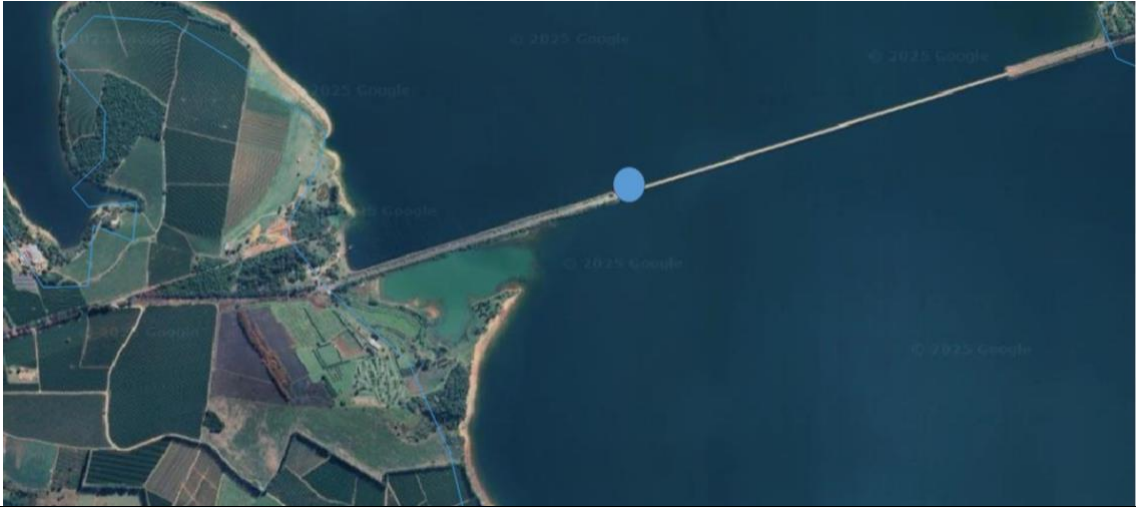
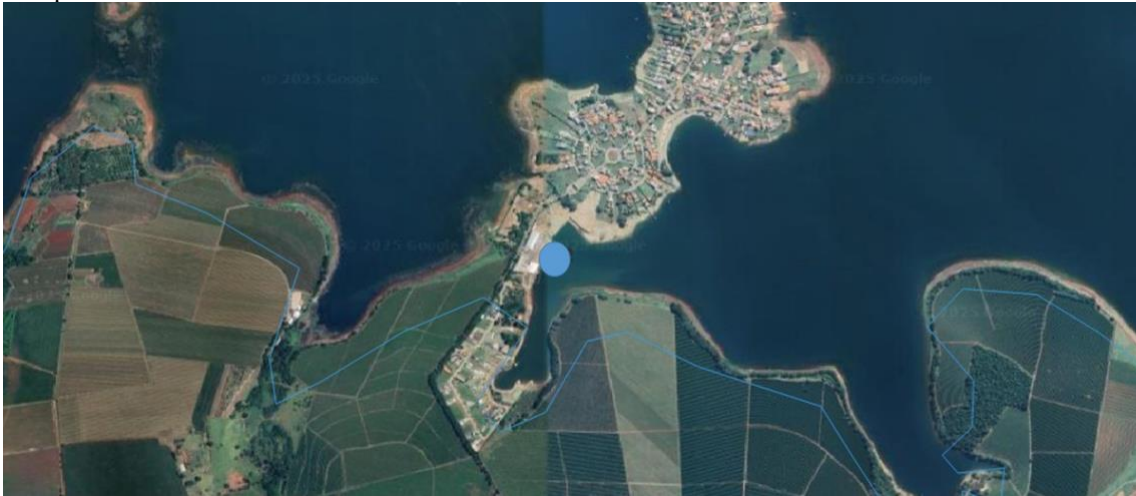
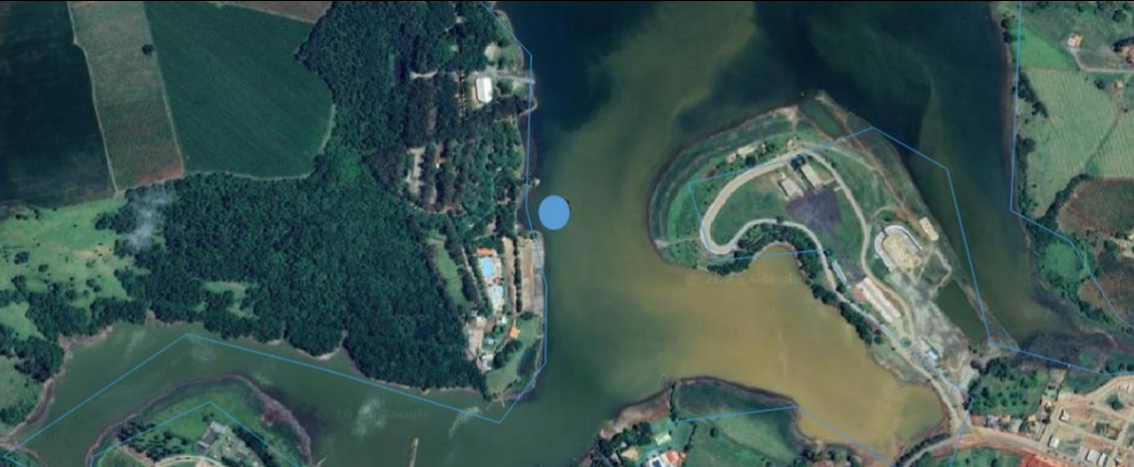







