion incanae, Salicion albae*)", 92A0 "*Salix alba* and *Populus alba* galleries" and 9340 "*Quercus ilex* and *Quercus rotundifolia forests*".

The riparian tree communities identified within the SAC and SPA are mainly dominated by *Salix alba* and *Alnus glutinosa*, sometimes accompanied by *Populus alba, P. nigra* and *Ulmus minor*. In most areas, *Salix alba* is the dominant and constantly present species, but often accompanied by *Alnus glutinosa, P. nigra* and *Ulmus minor* (*Salix alba* group). Only in a few cases, *Alnus glutinosa* shows very high coverage values compared to *Salix alba* which can be almost completely absent (*Alnus glutinosa* group) due to the reduced width of the vegetation which presents itself as a narrow strip along the banks of the Nera River and to the continuous anthropic disturbances on the river terraces, the two groups are not always easily recognizable and well distinguishable. It was decided, on the basis of the floristic differences, to include the *Salix alba* group within the 92A0 habitat and the *Alnus glutinosa* one in the 91E0*.

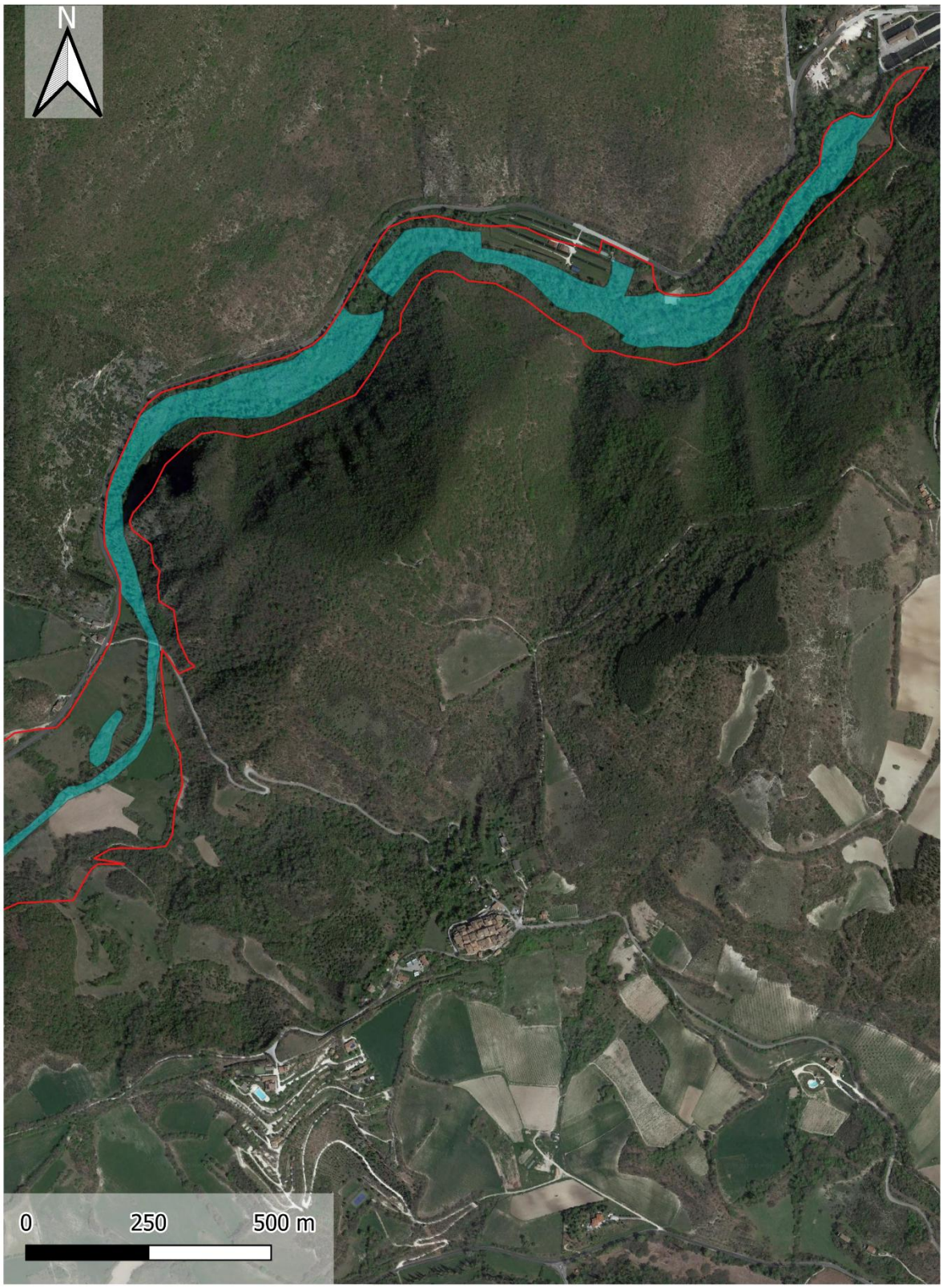
In the SAC and SPA, in steep slope areas, on limestone substratum, with little soil and outcropping rocks, forest stands of Quercus ilex belonging to the Cephalanthero longifoliae-Quercetum ilicis association and belonging to the 9340 habitat are present.

In the third phase, the data collected in the field on the distribution of the main plant communities and habitats in the tree N2000 sites were reported in the GIS environment, allowing the creation of 1:10,000 scale maps. Attachment 1 shows the maps relating to the distribution of the main plant communities and habitats in SAC IT5210046 and SPA IT5220025 (Valnerina) and the relative overall map. Attachment 2 shows the distribution maps of the main plant communities and habitats in the SAC IT5210003 (river Tiber) and the related overall map.

Attachment 1


Tav. 1
Tav. 2
Tav. 3
Tav. 4
Tav. 5
Tav. 6
Tav. 7
Tav. 8
Tav. 9
Tav. 10
Tav. 11
Tav. 12
Tav. 13
Tav. 14
Tav. 15
Tav. 16
Tav. 17
Tav. 18
Tav. 19
Confine ZSC IT5210046 e ZPS IT5220025 Bassa Valnerina: Monte Fionchi - Cascata delle Marmore

