

Survey of the Southern River Otter (*Lontra provocax*) in High Conservation Value Areas.

Patricio Méndez Moya. pmendezmoya@gmail.com – Elizardo Mellado.

Introduction

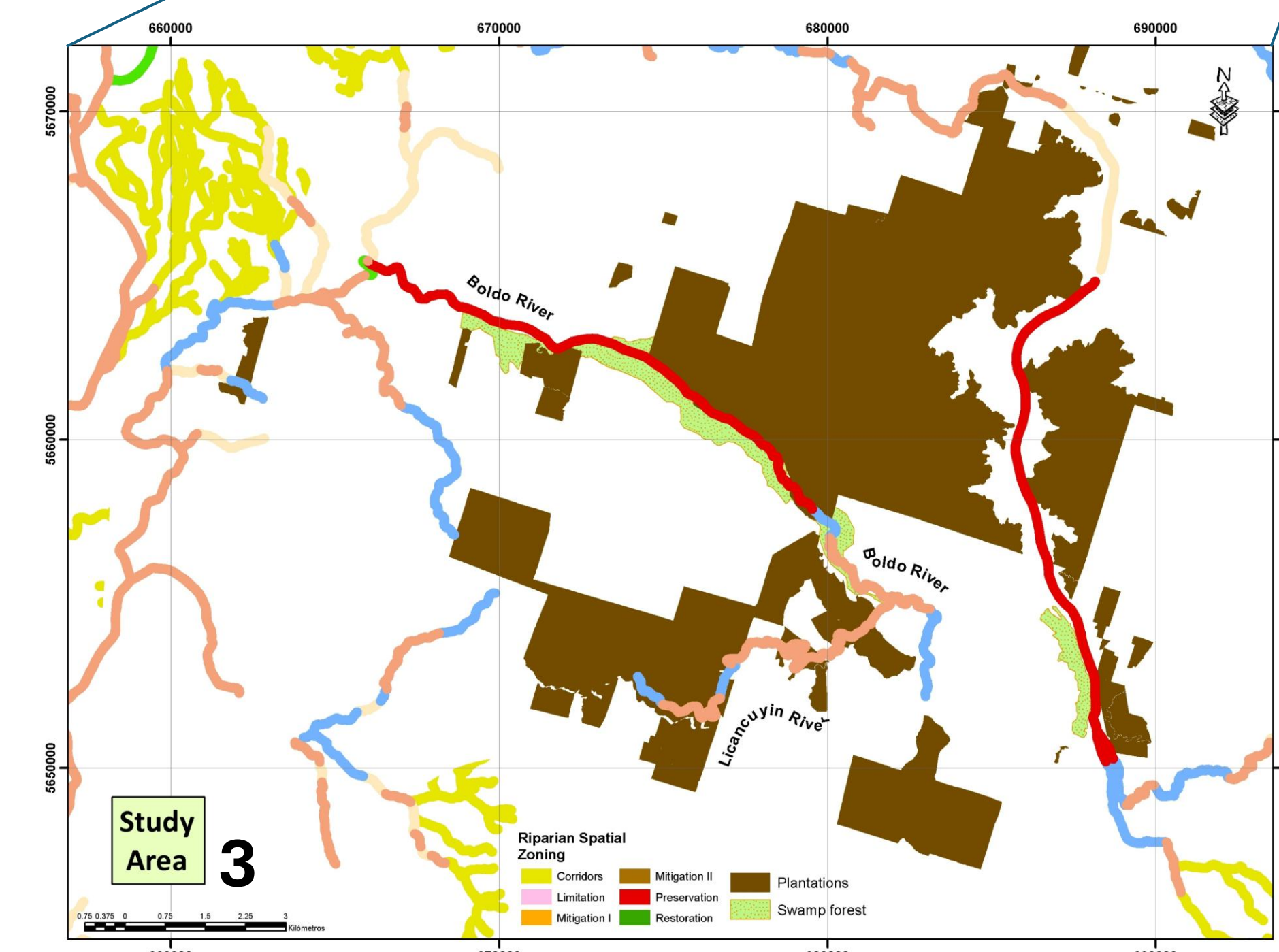
