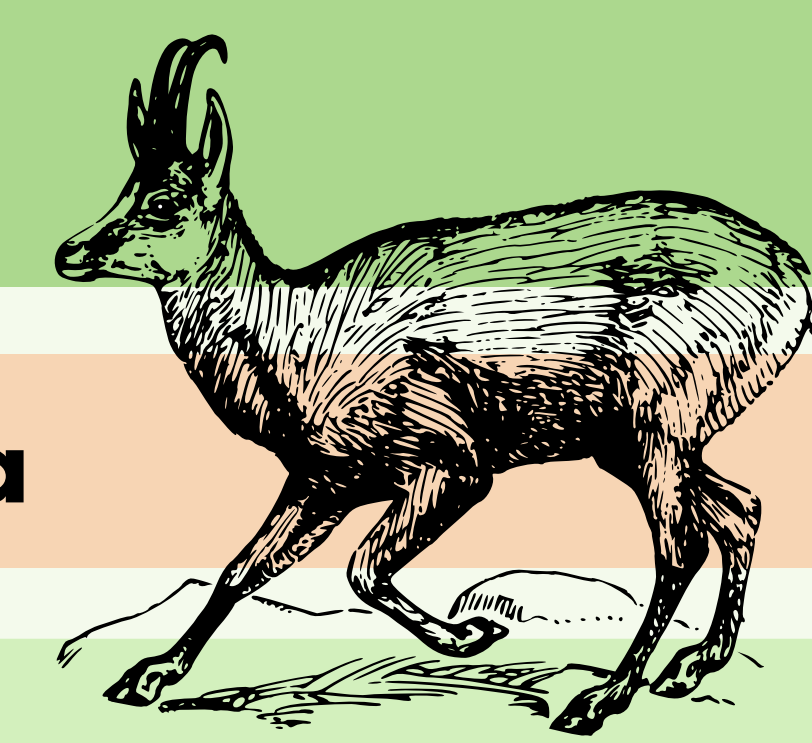# EVALUATION OF THE CHAMOIS POPULATION AND THE EFFECT OF PESTIVIROSI IN THE ALT PALLARS NATIONAL HUNTING RESERVE

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INTRODUCTION

Border Disease Virus affects sheep and goats, and between **2001 and 2010, it caused a high-mortality outbreak in chamois across the Catalan Pyrenees**. Alt Pallars National Hunting Reserve (NHR) shows some unique traits: **sporadic pestivirus cases** and a ch**amois population not yet restored** (**Fig. 1**), unlike the rest of the Pyrenees, like Cerdanya–Alt Urgell NHR (**Fig. 2**).

OBJECTIVE

To **evaluate whether the continued presence of cases of pestivirosis prevents the recovery of the chamois population** in the Alt Pallars NHR.

Fig. 1. Evolution of the chamois population in the Alt Pallars NHR between 2000 and 2022.

Fig. 2. Evolution of the chamois population in the NHR of Cerdanya – Alt Urgell between 2003 and 2022.
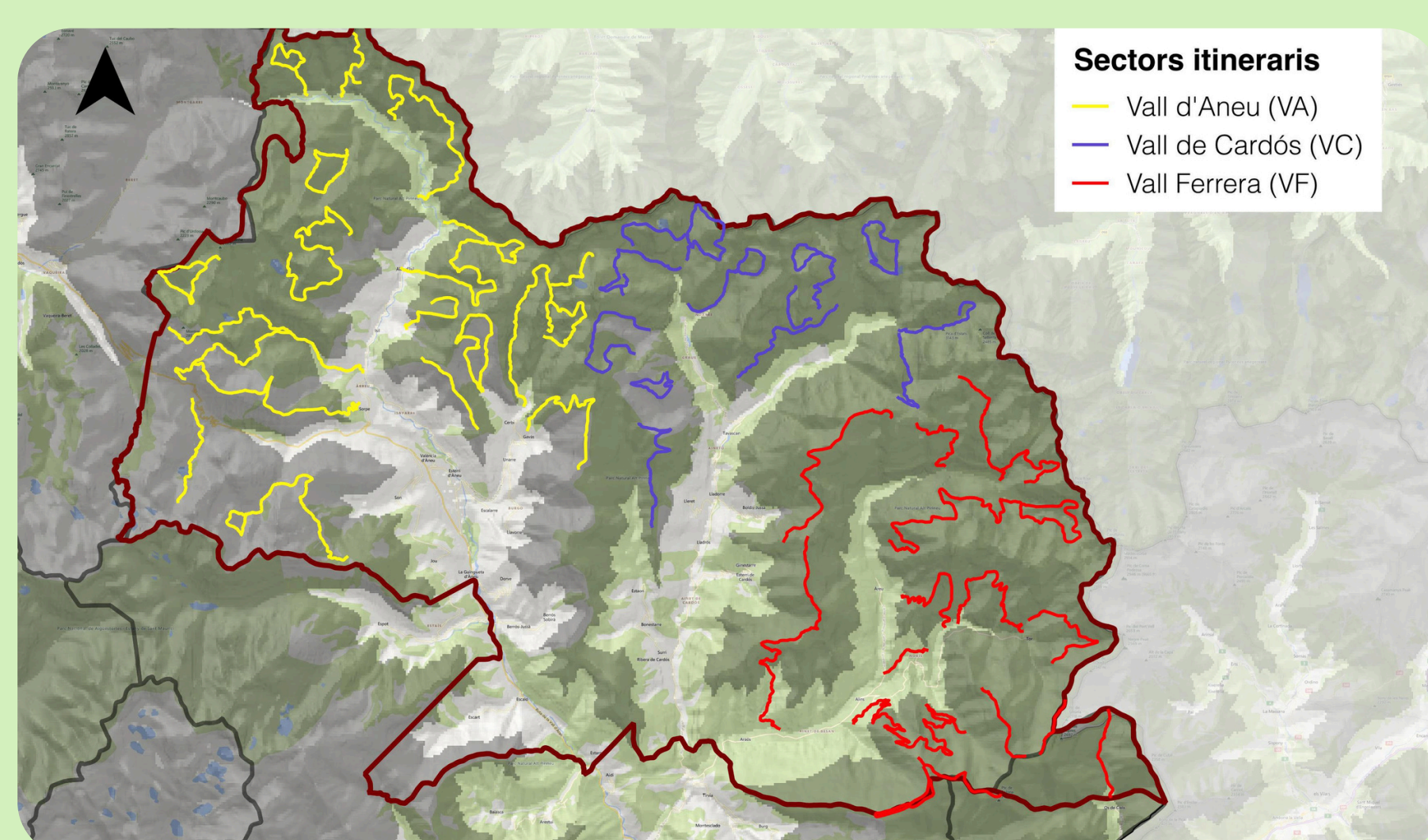
MATERIAL AND METHODS