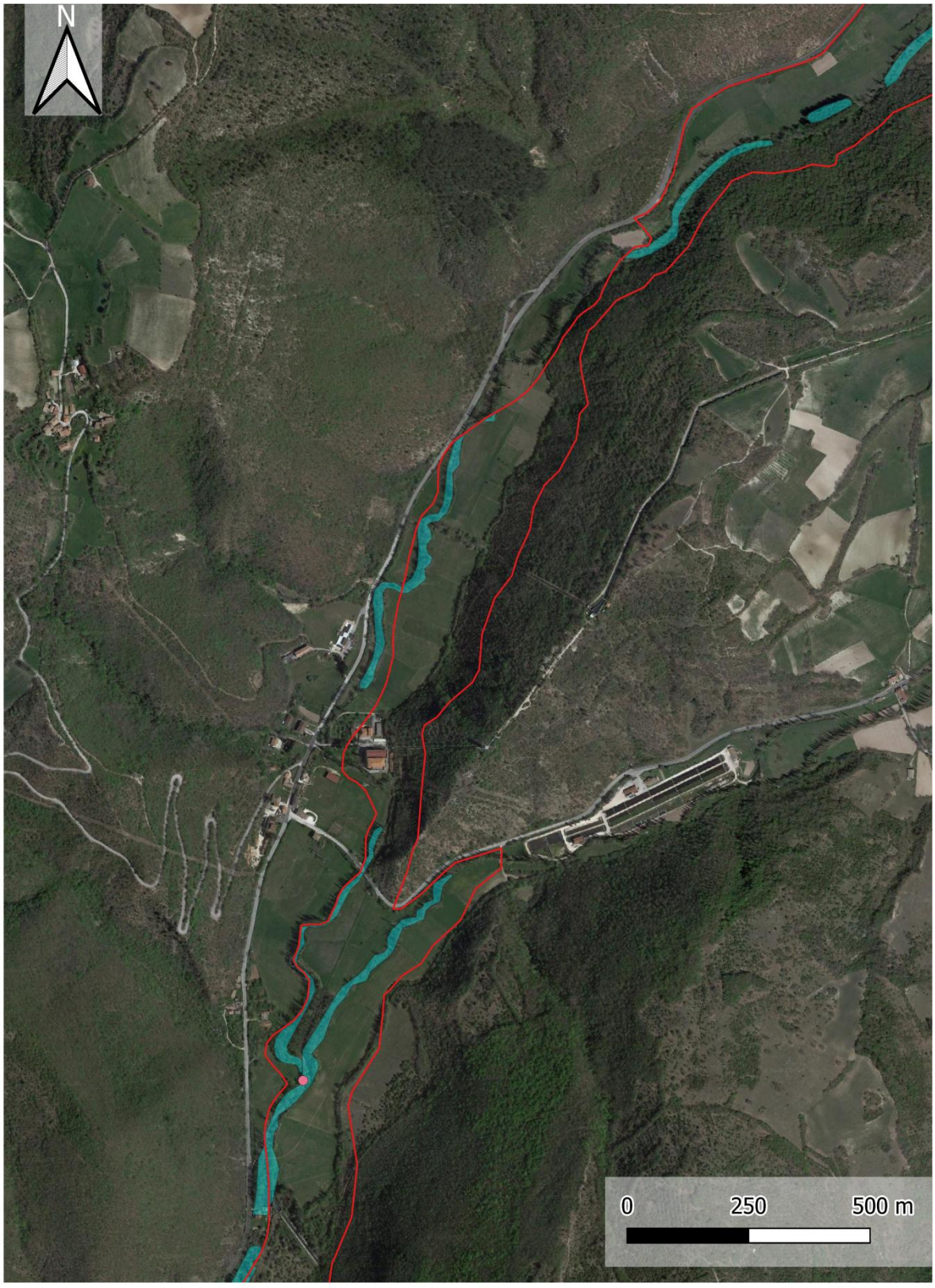
Tav. 1



Confine ZSC IT5210046 Valnerina

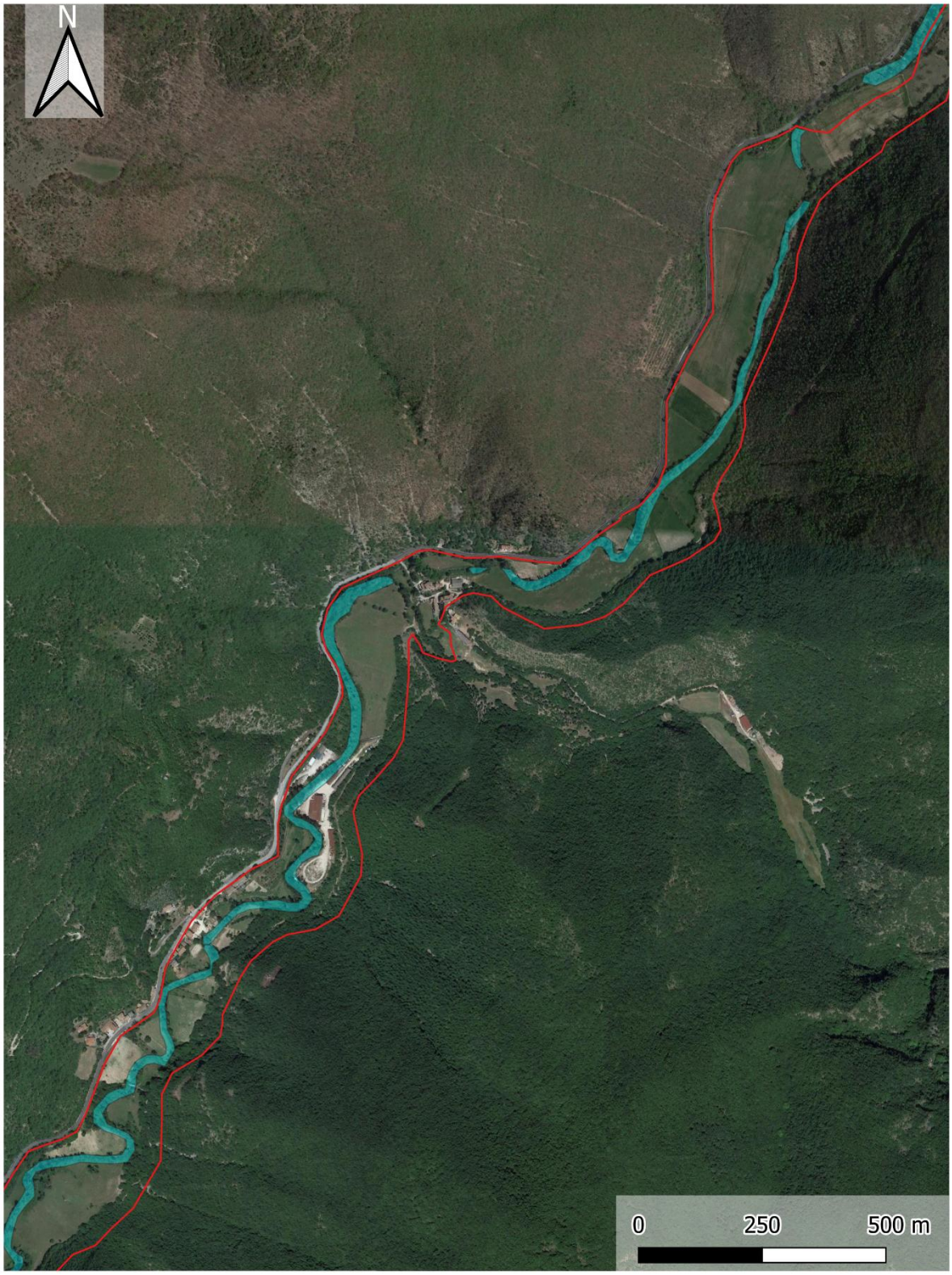
Habitat 92A0

Tav. 2



Confine ZSC IT5210046 Valnerina
Rilievo fitosociologico
Habitat 92A0

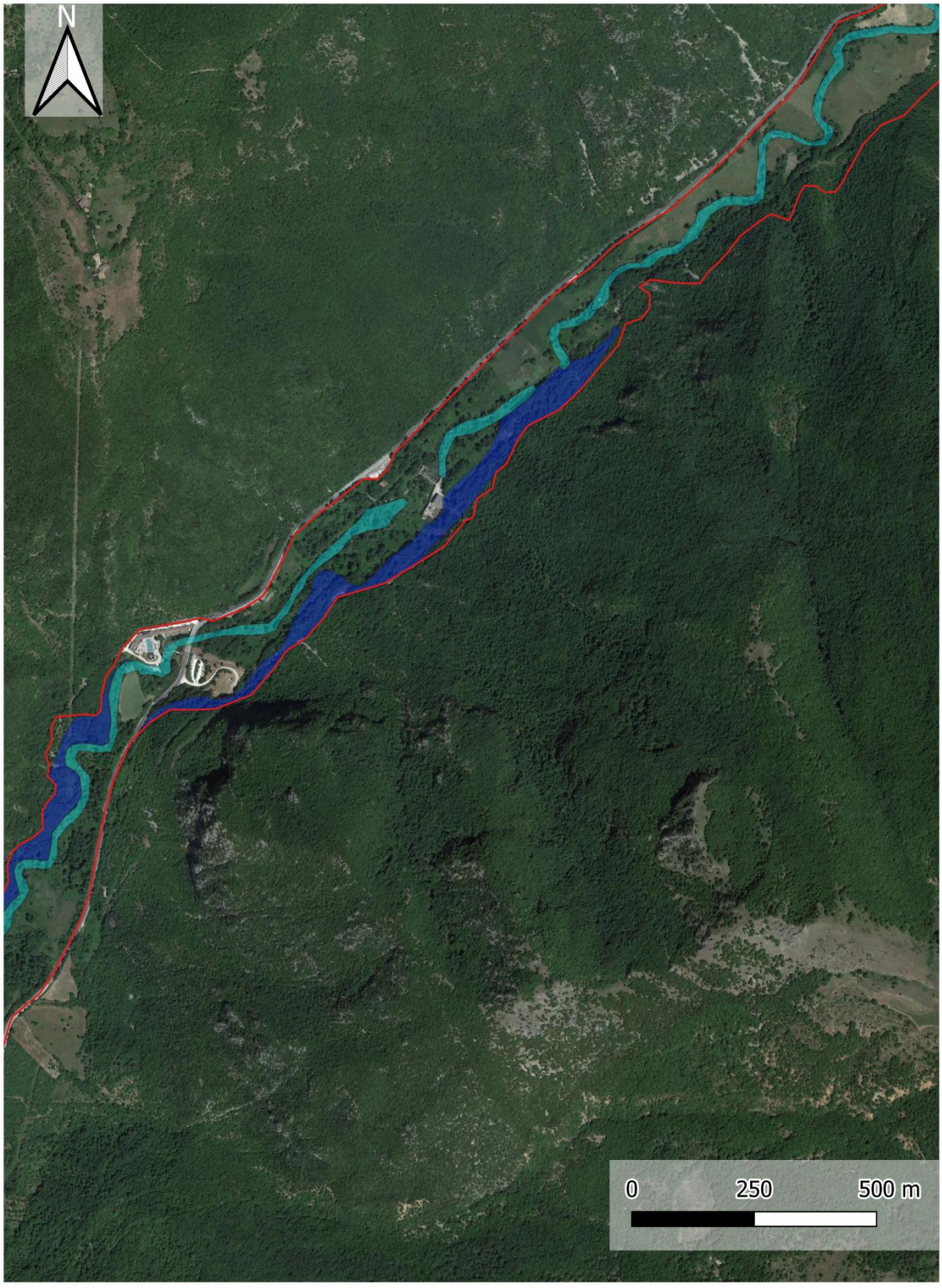
Tav. 3



Confine ZSC IT5210046 Valnerina

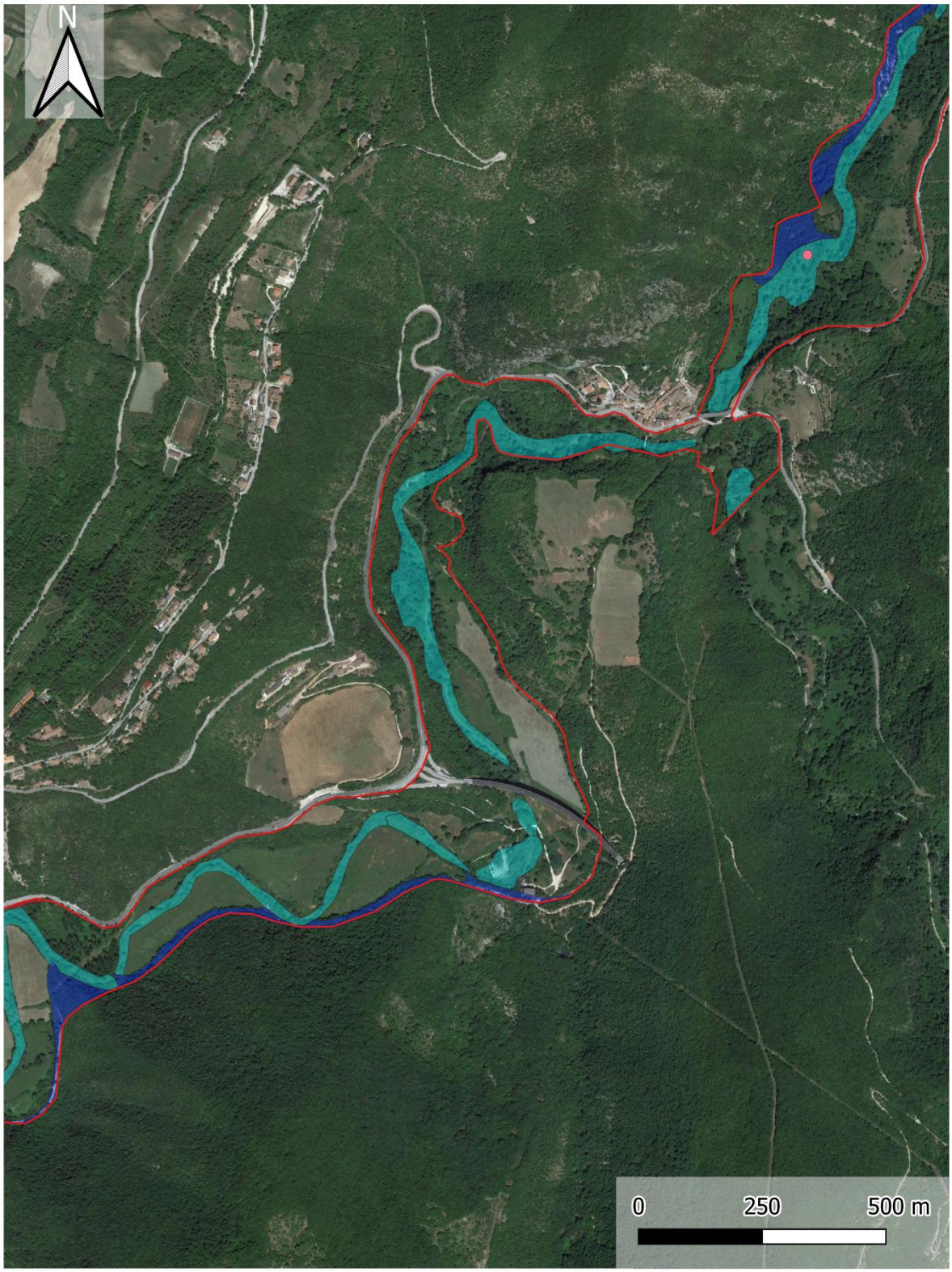
Habitat 92A0

Tav. 4



Confine ZSC IT5210046 Valnerina
Habitat 92A0
Habitat 9340

Tav. 5



Confine ZSC IT5210046 Valnerina
Habitat 9340
Habitat 92A0
Rilievo fitosociologico