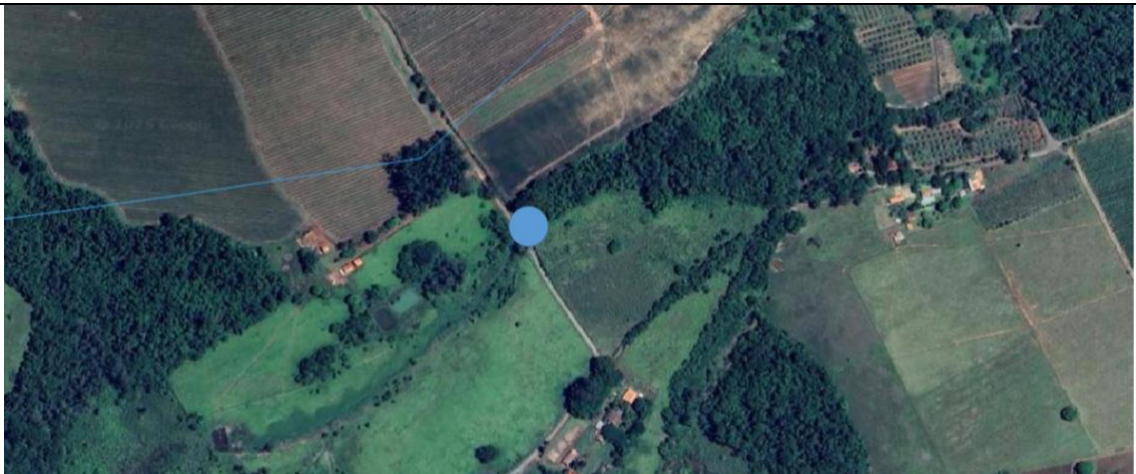
**Supplementary Material**

Table 1: Satellite figures and description of land use and occupation around the sampled points.

Sampling point	Description of land use and land cover surrounding the sampled site.
R1	<p>The sampling area at this site is located in a branch of the reservoir. The surrounding landscape consists of a matrix of pastures and dense secondary vegetation. There is no evidence of large-scale monocultures or high-intensity agricultural intervention in the immediate vicinity of the sampling location.</p> 
R2	<p>This point is located within the reservoir. The land use and land cover along the margins are of a mixed nature, including pastures, some areas of secondary vegetation, and a large cluster of anthropogenic land occupation.</p> 
R3	<p>The sampling site is located in a narrower portion of the reservoir. The landscape is characterized by dense native vegetation or secondary forest cover, suggesting a more preserved environment. Some pasture areas and small-scale agriculture are visible in more distant portions of the sampling site.</p>

	
<p>R4</p>	<p>This point is located in a more open area of the reservoir. The surrounding landscape is predominantly composed of pastures, with visible areas of residential or recreational development along the shoreline. There are few patches of native vegetation, indicating that the land-use matrix is dominated by direct land-use activities and residential occupation.</p> 
<p>R5</p>	<p>The sampling was conducted in the reservoir. The surrounding environment is characterized by extensive large-scale pasture areas, with clearly defined fields extending to the immediate vicinity of the reservoir bed. The riparian vegetation strip is extremely narrow or absent, indicating strong pressure from agricultural activity on the watercourse.</p> 
<p>R6</p>	<p>This point is located within the reservoir. The landscape remains dominated by large agricultural fields, with a narrow strip of riparian vegetation. The uniformity of the agricultural landscape suggests a significant contribution of inputs and potential surface runoff into the reservoir.</p>