Fig. 3. Map of the different transects of the Alt Pallars NHR distributed by valleys: Vall d'Àneu (yellow), Vall de Cardós (purple) and Vall Ferrera (red).

1. **Assessment of chamois populations dynamics in Alt Pallars NHR from 2015 to 2022** using annual transects conducted by rural agents and wildlife wardens (**Fig. 3**)

2. **Collection of pestivirus disease cases** in the Alt Pallars NHR detected by **passive surveillance.**

3. Evaluation of the **Relationship between the Chamois Population and the Incidence of Pestivirus** by **analyzing the graphs** with both data**: first separated by valleys** and **then by subsectors more faithful to their natural behavior.**

CONCLUSIONS

We compared the evolution of chamois populations and Pestivirus cases in the Alt Pallars NHR between 2015 and 2022. **In three of the four subsectors with Pestivirus (VA-S, VC-VF and VF-S), the number of chamois decreased, suggesting a possible negative population impact.** However, this study has many limitations, such as few cases of pestivirosis detected and inaccurate censuses. Therefore, further research is needed that considers other factors and uses more accurate census methods, such as "distance sampling".

RESULTS

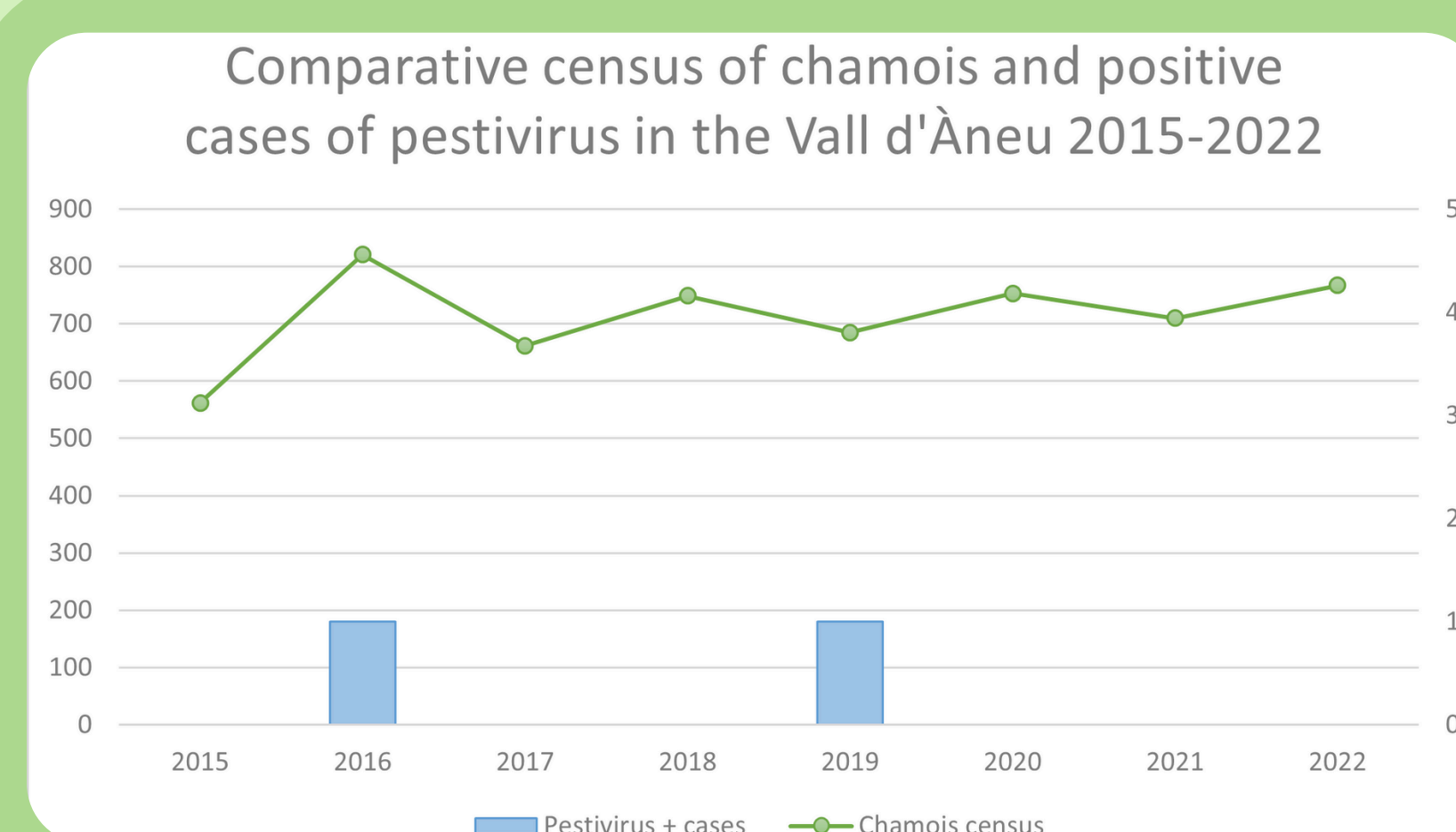**A.** Based on the **distribution by valleys:**