Tav. 6

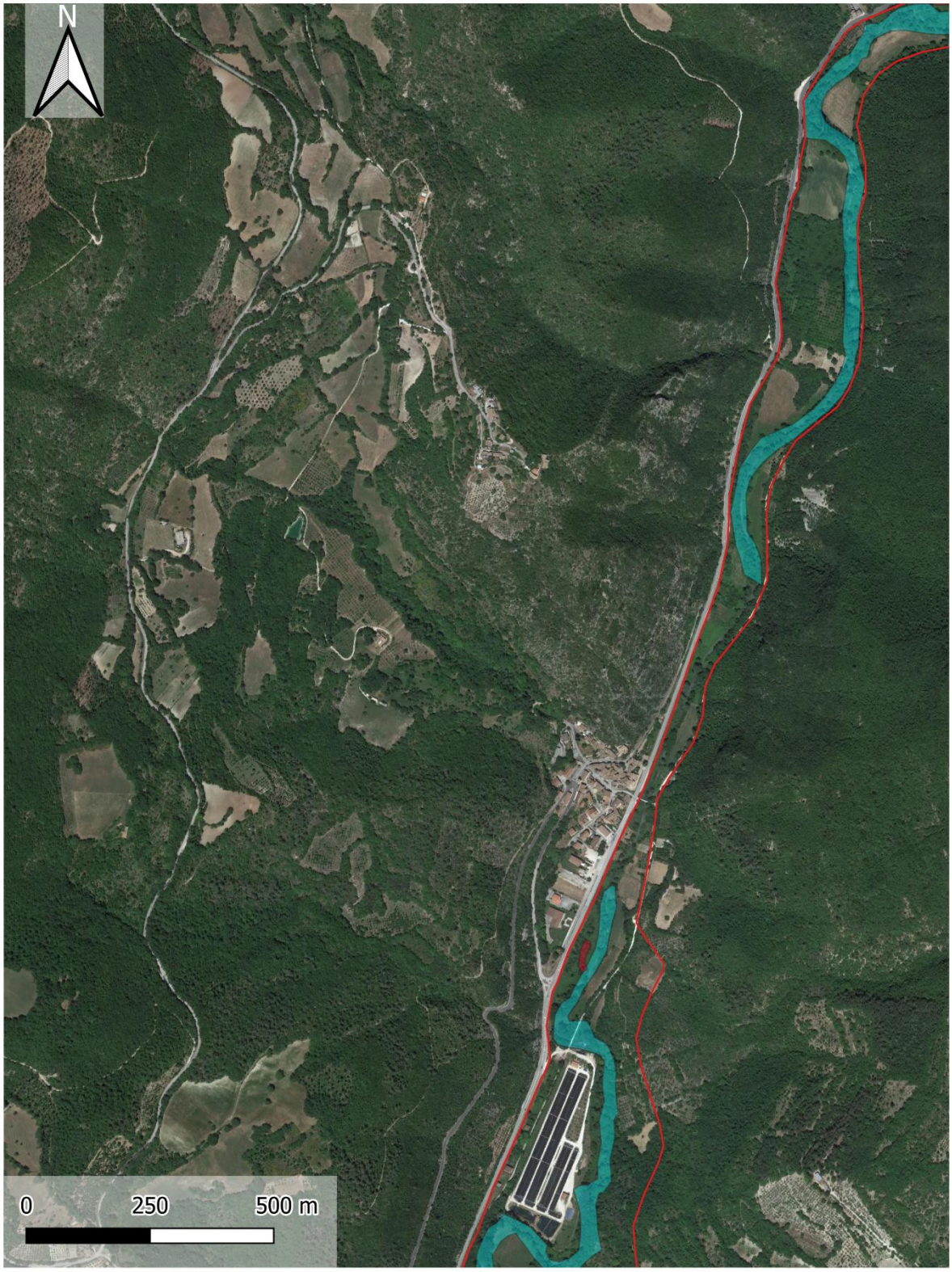
Confine ZSC IT5210046 Valnerina

Habitat 92A0

Tav. 7

Confine ZSC IT5210046 Valnerina
Habitat 92A0
Habitat 9340

Tav. 8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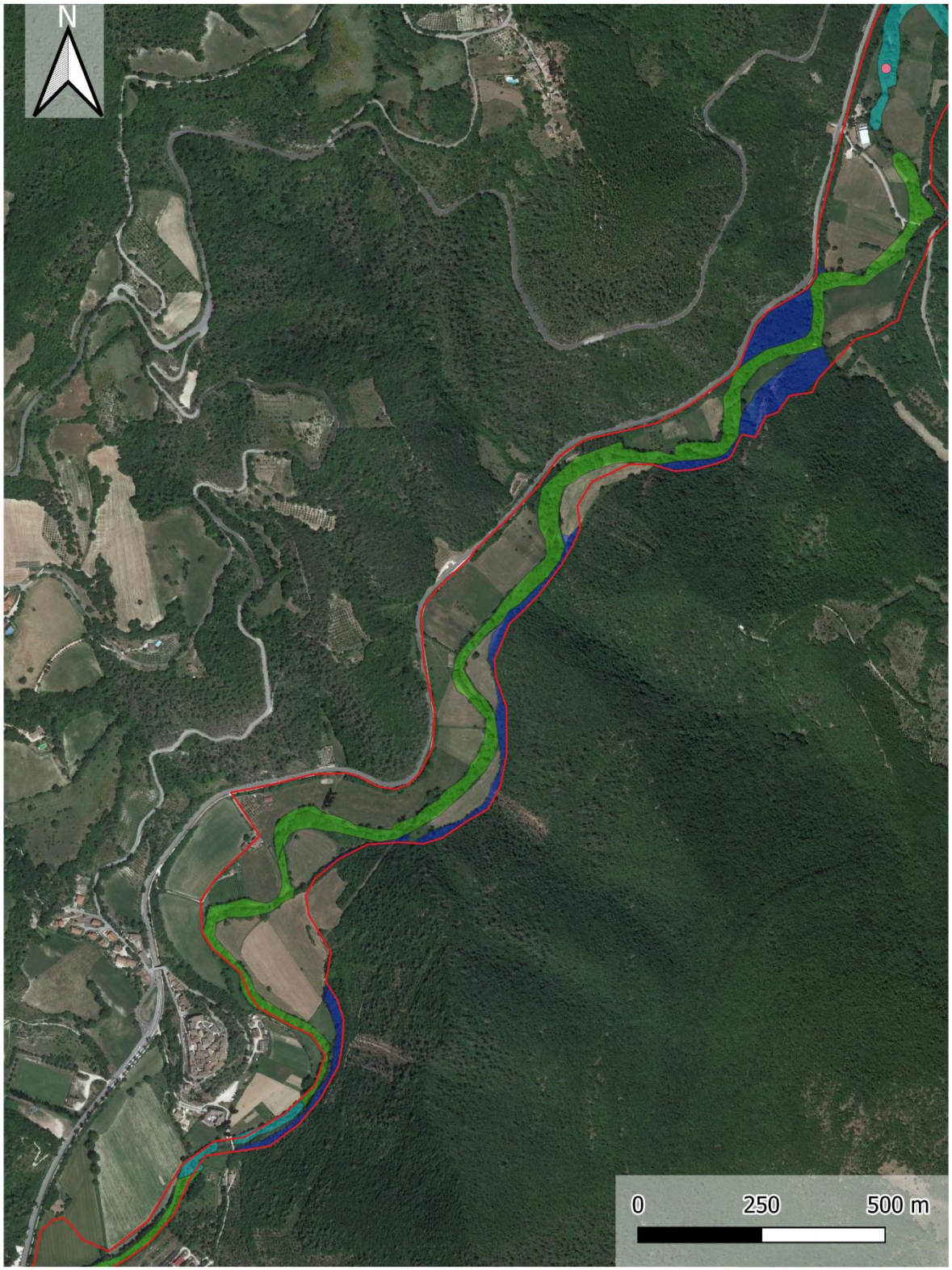
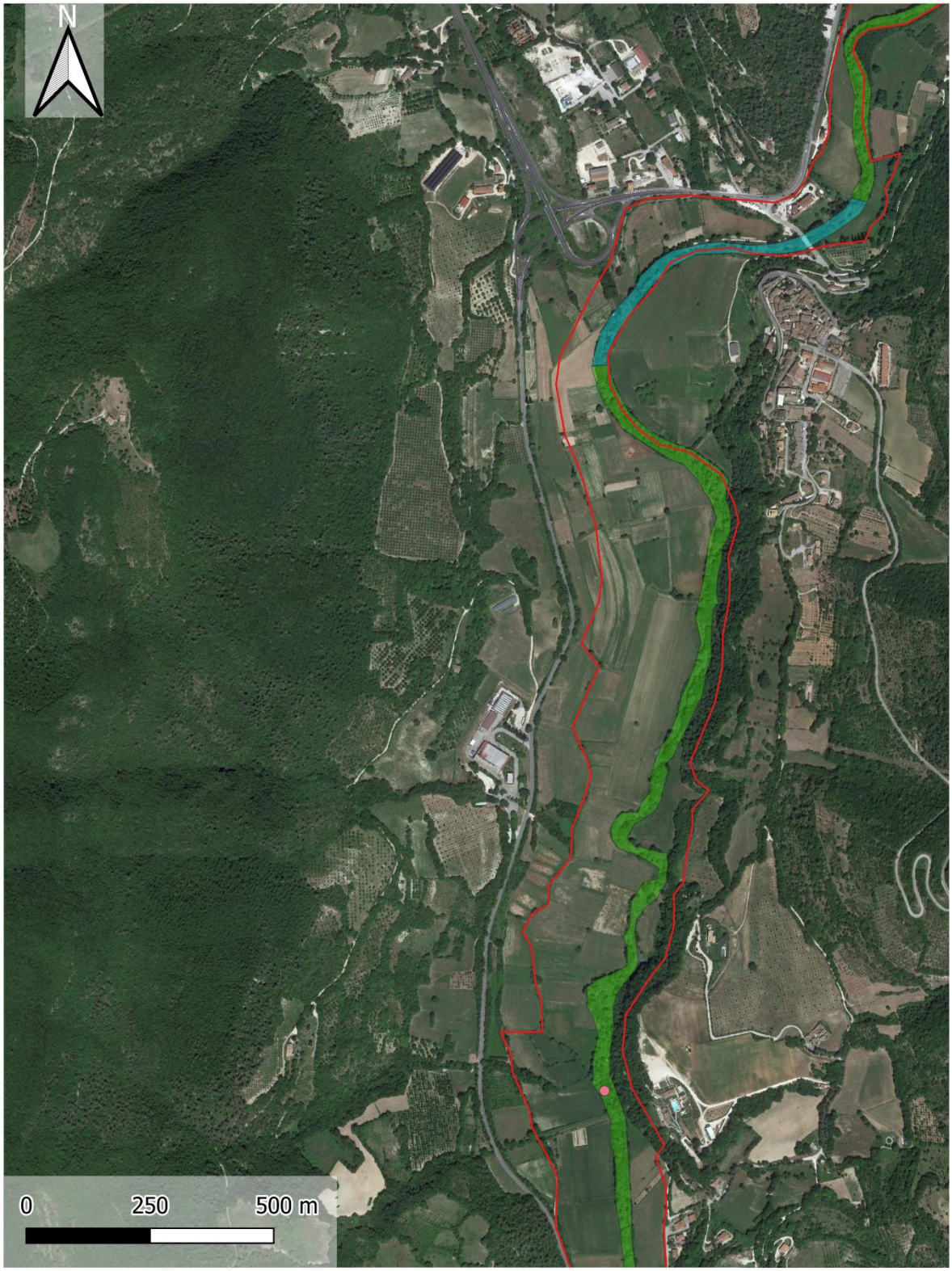
Confine ZSC IT5210046 Valnerina
Habitat 92A0
Habitat 9340
Vegetazione a Robinia pseudoacacia

Tav. 9



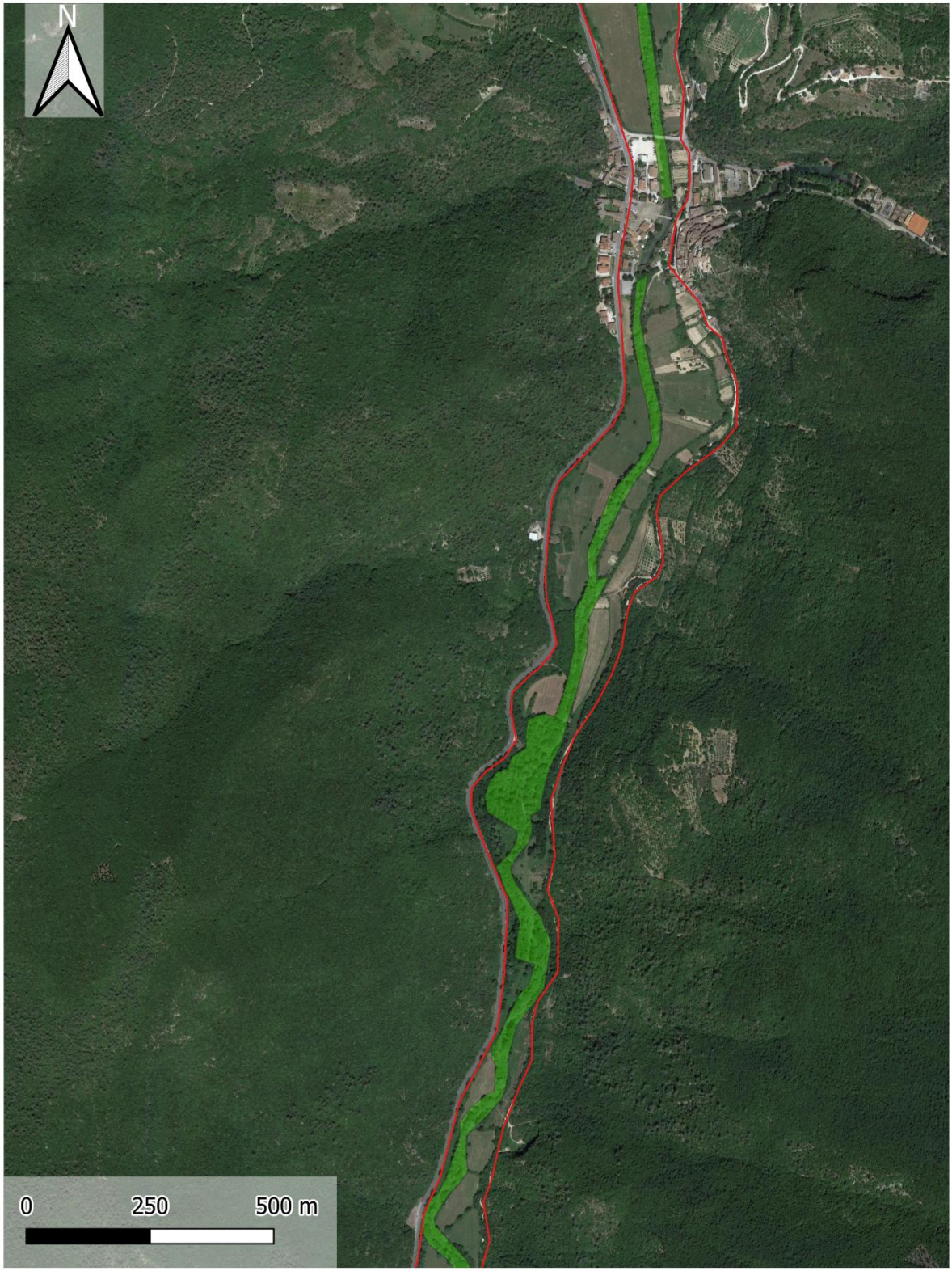
Confine ZSC IT5210046 Valnerina
Rilievo fitosociologico
Habitat 92A0
Habitat 91E0
Habitat 9340

Tav. 10



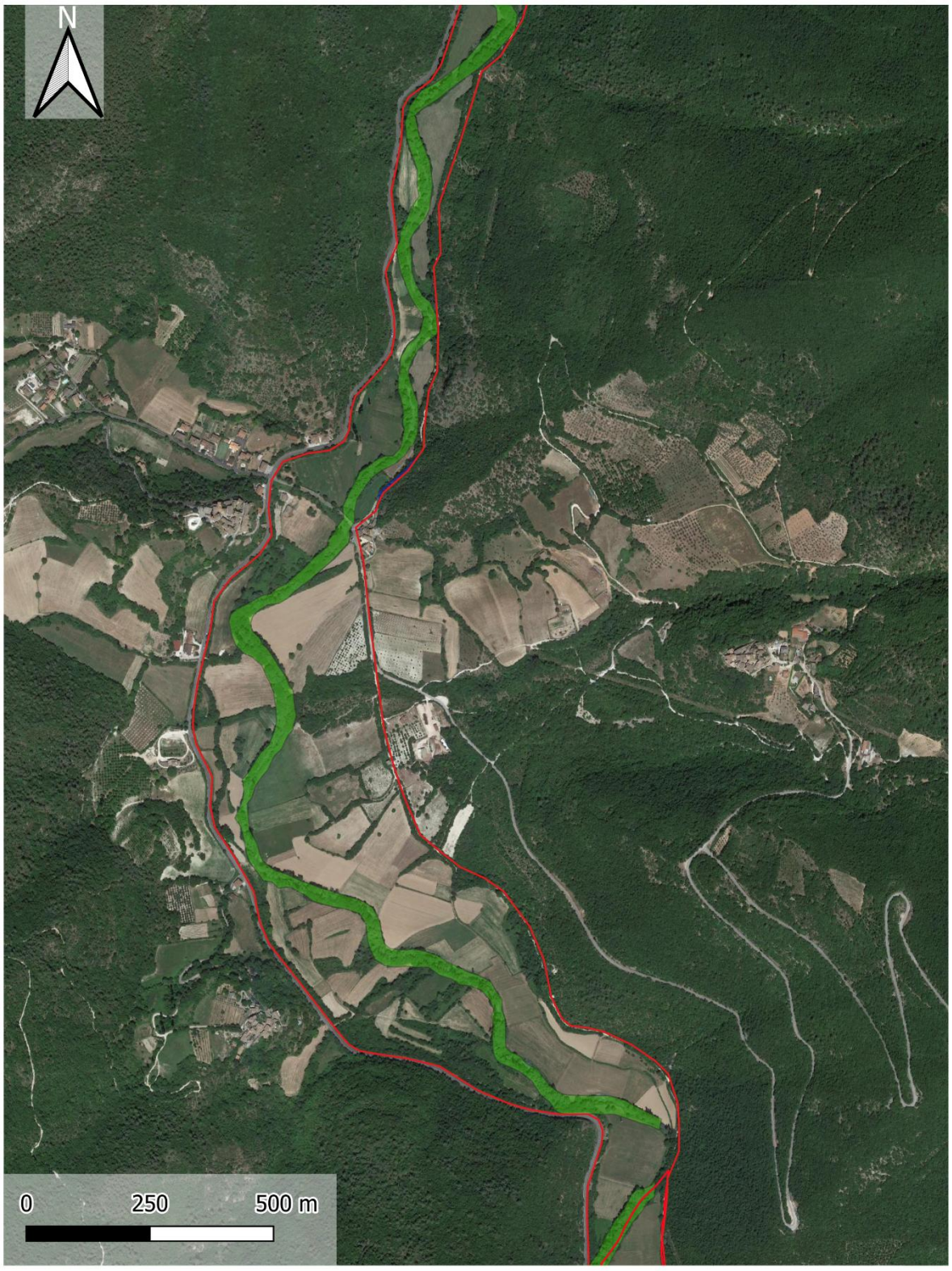
Confine ZSC IT5210046 Valnerina
Rilievo fitosociologico
Habitat 92A0
Habitat 91E0

Tav. 11



Confine ZSC IT5210046 Valnerina Habitat 91E0

Tav. 12



Confine ZSC IT5210046 Valnerina e ZPS IT5220025 Bassa Valnerina: Monte Fionchi - Cascata delle Marmore

Habitat 9340

Habitat 91E0

Tav. 13

Confine ZSC IT5210046 Valnerina e ZPS IT5220025 Bassa Valnerina: Monte Fionchi - Cascata delle Marmore

Habitat 92A0

Rilievo fitosociologico

Habitat 91E0

Tav. 14

Confine ZSC IT5210046 Valnerina e ZPS IT5220025 Bassa Valnerina: Monte Fionchi - Cascata delle Marmore

Habitat 92A0

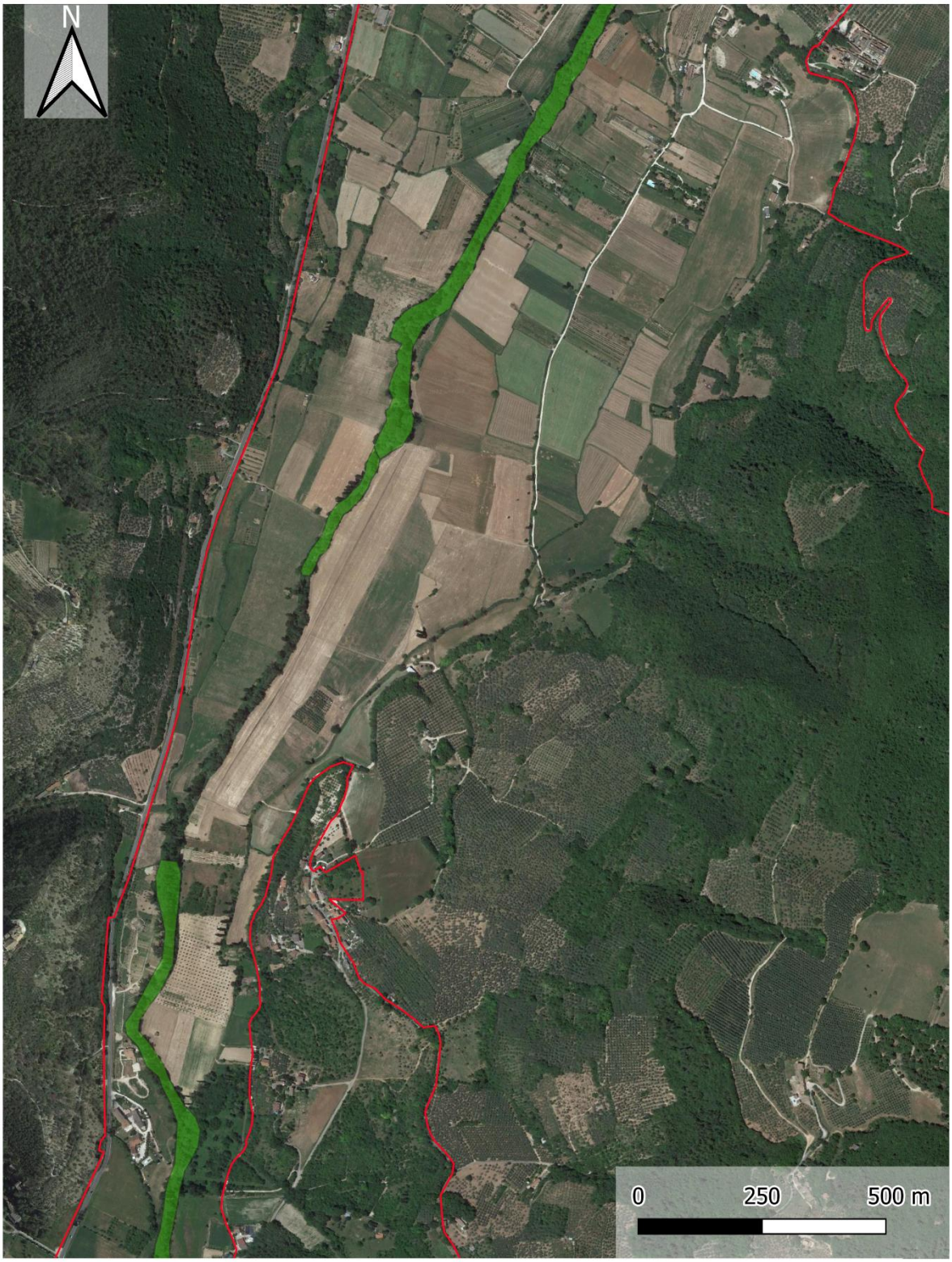
Tav. 15

Confine ZSC IT5210046 Valnerina e ZPS IT5220025 Bassa Valnerina: Monte Fionchi - Cascata delle Marmore