	
R7	<p>The sampling site is located at the end of a smaller branch of the reservoir. Land use and land cover form a mosaic of pastures, agricultural areas, and patches of secondary vegetation. The fragmentation of vegetation along the watercourse suggests a drainage basin with considerable human intervention.</p> 
R8	<p>This point is located in the reservoir within a mixed landscape environment. The surrounding area is composed of pastures and some patches of forest. Riparian vegetation is not continuous, and the presence of a nearby road indicates easy access and potential impacts from road-related activities.</p> 
T1	<p>This point is located in an upstream tributary. The surrounding landscape is a heterogeneous mosaic of native or secondary vegetation, pastures, and agricultural areas. There are also signs of residential or recreational development along the margins, reflecting the multiple uses of the basin area.</p>



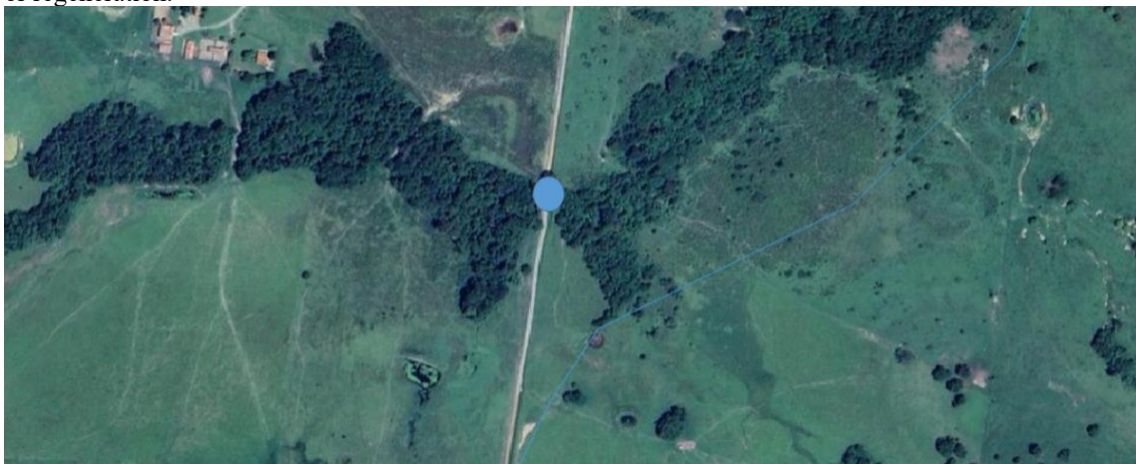
The sampling site is located in an upstream tributary. The surrounding area is composed of pastures and agricultural land. The onset of the rural zone is evident, with boundaries clearly defined by human constructions. Although some riparian vegetation is present, its limited extent indicates that the watercourse is exposed to potential agricultural impacts.