Fig. 4. Chamois census in the Vall d'Àneu (green line, left axis) and number of pestivirosi cases reported (blue columns, right axis). Based on corrected population data.
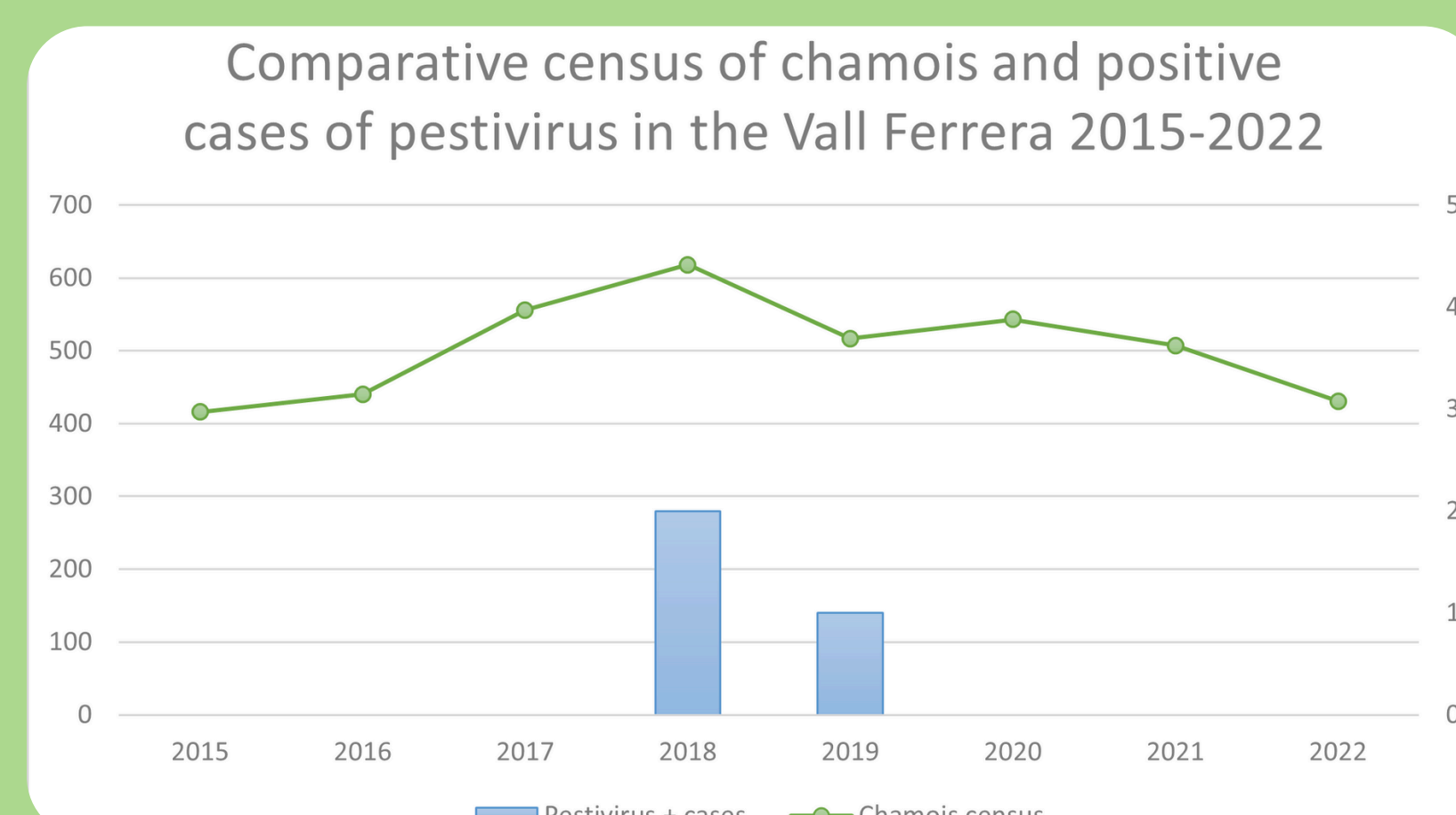