Habitat 92A0

Habitat 91E0

Tav. 16



Confine ZSC IT5210046 Valnerina e ZPS IT5220025 Bassa Valnerina: Monte Fionchi - Cascata delle Marmore

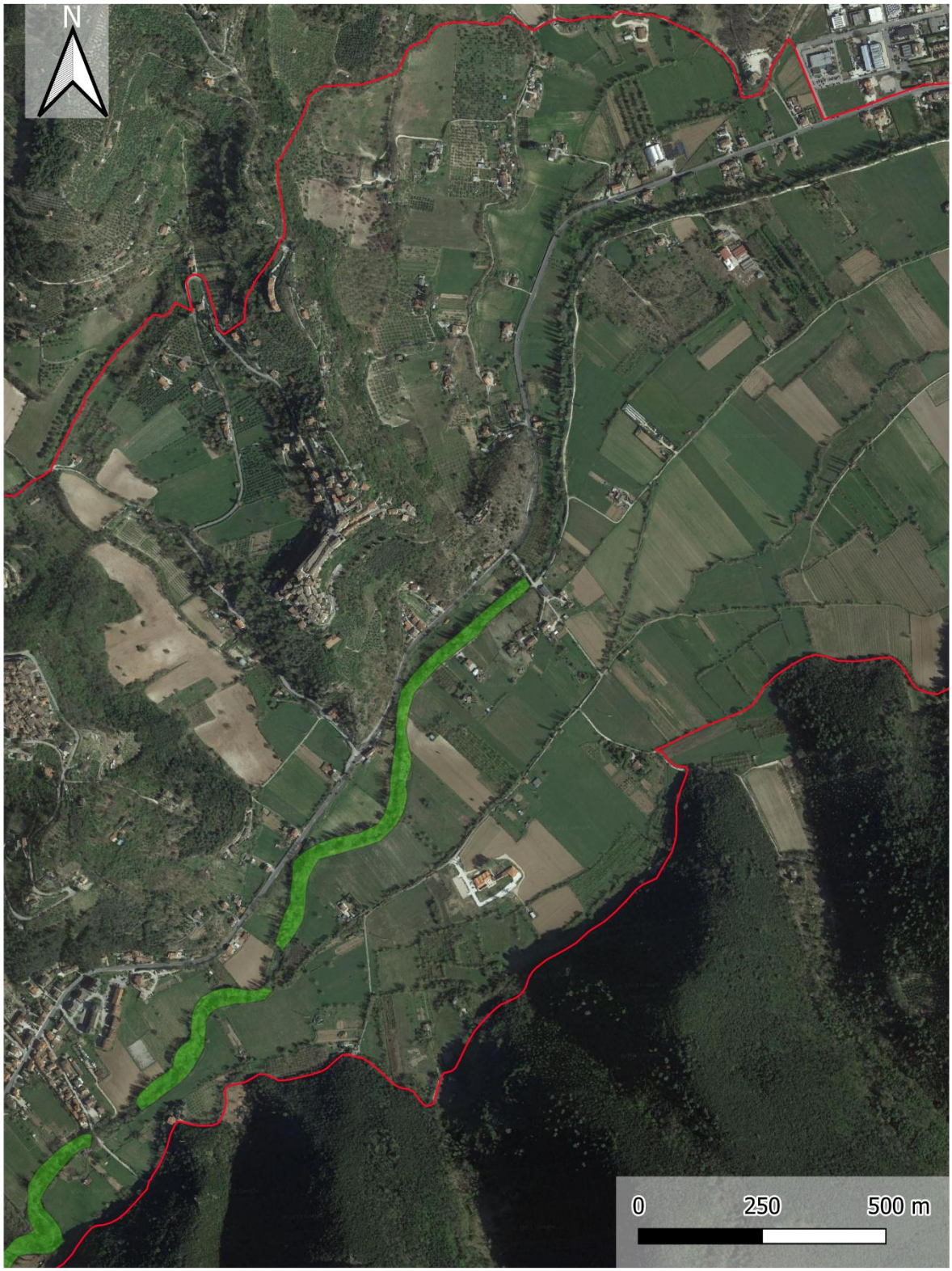
Habitat 91E0

Tav. 17

Confine ZSC IT5210046 Valnerina e ZPS IT5220025 Bassa Valnerina: Monte Fionchi - Cascata delle Marmore

Habitat 91E0

Tav. 18



Confine ZSC IT5210046 Valnerina e ZPS IT5220025 Bassa Valnerina: Monte Fionchi - Cascata delle Marmore

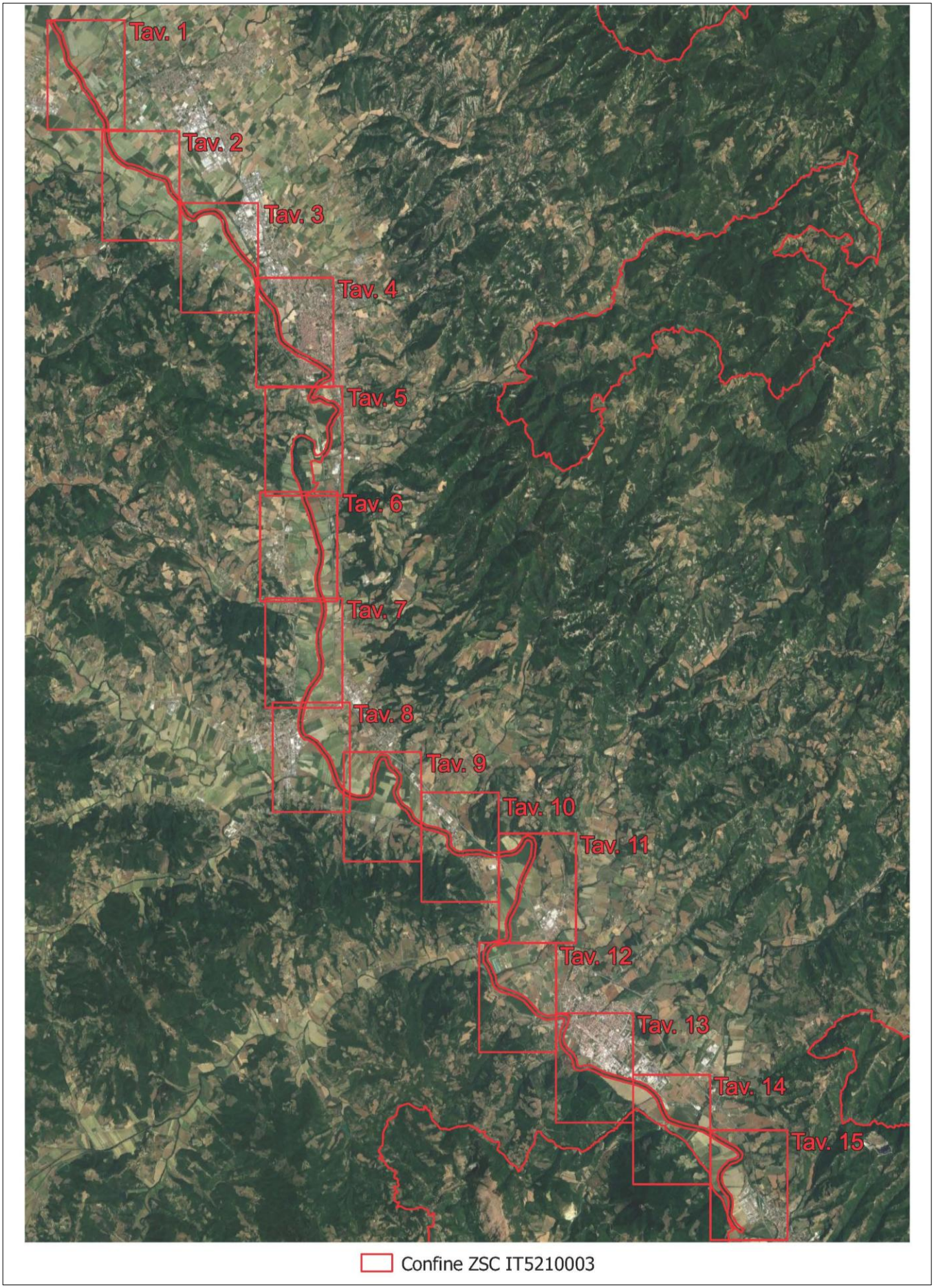
Habitat 91E0

Tav. 19

Confine ZSC IT5210046 Valnerina e ZPS IT5220025 Bassa Valnerina: Monte Fionchi - Cascata delle Marmore

Habitat 91E0

Attachment 2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Tav. 7
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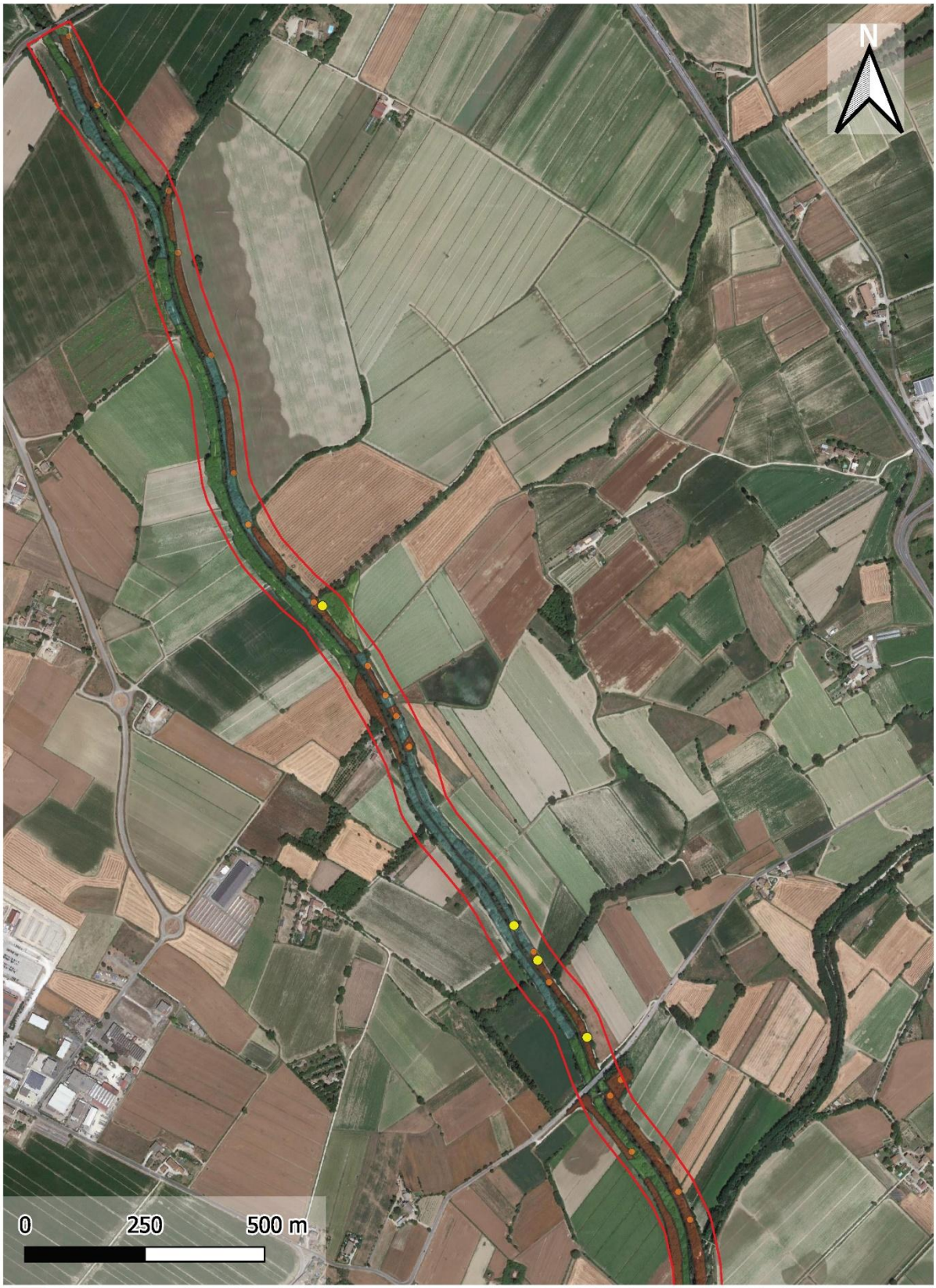
Tav. 10
Tav. 11
Tav. 12
Tav. 13
Tav. 14
Tav. 15
Confine ZSC IT5210003