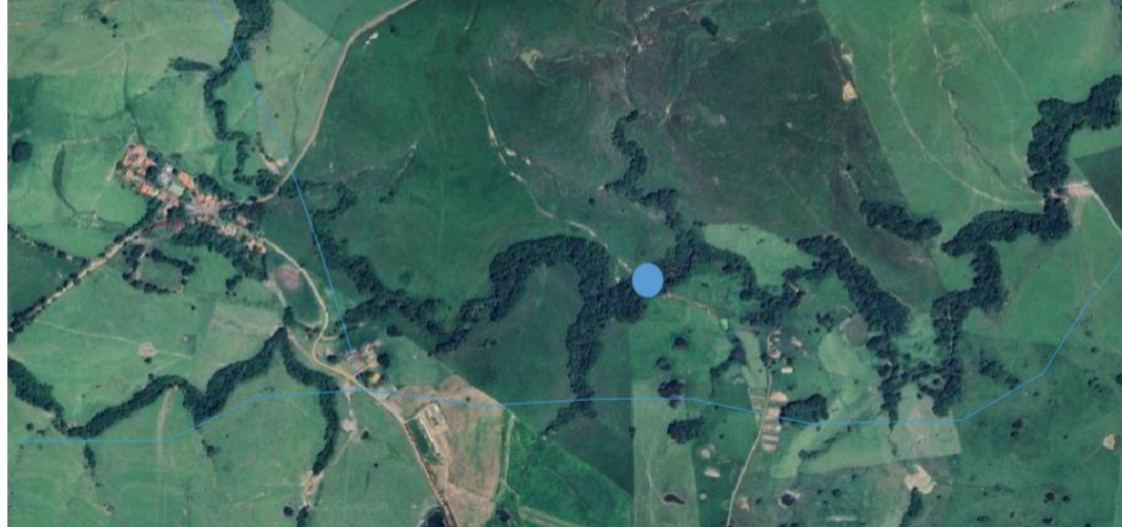
T2

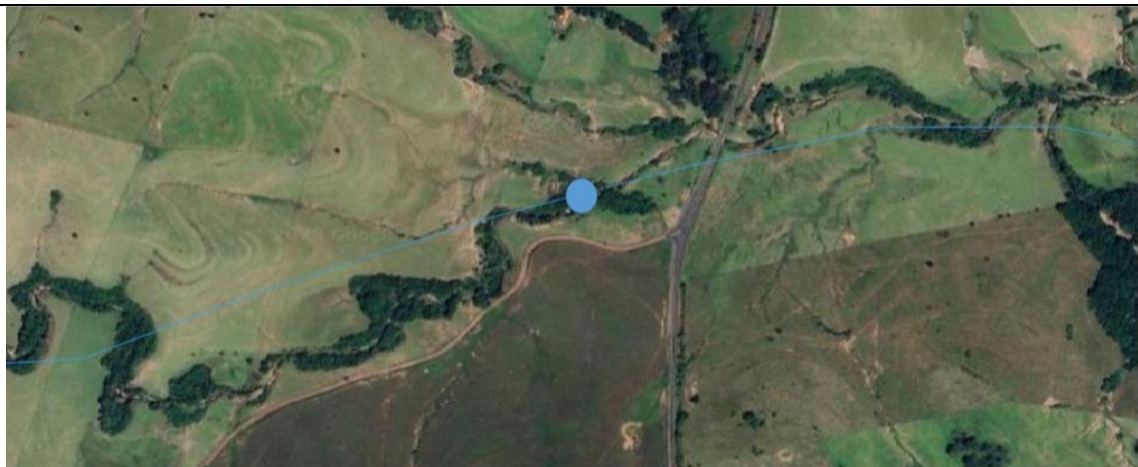
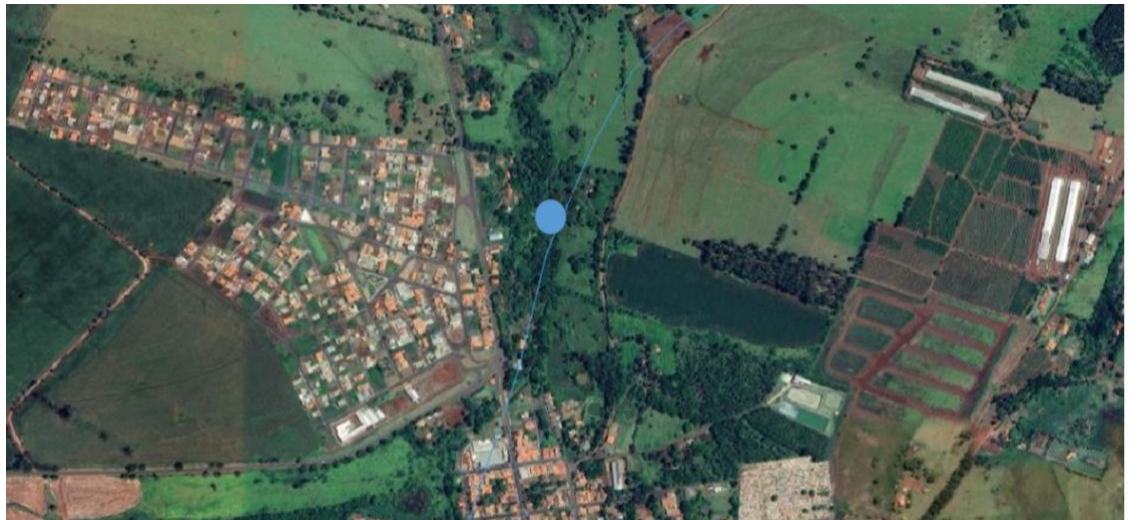