Fig. 6. Chamois census in the Vall Ferrera (green line, left axis) and number of pestivirosi cases reported (blue columns, right axis). Based on corrected population data.
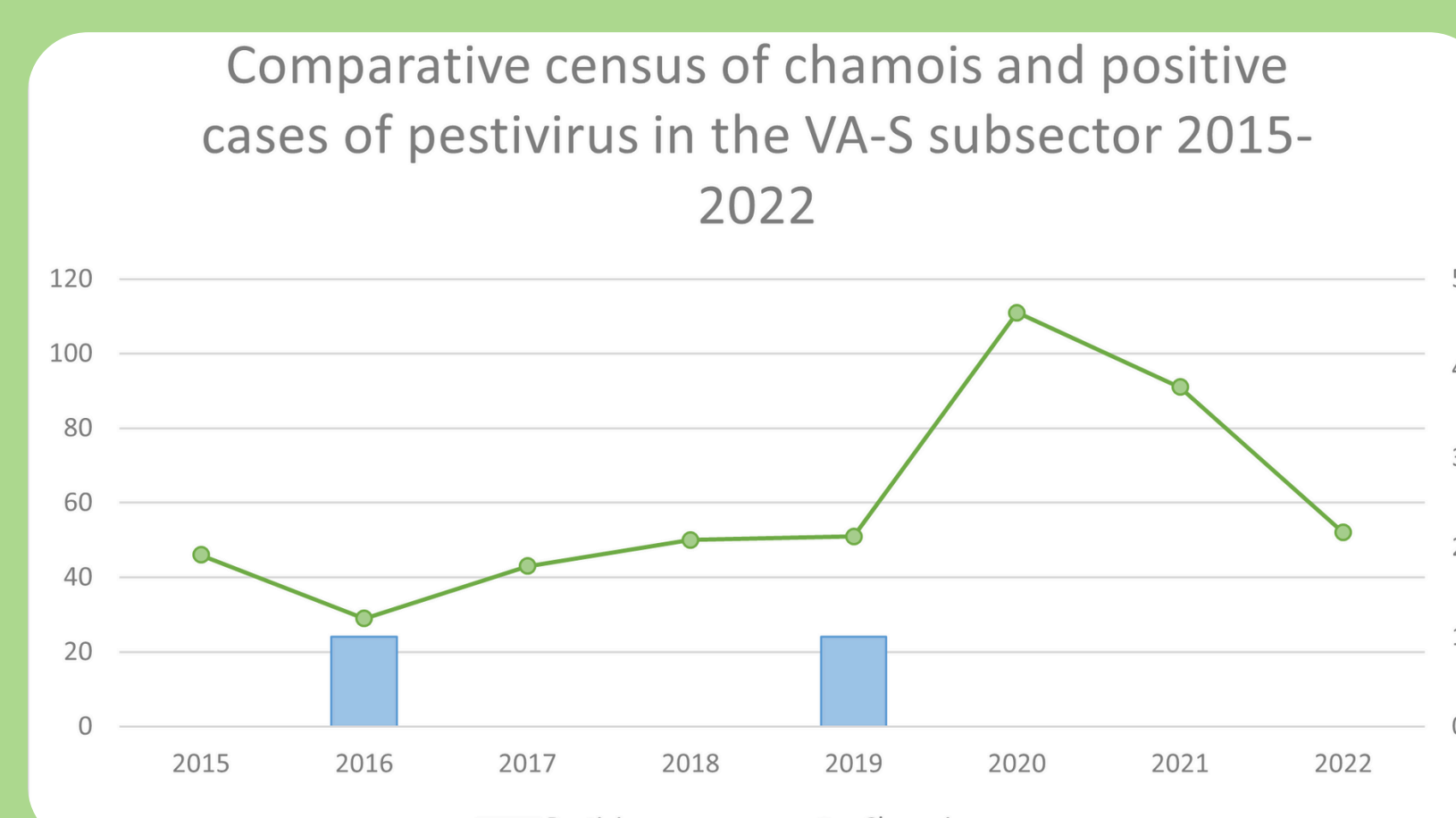

Fig. 5. Chamois census in the Vall de Cardós (green line, left axis) and number of pestivirosi cases reported (blue columns, right axis). Based on corrected population data.