Tav. 1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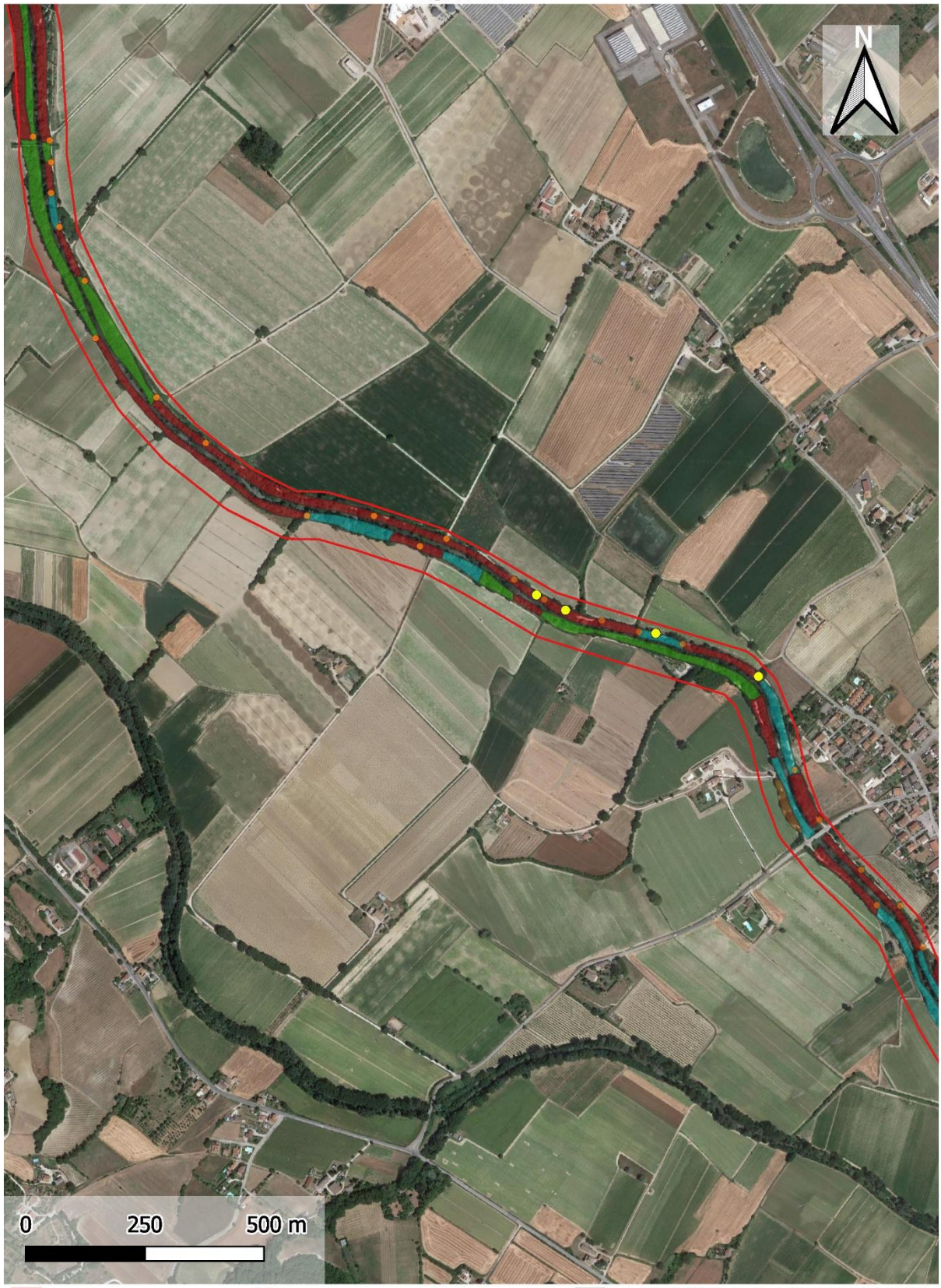
Confine ZSC IT5210003
Punti di verifica
Rilievi fitosociologici
Vegetazione a *Robinia pseudoacacia*
Habitat 92A0: Aggr. a *Populus canescens*, *Populus canadensis*, *Salix alba* Habitat 92A0
Habitat 92A0: *Rubo ulmifolii-Salicetum albae*

Tav. 2



Confine ZSC IT5210003

Punti di verifica

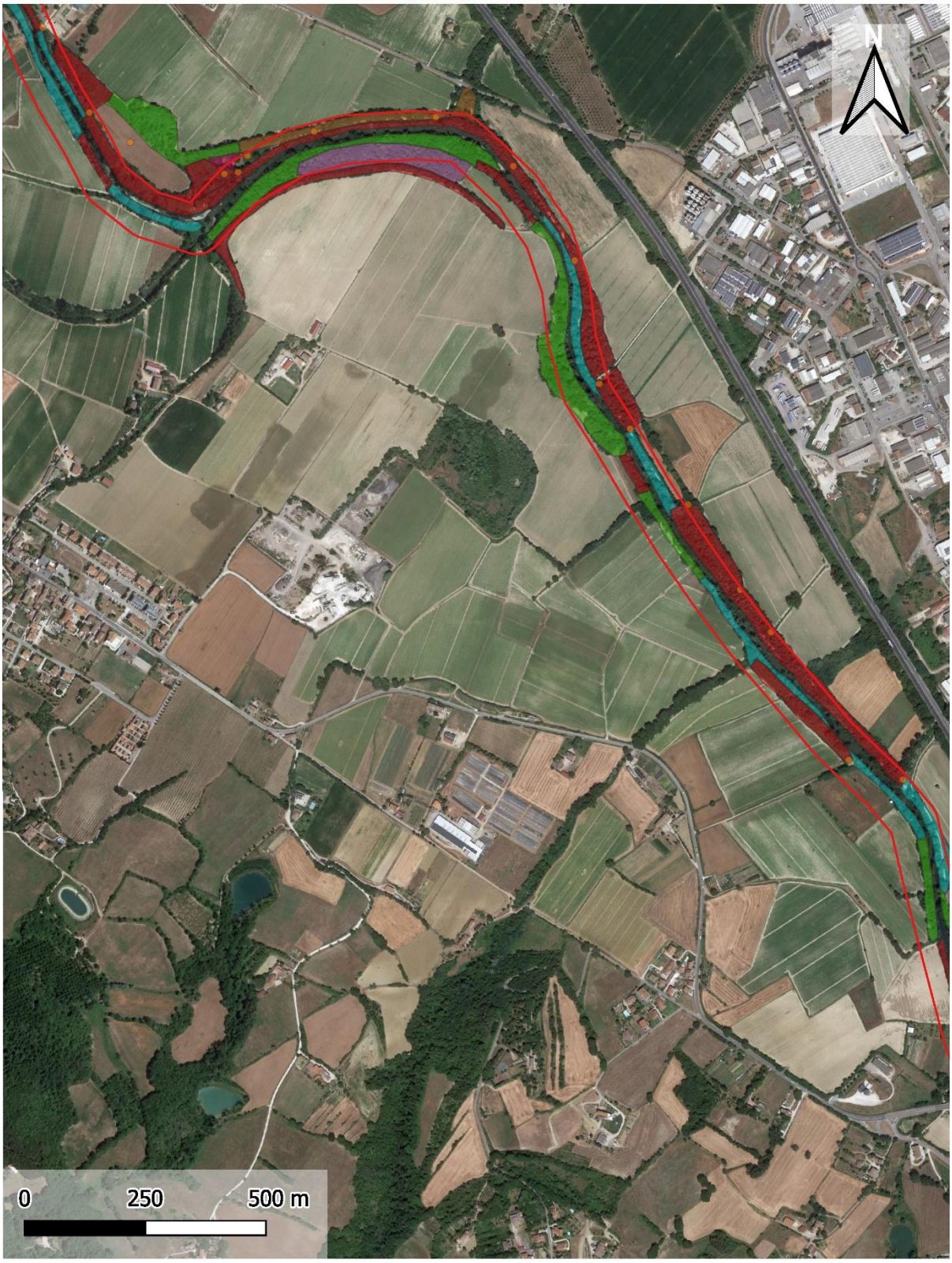
Habitat 92A0: Aggr. a *Populus canescens*, *Populus canadensis*, *Salix alba*

Rilievi fitosociologici

Vegetazione a *Robinia pseudoacacia*

Habitat 92A0: *Rubo ulmifolii-Salicetum albae*

Tav. 3



Confine ZSC IT5210003

Punti di verifica

Vegetazione a *Robinia pseudoacacia*

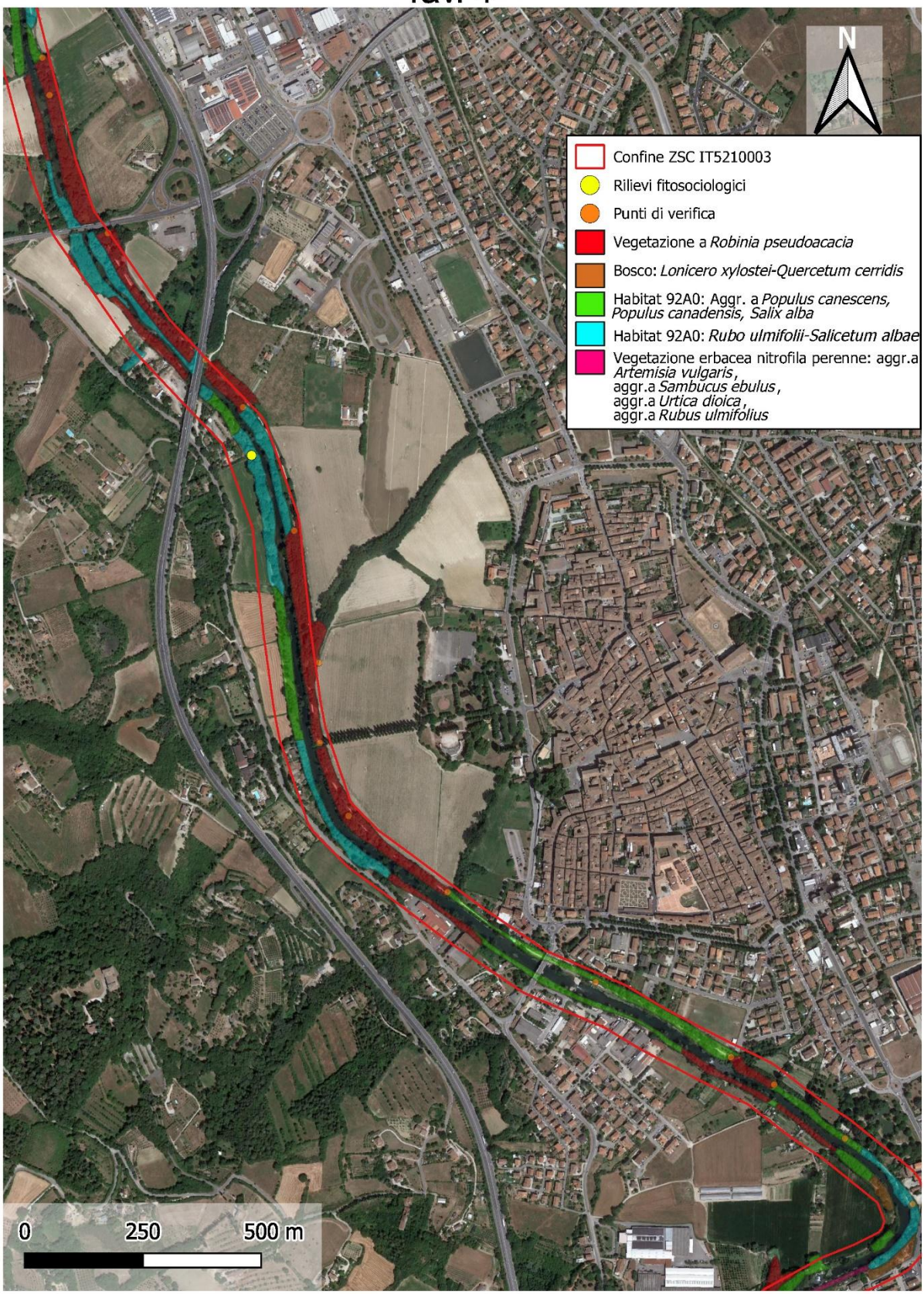
Bosco: *Lonicero xylostei-Quercetum cerridis*

Habitat 92A0: Aggr. a *Populus canescens, Populus canadensis, Salix alba*

Habitat 92A0: *Rubus ulmifolii-Salicetum albae*

Vegetazione erbacea nitrofila perenne:
aggr.a *Artemisia vulgaris,*
aggr.a *Sambucus ebulus,*
aggr.a *Urtica dioica,*
aggr.a *Rubus ulmifolius*

Tav. 4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Confine ZSC IT5210003
Rilievi fitosociologici
Punti di verifica
Vegetazione a *Robinia pseudoacacia*
Bosco: *Lonicero xylostei-Quercetum cerridis*
Habitat 92A0: Aggr. a *Populus canescens, Populus canadensis, Salix alba*
Habitat 92A0: *Rubo ulmifolii-Salicetum albae*
Vegetazione erbacea nitrofila perenne: aggr.a *Artemisia vulgaris*, aggr.a *Sambucus ebulus*, aggr.a *Urtica dioica*, aggr.a *Rubus ulmifolius*
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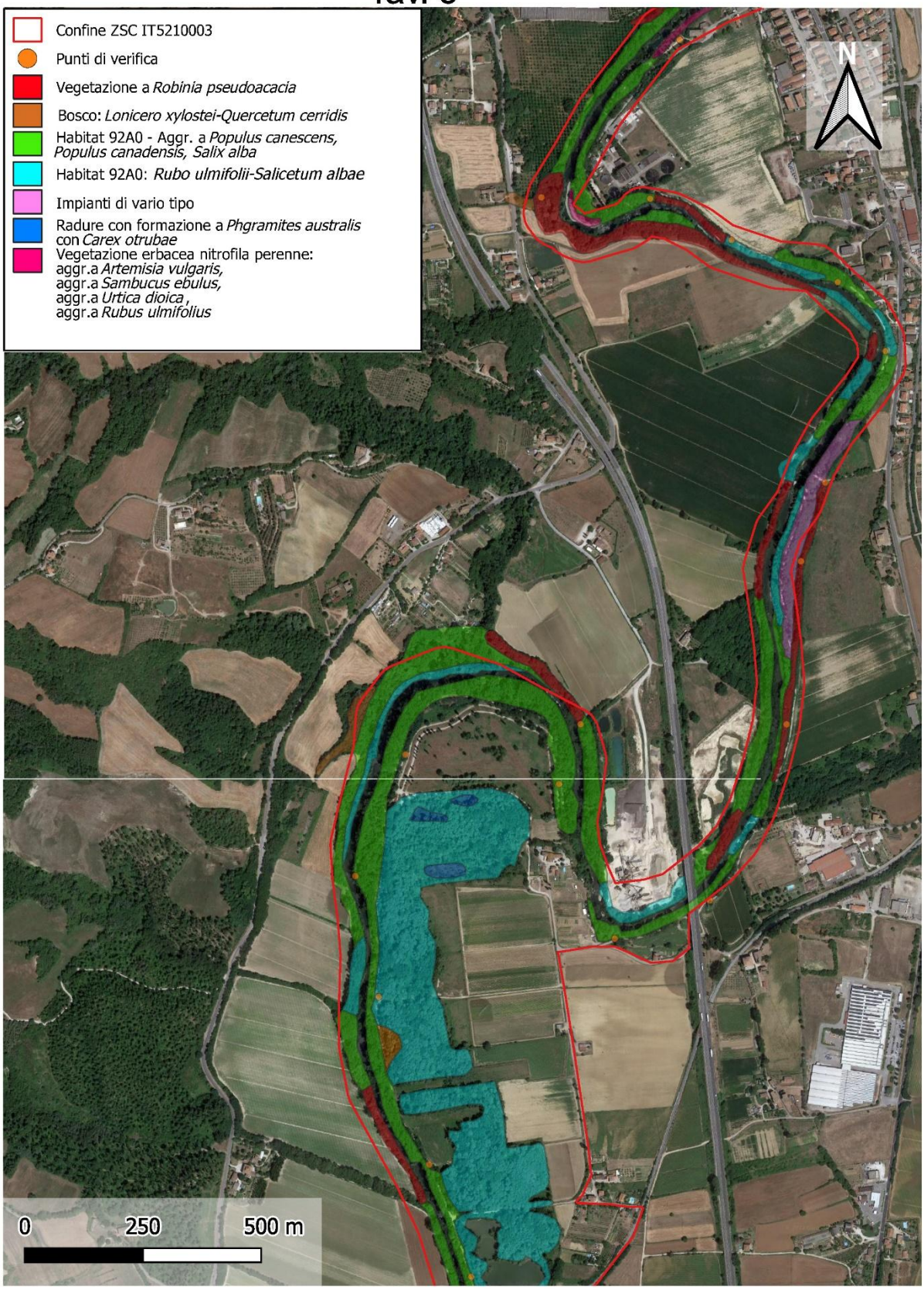
Tav. 5