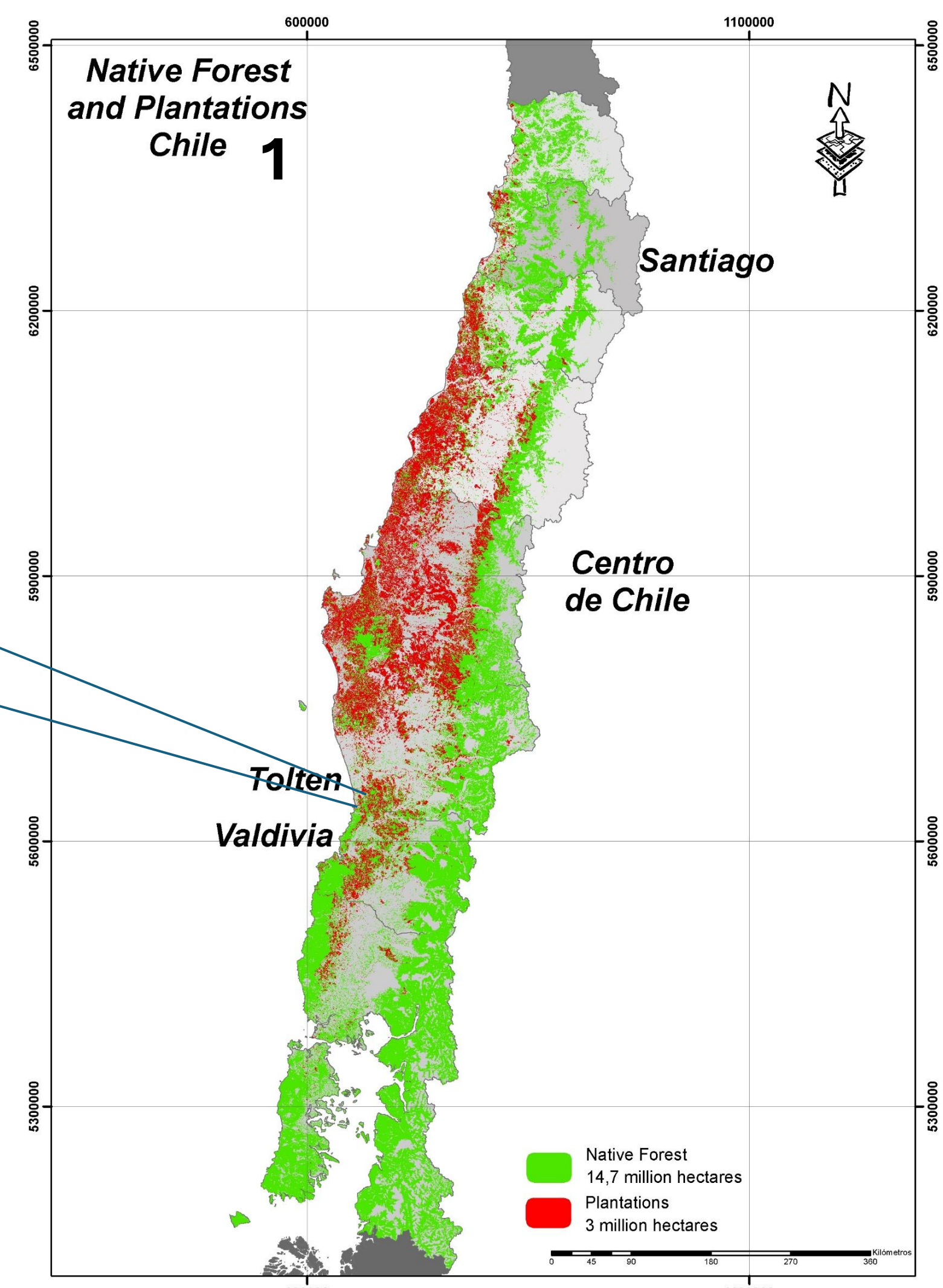
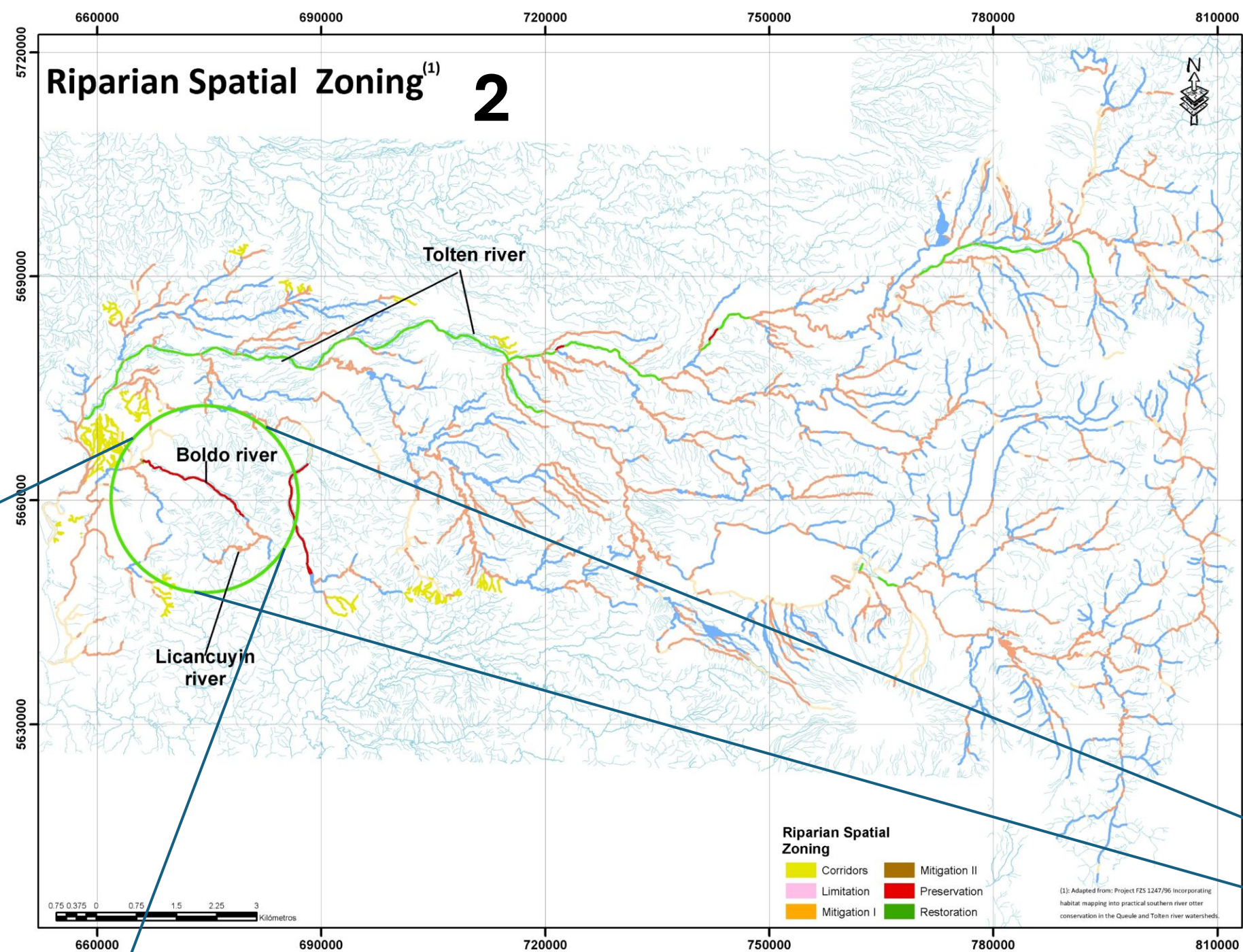
As part of the forest certification process, the banks of the Boldo River were assigned as a High Conservation Value Area (HCV) due to the presence of Huillín (Southern river otter) there. This landscape is dominated by forestry plantations and is located 16 kilometers south of the species' current northern distribution limit in Chile.