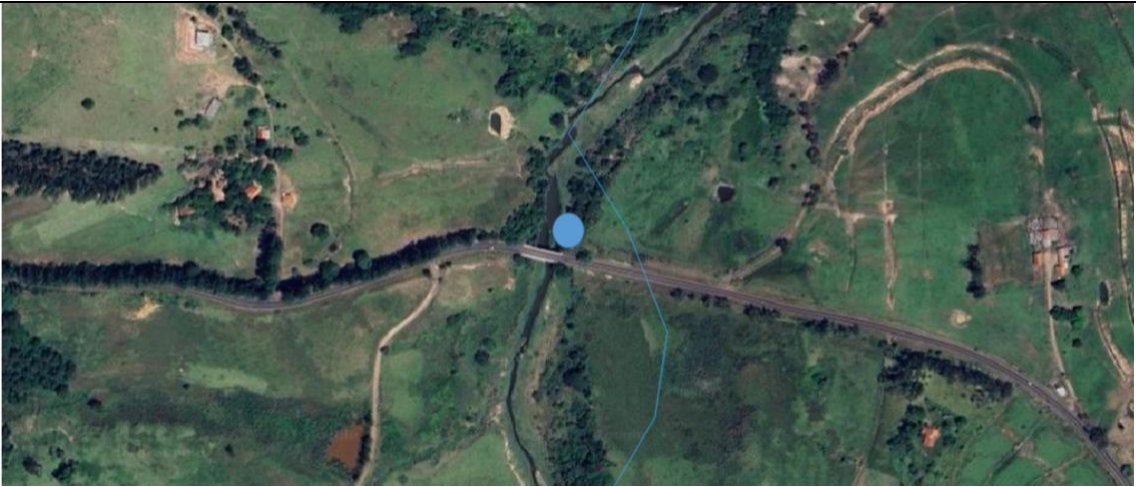
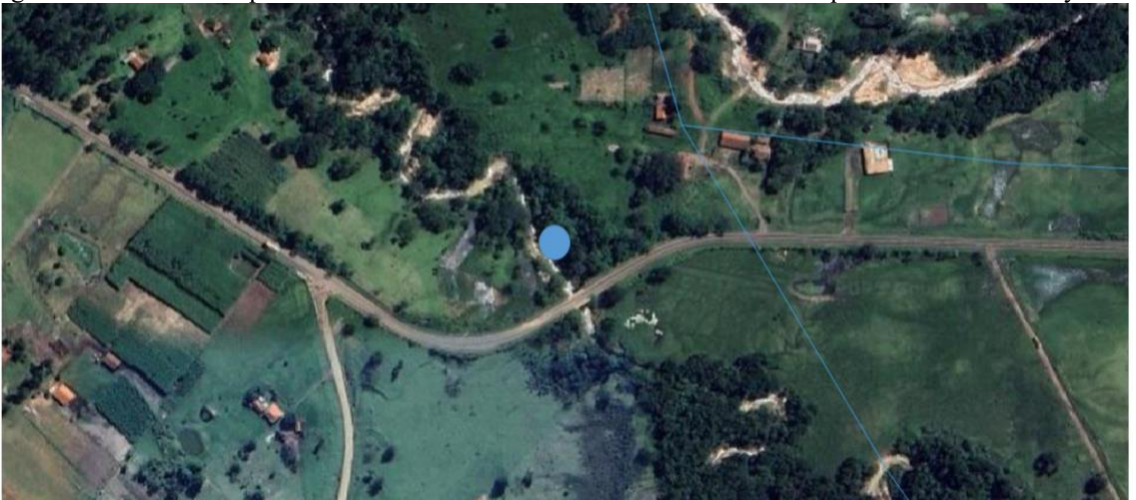
The sampling area is located in an upstream tributary. The surrounding landscape features large pasture fields and portions of native vegetation or secondary forest. Land use and land cover around this site reflect the heterogeneous nature of the basin, with the presence of both agricultural activities and areas of preservation or regeneration.