Confine ZSC IT5210003
Punti di verifica
Vegetazione a *Robinia pseudoacacia*
Bosco: *Lonicero xylostei-Quercetum cerridis*
Habitat 92A0 - Aggr. a *Populus canescens, Populus canadensis, Salix alba*
Habitat 92A0: *Rubo ulmifolii-Salicetum albae*
Impianti di vario tipo
Radure con formazione a *Phgramites australis* con *Carex otrubae*
Vegetazione erbacea nitrofila perenne: aggr.a *Artemisia vulgaris*, aggr.a *Sambucus ebulus*, aggr.a *Urtica dioica* , aggr.a *Rubus ulmifolius*
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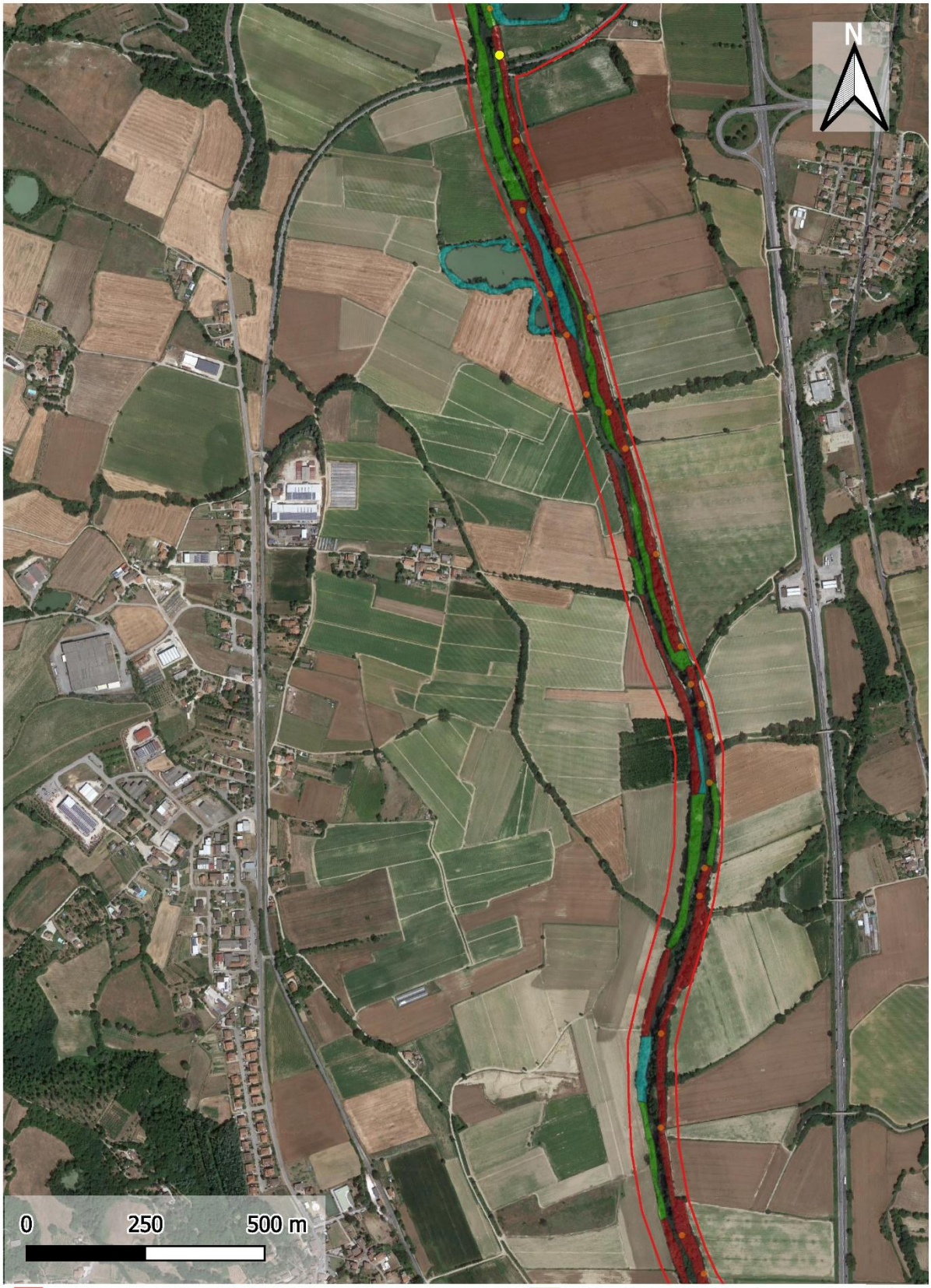
Tav. 6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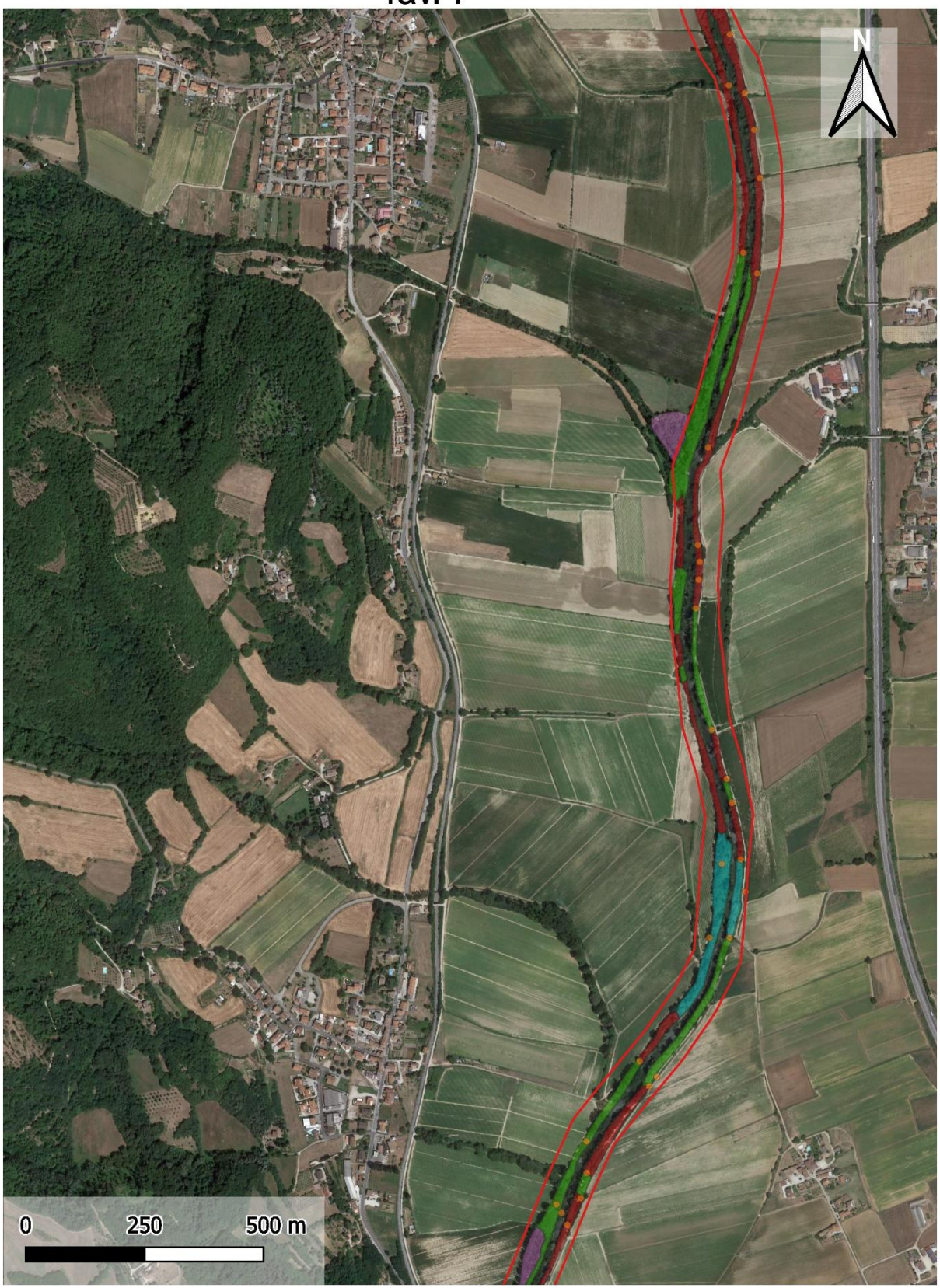
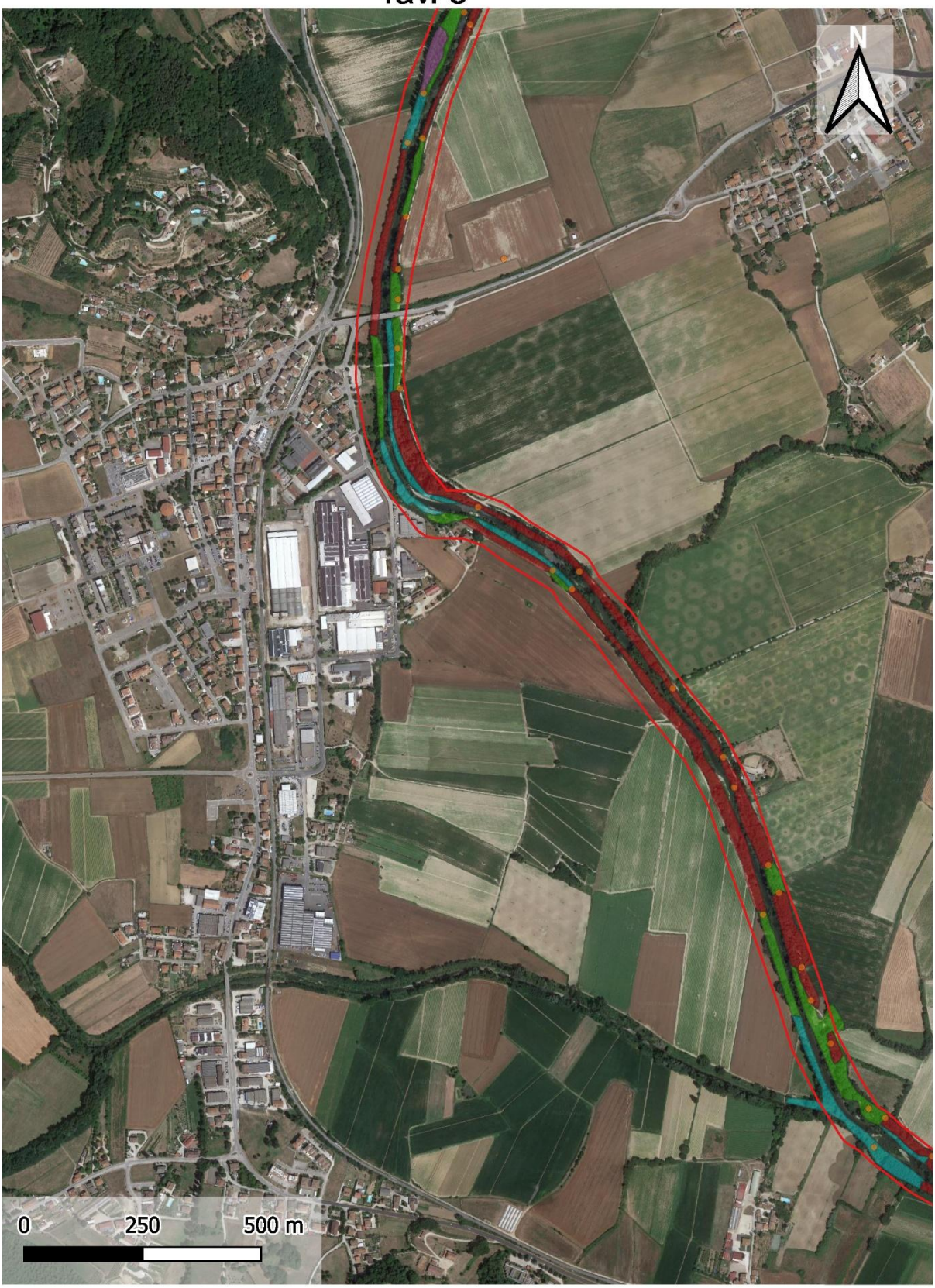
Confine ZSC IT5210003
Punti di verifica
Habitat 92A0: Aggr. a *Populus canescens, Populus canadensis, Salix alba*
Rilievi fitosociologici
Vegetazione a *Robinia pseudoacacia*
Habitat 92A0: *Rubo ulmifolii-Salicetum albae*