General Objective:

- Determine the presence of Huillín in a transect between the Boldo River and the Licancuyín river.

Specific Objectives:

- Identify presence/absence of signs at points along the water transect.
- To identify the riparian vegetation cover of the transect.



Study Area

The study was conducted from January 2014 to December 2024 within the limits of the species current northern distribution in Chile. The Boldo River is located within a landscape characterized by swamp forests of **Temú** (*Blepharocalyx cruckshanksii*) and **Pitra** (*Myrceugenia exsucca*), along with other species such as **Canelo** (*Drimys winteri*), **Arrayán** (*Luma apiculata*), and **Luma** (*Amomyrtus luma*).

In the higher areas, **plantations of Insigne Pine** (*Pinus radiata*) and **Eucalyptus** (*Eucalyptus globulus* and *Eucalyptus nitens*) dominate. The river bank is muddy, mainly due to the organic matter input from the riparian vegetation.

The Boldo River in this area is characterized by anastomosed sections that form beaches, as well as swamp forests with several interior lagoons. On the other hand, the Licancuyín River is located in a higher part of the watershed, and its river bank is predominantly composed of small stones.

Methodology

Within the study area, six spots were visited each year, following a transect between them and verifying the presence/absence of Huillín through its signs: scat, tracks, and camera traps photographs. Additionally, the following information was recorded at these spots: vegetation type, river width, depth, and the presence of signs of other animals.

At each spot (red pins on **Map 4**), georeferenced photographs of the recorded signs were taken, and camera traps were installed to capture photos and videos (three photos and one video per camera setting). Spots 1, 2, and 3 correspond to the Boldo River, while spots 4, 5, and 6 correspond to the Licancuyín River.

This information was compiled into tables to observe annual fluctuations and, within those, seasonal variations: autumn-winter and spring-summer.