B. Based on the **distribution by subsectors** more faithful to the natural behavior of the chamois:

Fig. 7. Chamois census in the VA-S (Vall d'Àneu sud) subsector (green line, left axis) and number of pestivirosi cases reported (blue columns, right axis). Based on corrected population data.
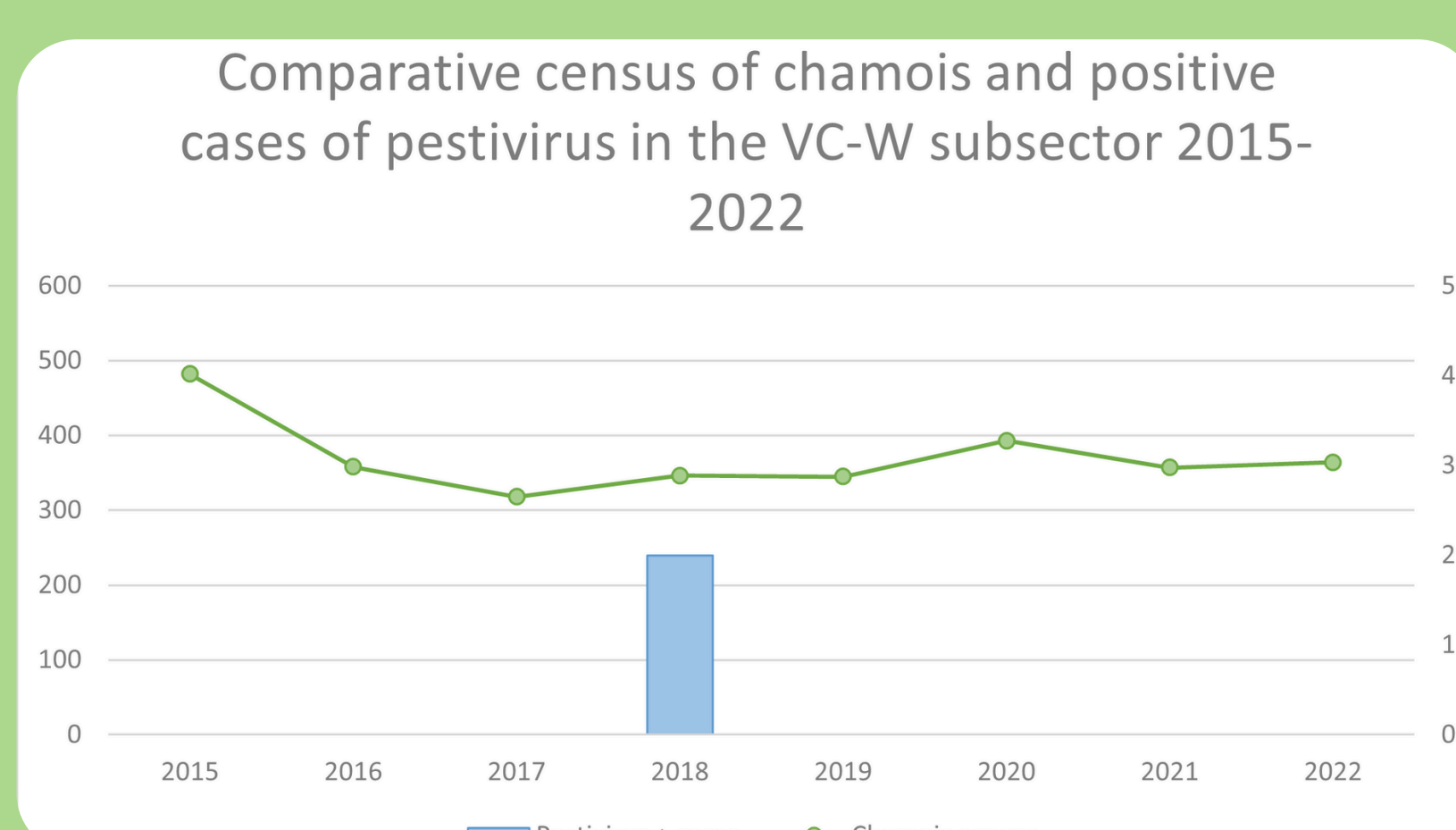

Fig. 8. Chamois census in the VC-VF (Vall de Cardós-Vall Ferrera) subsector (green line, left axis) and number of pestivirosi cases reported (blue columns, right axis). Based on corrected population data.