Tav. 7



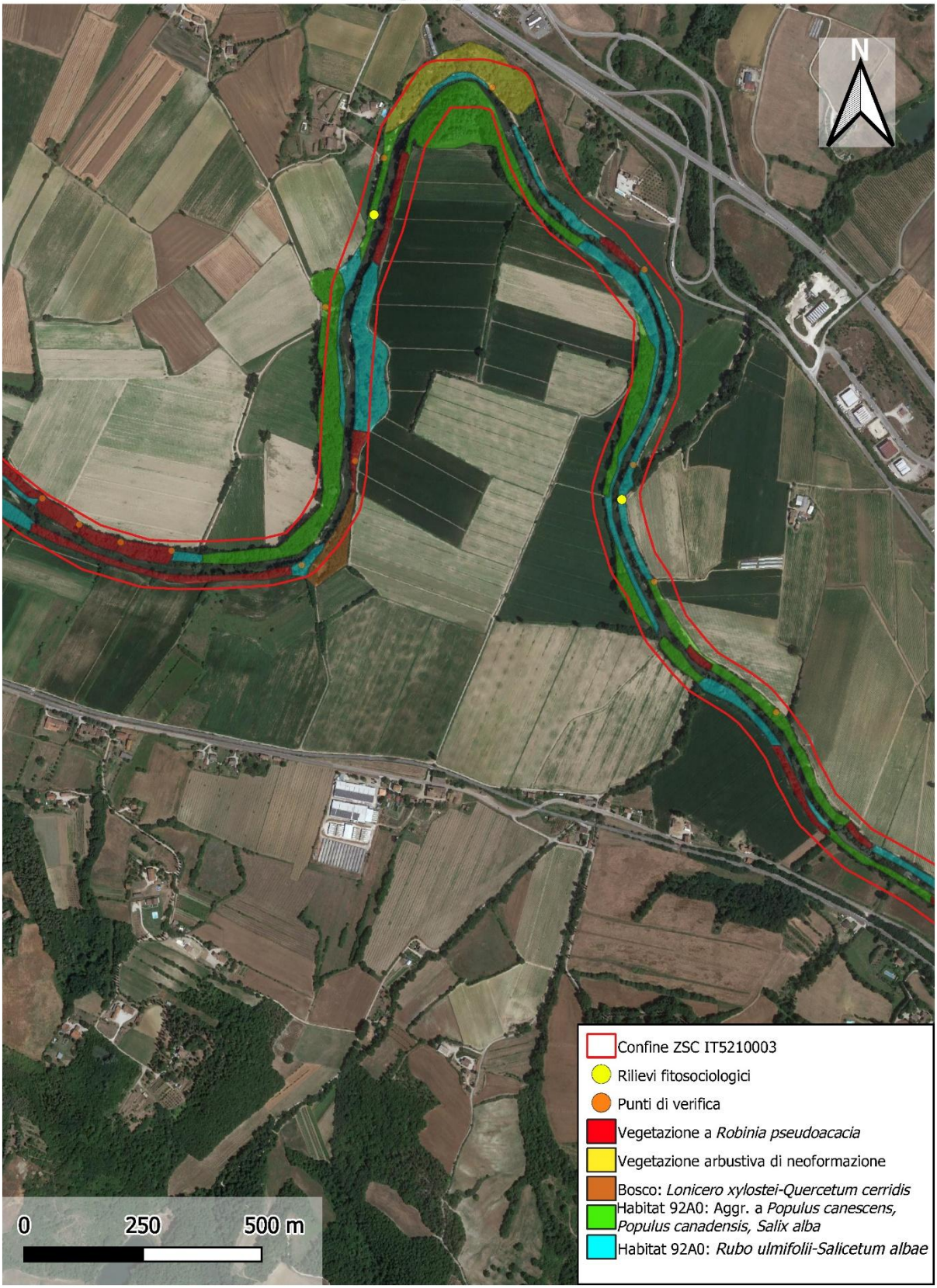
Confine ZSC IT5210003
Punti di verifica
Vegetazione a *Robinia pseudoacacia*
Habitat 92A0: Aggr. a *Populus canescens, Populus canadensis, Salix alba*
Habitat 92A0: *Rubo ulmifolii-Salicetum albae*
Impianti di vario tipo

Tav. 8



Confine ZSC IT5210003
Punti di verifica
Vegetazione a *Robinia pseudoacacia*
Habitat 92A0: Aggr. a *Populus canescens, Populus canadensis, Salix alba*
Habitat 92A0: *Rubo ulmifolii-Salicetum albae*
Impianti di vario tipo

Tav. 9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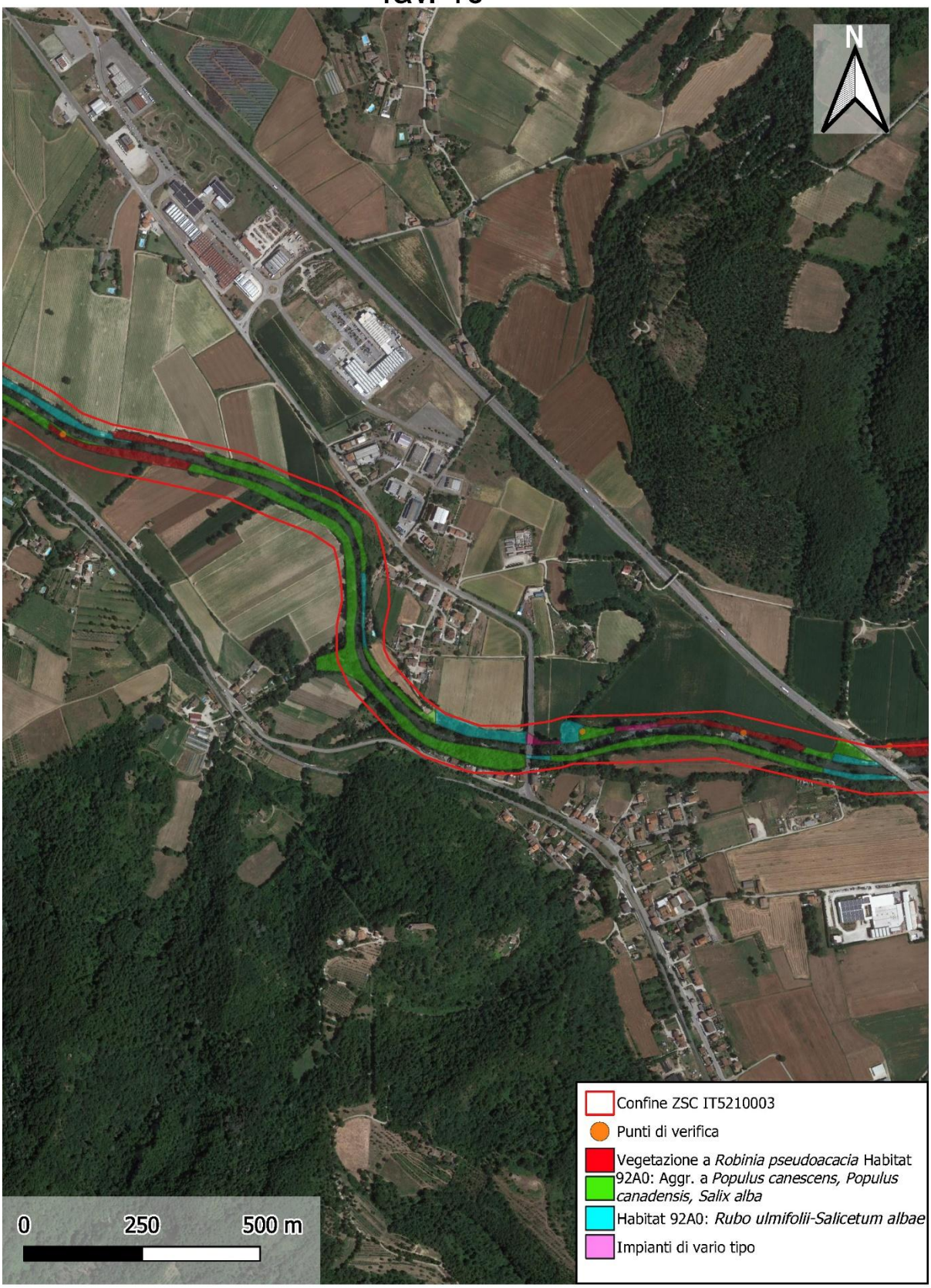
Confine ZSC IT5210003
Rilievi fitosociologici
Punti di verifica
Vegetazione a *Robinia pseudoacacia*
Vegetazione arbustiva di neoformazione
Bosco: *Lonicero xylostei-Quercetum cerridis*
Habitat 92A0: Aggr. a *Populus canescens, Populus canadensis, Salix alba*
Habitat 92A0: *Rubo ulmifolii-Salicetum albae*

Tav. 10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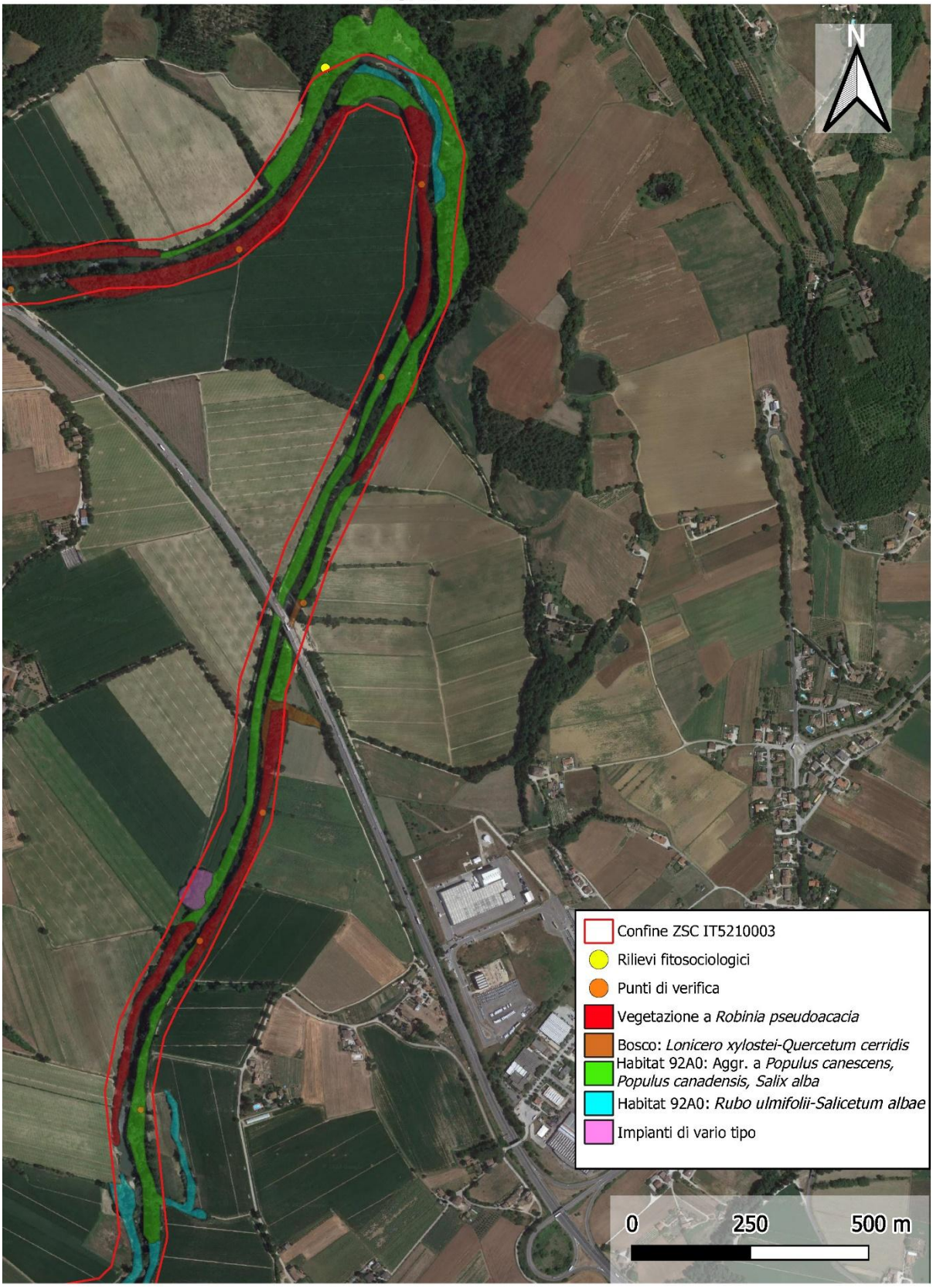
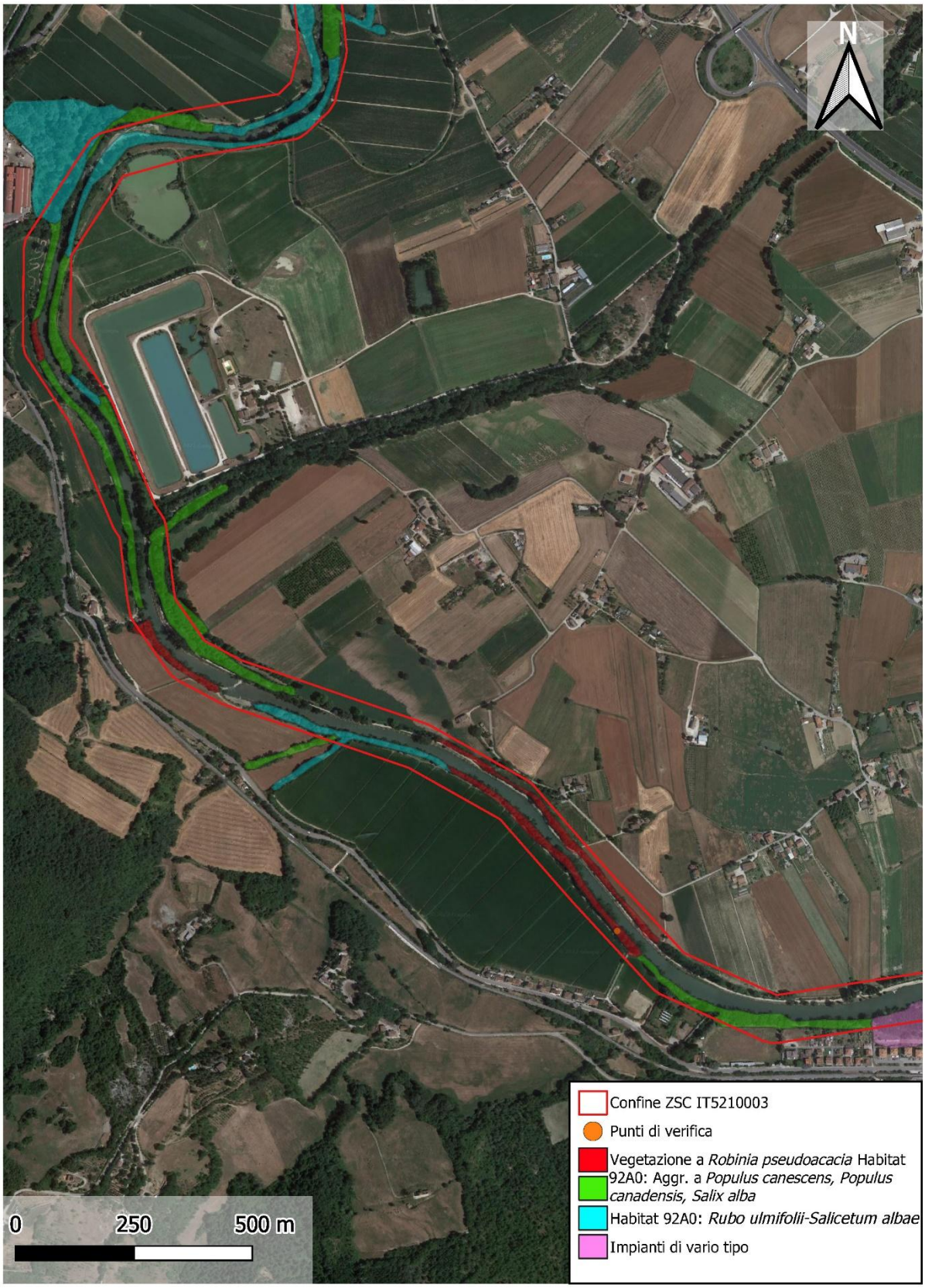
Confine ZSC IT5210003
Punti di verifica
Vegetazione a *Robinia pseudoacacia* Habitat 92A0: Aggr. a *Populus canescens, Populus canadensis, Salix alba*
Habitat 92A0: *Rubo ulmifolii-Salicetum albae*
Impianti di vario tipo