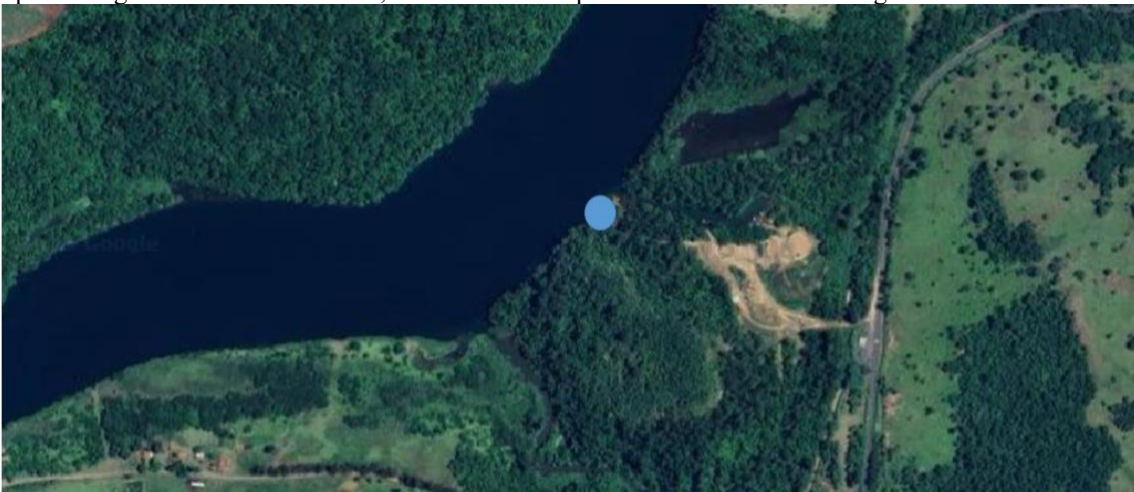
T3



T4	<p>The sampling area is located in an upstream tributary. The surrounding landscape is a mosaic of different land uses, including a highway and local roads, pastures, agricultural areas, and patches of secondary vegetation. There are also signs of small-scale residential development along the margins, reflecting the multifunctional nature of land use.</p> 
T5	<p>The sampling site is situated in an upstream tributary. The areas adjacent to the collection point are predominantly used for agricultural crops, interspersed with fragments of secondary or native vegetation. The presence of a well-defined agricultural matrix in the vicinity and the discontinuous riparian vegetation indicate significant anthropogenic pressure on the aquatic ecosystem.</p> 
T6	<p>This point is located in an upstream tributary within a mixed landscape environment. The surrounding area is composed of pastures, agricultural fields, and some forest patches. Riparian vegetation is not continuous, and the presence of a nearby road indicates easy access and potential impacts from road-related activities.</p>

	
<p>T7</p>	<p>The sampling point is located in a tributary of Paranapanema River. The surrounding landscape is characterized by a land-use matrix dominated by agricultural areas and pastures extending to the shoreline. Signs of residential development are also visible near the site, with the presence of buildings and road access. The absence of continuous riparian vegetation indicates intense direct anthropogenic pressure on the aquatic ecosystem.</p> 
<p>T8</p>	<p>The sampling site is located in a tributary of Paranapanema River. The surrounding area is characterized by the absence of continuous riparian vegetation, which exposes the water body to intense anthropogenic pressure. Land use in the vicinity of the collection point is dominated by pastures and agricultural areas, with a highway visible running perpendicular to the river. The lack of riparian buffer indicates a high potential for surface runoff of sediments and pollutants into the aquatic ecosystem.</p>

	
<p>T9</p>	<p>The sampling point is located in a tributary of Paranapanema River, where the surrounding landscape is characterized by a paved road crossing the water body via a bridge. Riparian vegetation is scarce, and land use in the vicinity is dominated by pastures, agricultural areas, and some residences. The proximity to the road and the lack of riparian forest indicate a high potential for surface runoff of road-related and agricultural pollutants into the aquatic ecosystem.</p> 
<p>T10</p>	<p>The sampling point is located in a wider water body, the Paranapanema River. Unlike other areas, the surrounding landscape is notable for the presence of a broader riparian forest extending along the riverbanks. Although the area beyond the riparian vegetation is characterized by pastures and agriculture, the presence of a more robust protective strip suggests a potential attenuation of surface runoff from rural activities, providing greater protection to the aquatic ecosystem.</p>

	
T11	<p>The sampling point is located on the banks of the Paranapanema River. On one riverbank, a wide and well-preserved riparian forest is observed, indicating a robust vegetative protection area. On the opposite bank, riparian vegetation is discontinuous, with stretches of pasture and a visible clearing.</p> 
T12	<p>The sampling point is located in a water body whose surrounding landscape is marked by demarcated plots of land and the presence of some houses. Riparian vegetation is not dense, which, combined with land use for housing and recreational purposes, indicates a high potential for surface runoff of anthropogenic pollutants into the aquatic ecosystem.</p> 