

# Chilean amphibians and exotic pine plantations: a bad mix?

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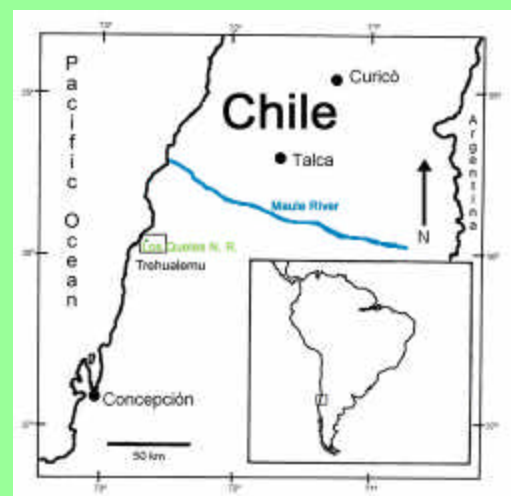
## Introduction

- ❖ Forest fragmentation is one of the main causes of the global amphibian decline.
- ❖ Maulino forest, a scarce type of Chilean temperate forest, has been reduced to small fragments as a result of deforestation by exotic Monterrey pine (*Pinus radiata*) plantations.



- ❖ Maulino forest amphibians are endemic and threatened.
- ❖ There is no information about the effect of exotic pine plantations and forest fragmentation on maulino forest amphibians.

## Study Area



The study area is located in the Maule region: the Los Queules National Reserve, native forest fragments, and pine plantations.

## Objectives

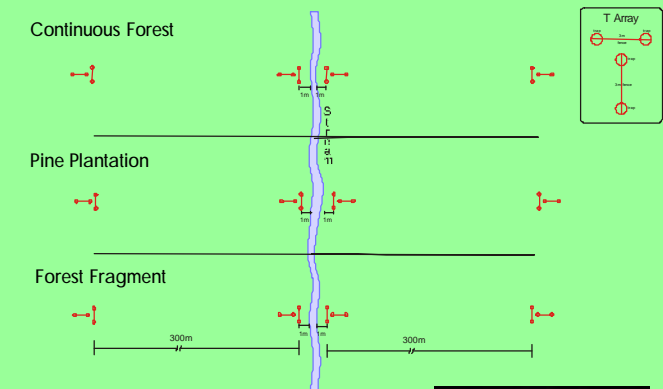
- 1) Determine if there is a difference among the continuous forest, forest fragments, and pine plantations in amphibian species:
- 2) Determine if **pine plantations** are an **inhospitable** habitat for amphibians.
- 3) Determine if amphibian **dispersal** occurs between the continuous forest, forest fragments, and pine plantations

- ❖ **Richness**
- ❖ **Abundance**
- ❖ **Body condition**
- ❖ **Survival rate**

## Methodology

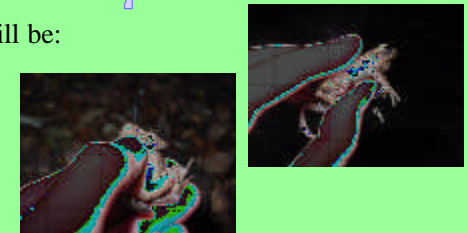
To capture amphibians we will use an array of pitfall traps and drift fences

### Trap array in the landscape



Amphibians will be:

- ❖ Identified
- ❖ Weighed
- ❖ Measured
- ❖ Marked



### Environmental Sampling

- ❖ Litter depth
- ❖ Soil moisture
- ❖ Soil pH
- ❖ Air Temperature
- ❖ Amount of Coarse Woody Debris
- ❖ Vegetation density
- ❖ Water Depth
- ❖ Water pH
- ❖ Water Temperature

## Next steps:

- Depending on the results obtained with our monitoring...
- ❖ We will design experiments to try to understand the mechanisms involved in the responses observed.
- ❖ We will develop management tools that will help the conservation of amphibians at the Maule region.

## Acknowledgments

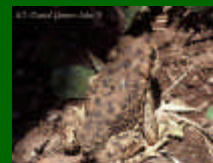
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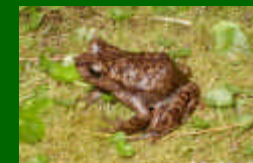
## Amphibians of the Maule region



*Bufo chilensis*  
▲ Not Threatened



*Bufo spinulosus*  
▲ Least Concern



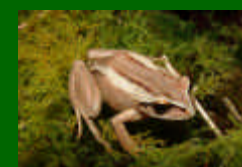
*Alsodes hugoi*  
▲ Data Deficient



*Alsodes vanzolinii*  
▲ Critically Endangered



*Pleurodema thaul*  
▲ Least Concern



*Batrachyla taeniata*  
▲ Least Concern



*Caudiverbera caudiverbera*  
▲ Vulnerable



*Telmatobufo venustus*  
▲ Endangered



*Telmatobufo bullocki*  
▲ Critically Endangered



*Eupsophus queulensis*  
▲ New Species



*Rhinoderma rufum*  
▲ Critically Endangered