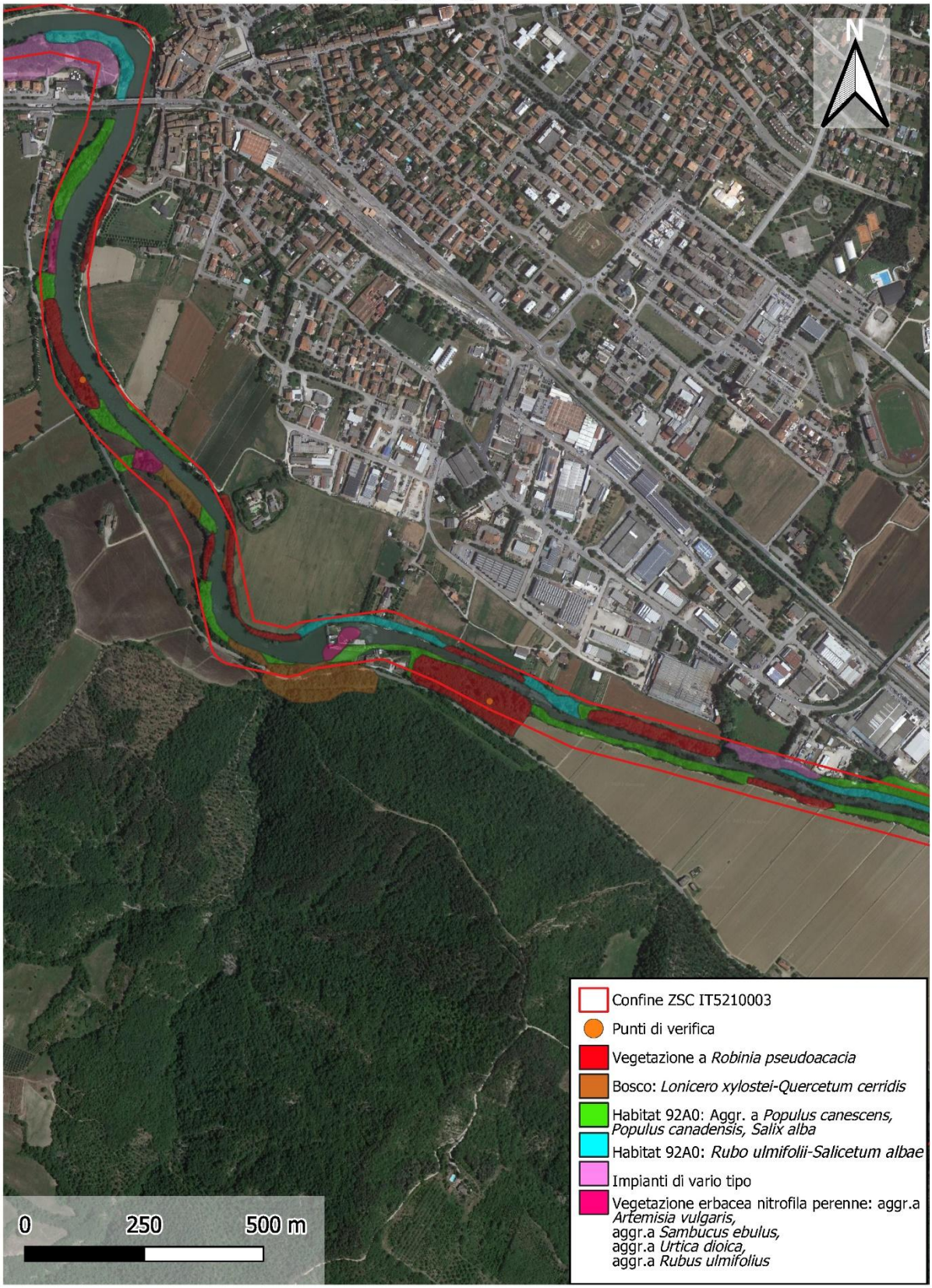
Tav. 11


N
Confine ZSC IT5210003
Rilievi fitosociologici
Punti di verifica
Vegetazione a *Robinia pseudoacacia*
Bosco: *Lonicero xylostei-Quercetum cerridis*
Habitat 92A0: Aggr. a *Populus canescens, Populus canadensis, Salix alba*
Habitat 92A0: *Rubo ulmifolii-Salicetum albae*
Impianti di vario tipo
0
250
500 m

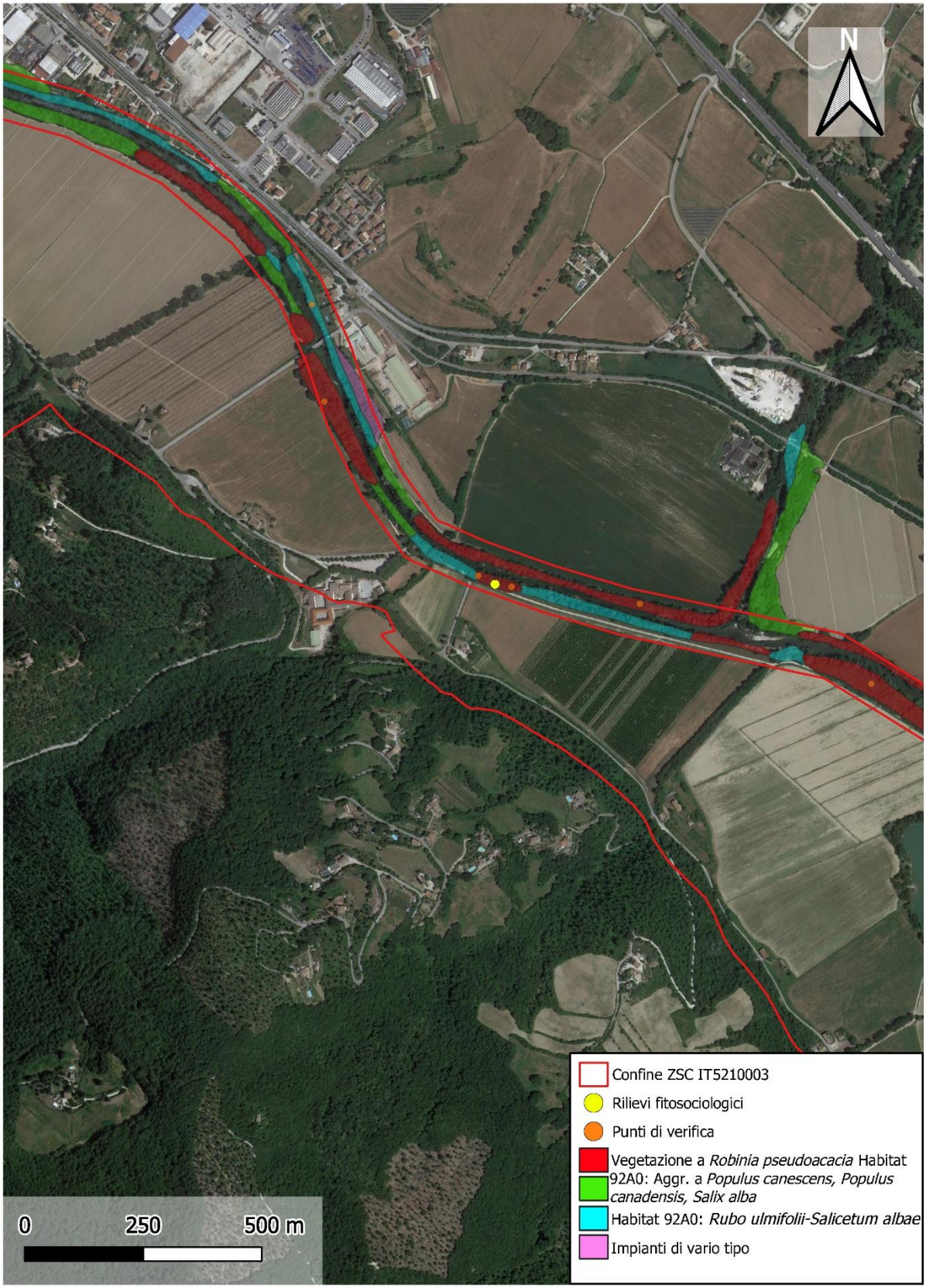
Tav. 12


N
0
250
500 m
Confine ZSC IT5210003
Punti di verifica
Vegetazione a *Robinia pseudoacacia* Habitat 92A0: Aggr. a *Populus canescens, Populus canadensis, Salix alba*
Habitat 92A0: *Rubo ulmifolii-Salicetum albae*
Impianti di vario tipo

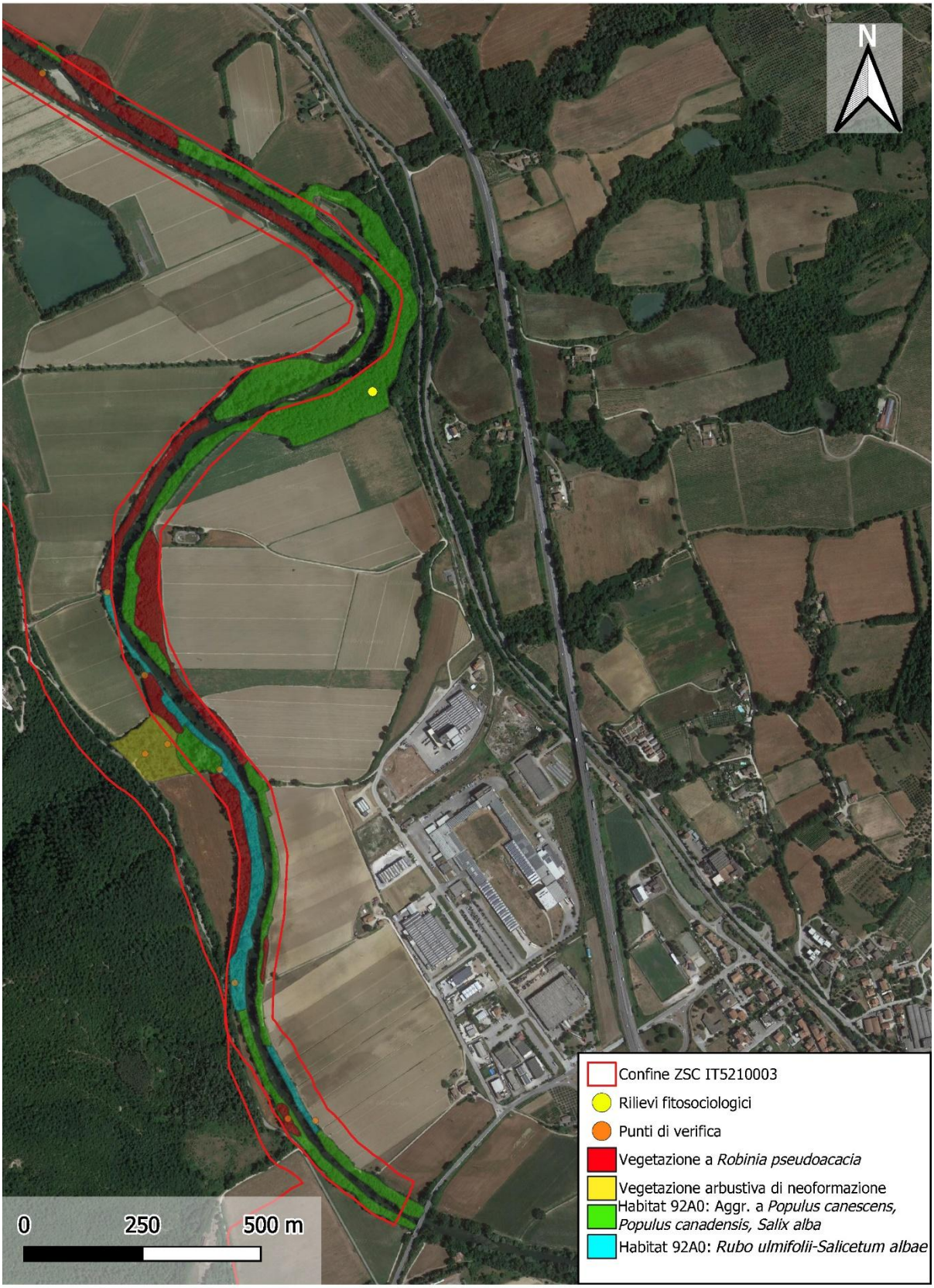
Tav. 13


N
0
250
500 m
Confine ZSC IT5210003
Punti di verifica
Vegetazione a *Robinia pseudoacacia*
Bosco: *Lonicero xylostei-Quercetum cerridis*
Habitat 92A0: Aggr. a *Populus canescens, Populus canadensis, Salix alba*
Habitat 92A0: *Rubo ulmifolii-Salicetum albae*
Impianti di vario tipo
Vegetazione erbacea nitrofila perenne: aggr.a *Artemisia vulgaris*, aggr.a *Sambucus ebulus*, aggr.a *Urtica dioica*, aggr.a *Rubus ulmifolius*

Tav. 14


N
0
250
500 m
Confine ZSC IT5210003
Rilievi fitosociologici
Punti di verifica
Vegetazione a *Robinia pseudoacacia* Habitat 92A0: Aggr. a *Populus canescens, Populus canadensis, Salix alba*
Habitat 92A0: *Rubo ulmifolii-Salicetum albae*
Impianti di vario tipo

Tav. 15


N
0
250
500 m
Confine ZSC IT5210003
Rilievi fitosociologici
Punti di verifica
Vegetazione a *Robinia pseudoacacia*
Vegetazione arbustiva di neoformazione
Habitat 92A0: Aggr. a *Populus canescens, Populus canadensis, Salix alba*
Habitat 92A0: *Rubo ulmifolii-Salicetum albae*