Fig. 9. Chamois census in the VC-W (Vall de Cardós oest) subsector (green line, left axis) and number of pestivirosi cases reported (blue columns, right axis). Based on corrected population data.
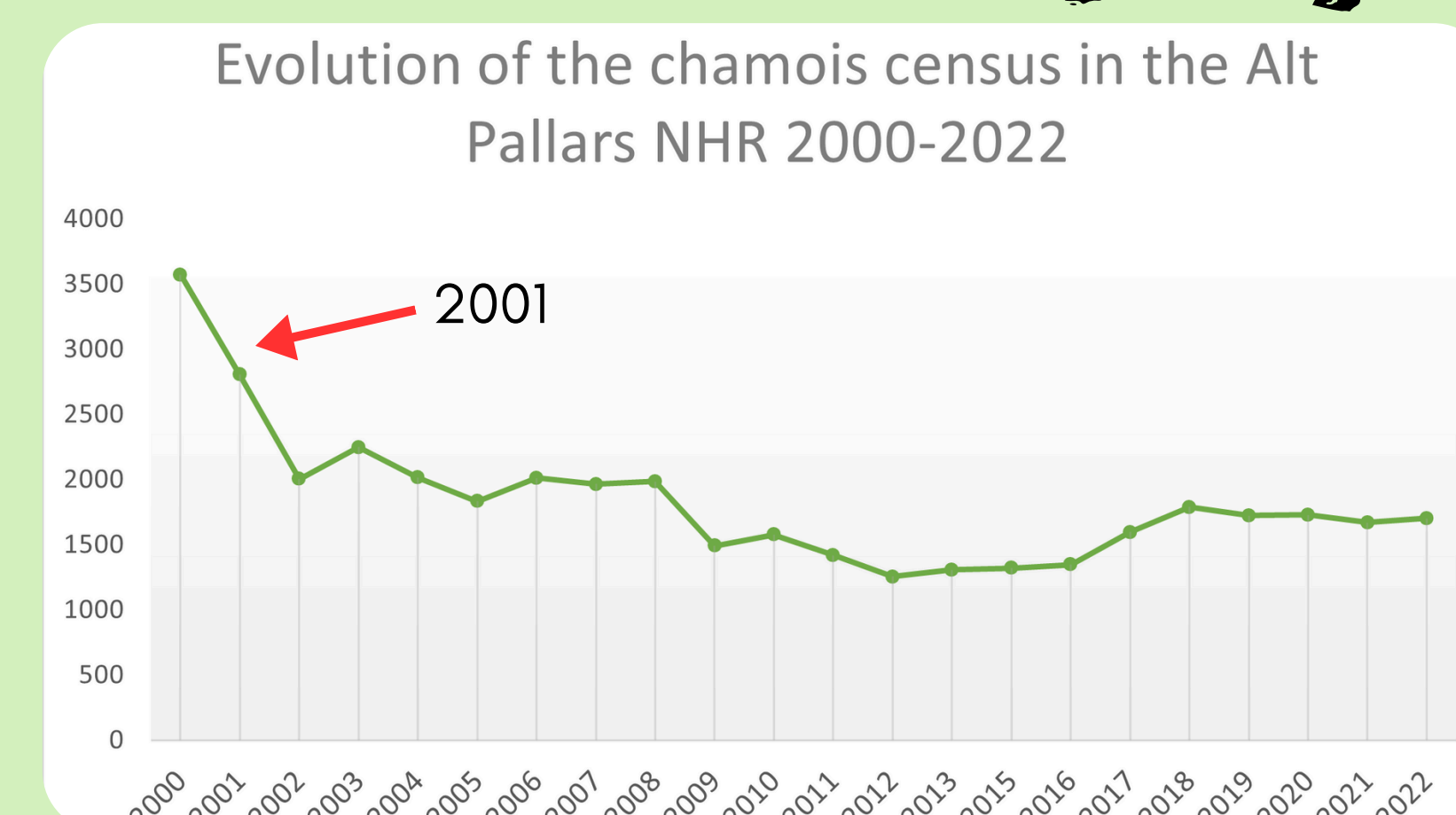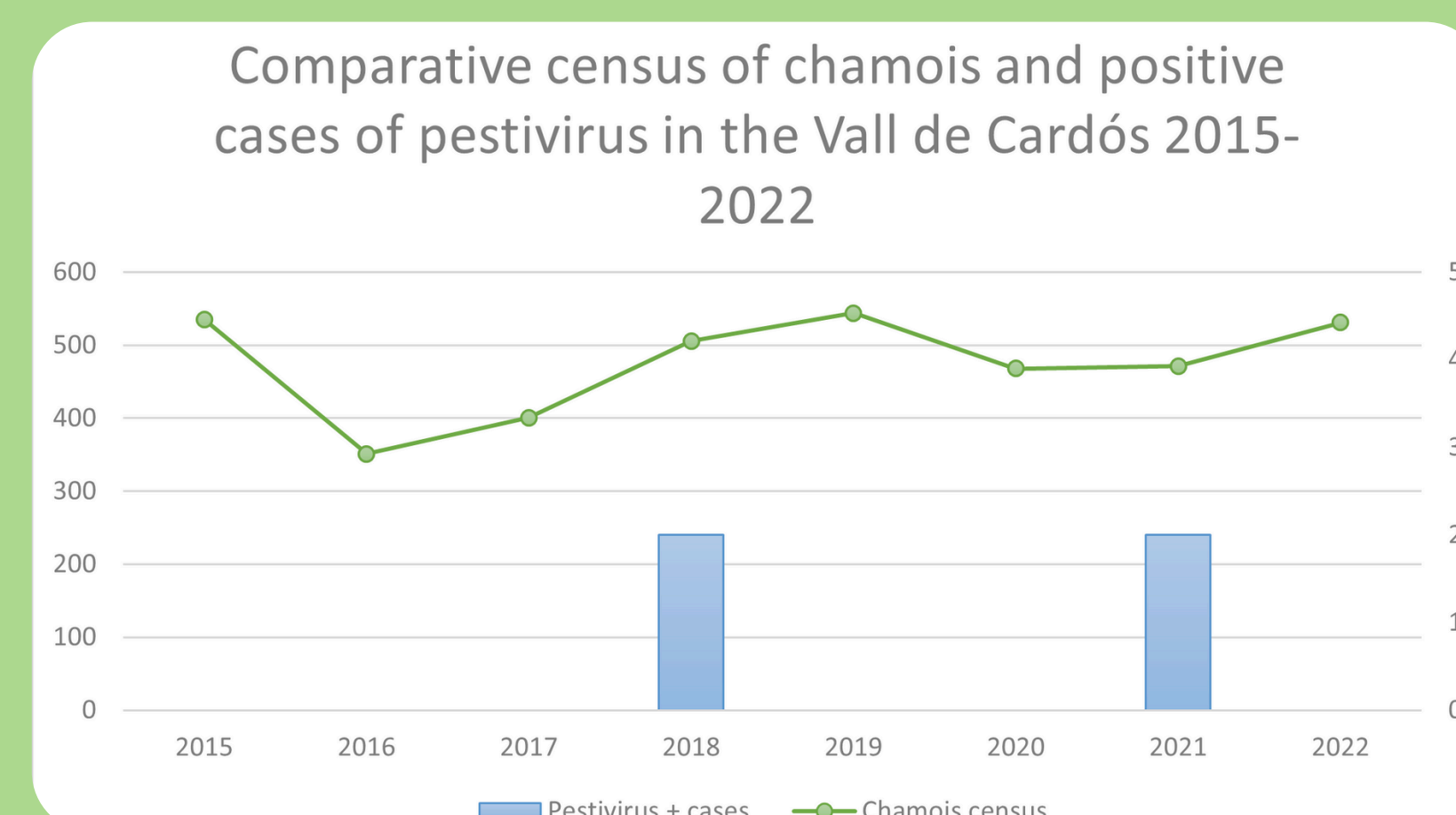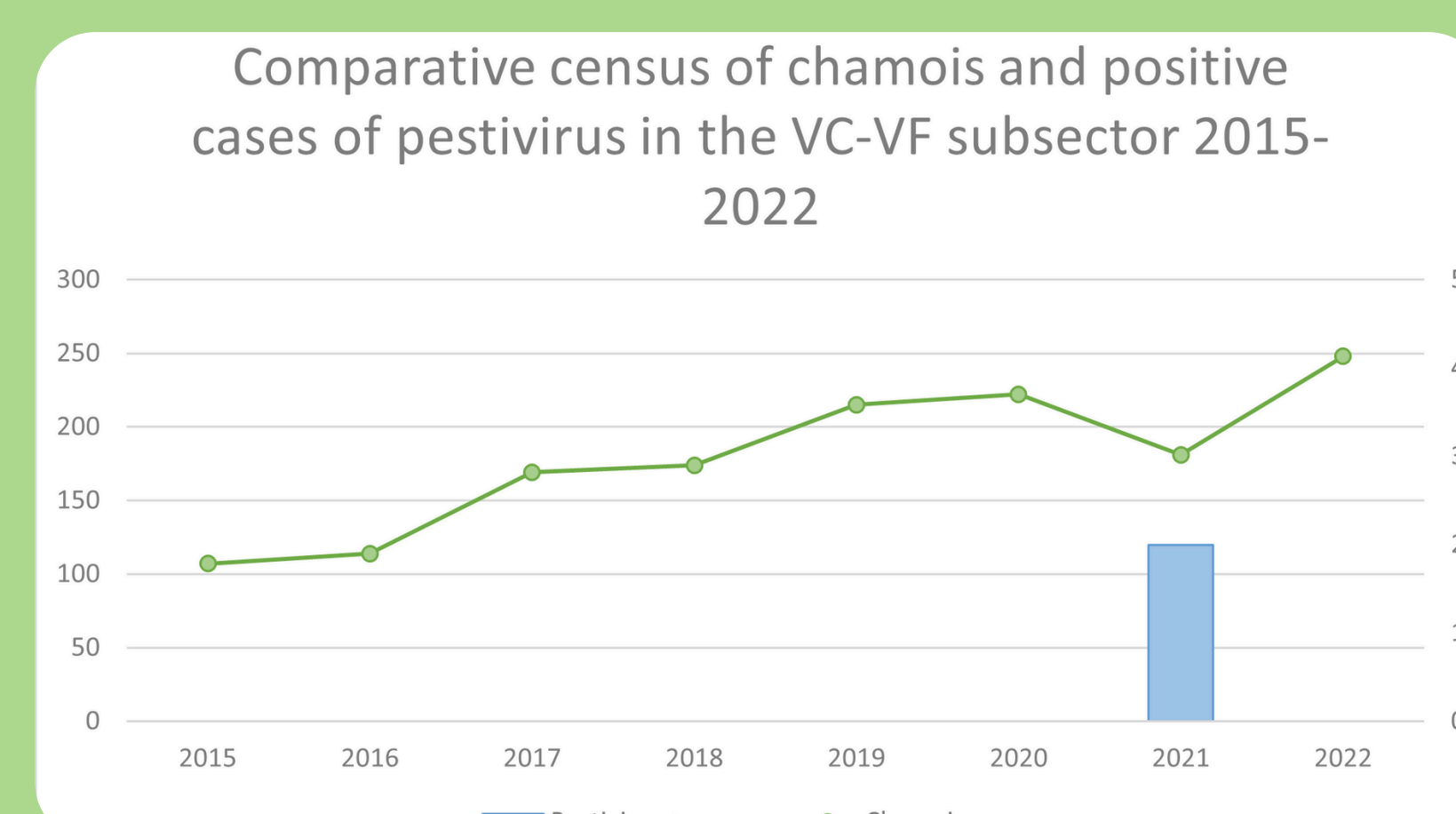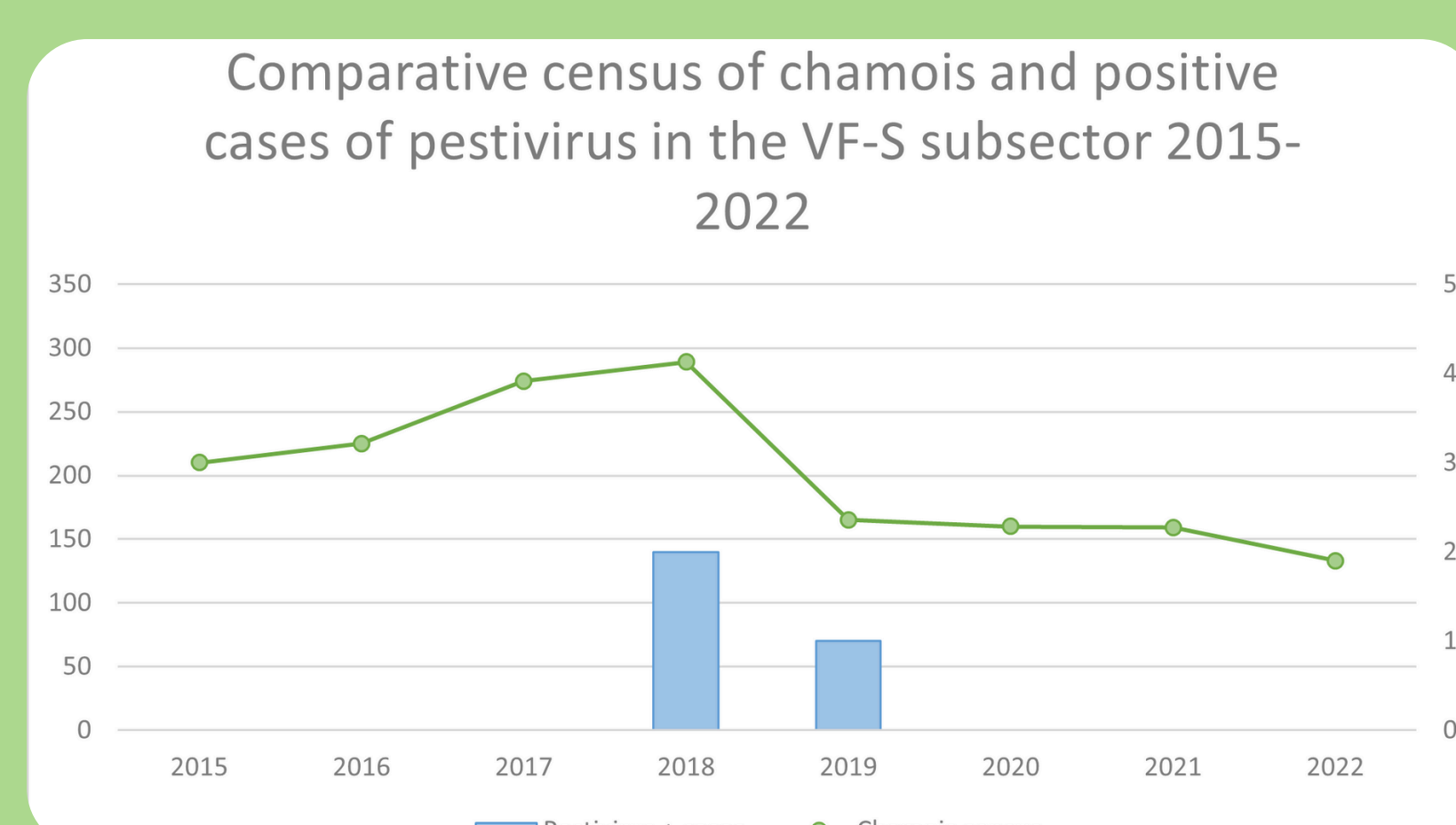

Fig. 10. Chamois census in the VF-S (Vall Ferrera sud) sunsector (green line, left axis) and number of pestivirosi cases reported (blue columns, right axis). Based on corrected population data.