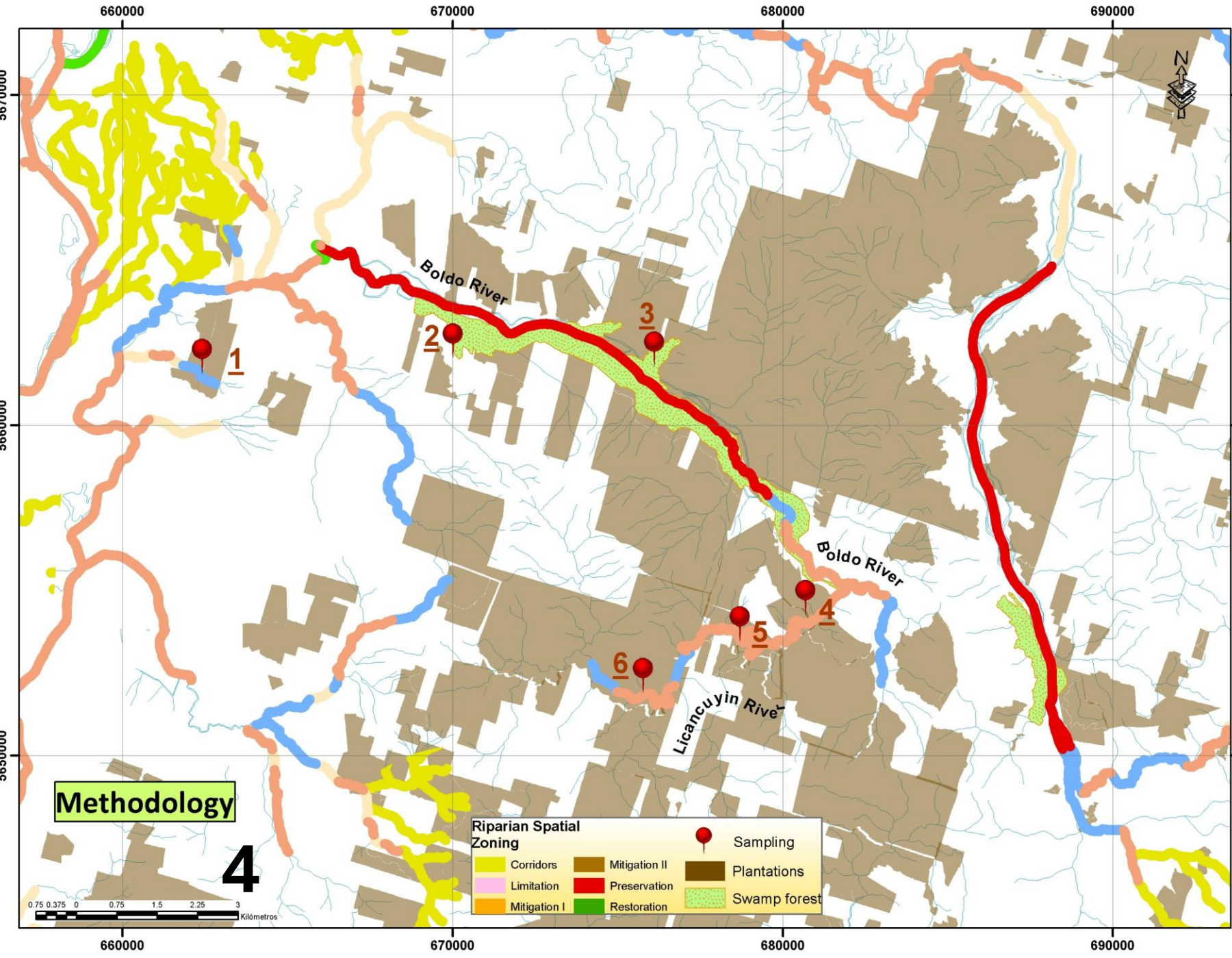
Results

The table on the right shows the results (frequencies) of the field campaigns conducted between 2014 and 2024. A 0 (red) indicates the absence of signs, while a 1 (green) indicates their presence of the Huillín.

The data is divided by season and by month. Surveys were conducted at the same locations, following the same transects to ensure consistency in data collection.

Other tracks and scat from different animals were also observed along the transects but are not included in the table since it focuses exclusively on Huillín.

The presence of Huillín has been maintained in both the Boldo and Licancuyín rivers throughout the 2014–2024 period.



| Autumn - Winter (2014-2024) | | | | | | | | | | | | |
|-----------------------------|---------|------|----------|------|--------|------|--------|------|--------|------|--------|------|
| Points | January | | February | | March | | April | | May | | June | |
| | Tracks | Scat | Tracks | Scat | Tracks | Scat | Tracks | Scat | Tracks | Scat | Tracks | Scat |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 6 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

| Spring - Summer (2014-2024) | | | | | | | | | | | | |
|-----------------------------|--------|------|--------|------|-----------|------|---------|------|----------|------|----------|------|
| Points | July | | August | | September | | October | | November | | December | |
| | Tracks | Scat | Tracks | Scat | Tracks | Scat | Tracks | Scat | Tracks | Scat | Tracks | Scat |
| 1 | 1 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 4 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 6 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |



Conclusions

- In the sampling points of the transect it is observed that the presence of Huillín is maintained, the number of individuals should be established in subsequent work, although the camera trap campaigns always showed positive results in capturing images of the species.
- In the winter – April to August- fewer signs were observed due to the rise in water levels, which erase tracks and scats and prevent camera traps from being placed in the same places.
- The vegetation cover existing in the study area during the research has been maintained (native forest and plantations). The main changes occur during the forest harvest, where the slopes are left without cover for a while (until the next rotation is established).
- The riparian vegetation in the study area remains more or less stable, it is recommended that the spots in the restoration zoning be effectively restored with native species and that those that are occupied by plantations on the riverbanks be gradually changed to native trees.
- An increase in the presence of mink (*neovison vison*) and feral dogs or dogs belonging to small landowners living in the area has been observed. This is evidenced through the footage captured by the trap cameras installed in the study spots.

