

FISHES IN A BRAZILIAN MOUNTAIN  
AND ITS ADJACENT AREAS:  
KNOWLEDGE, SCIENTIFIC  
SHORTFALLS, THREATS, AND  
CONSERVATION

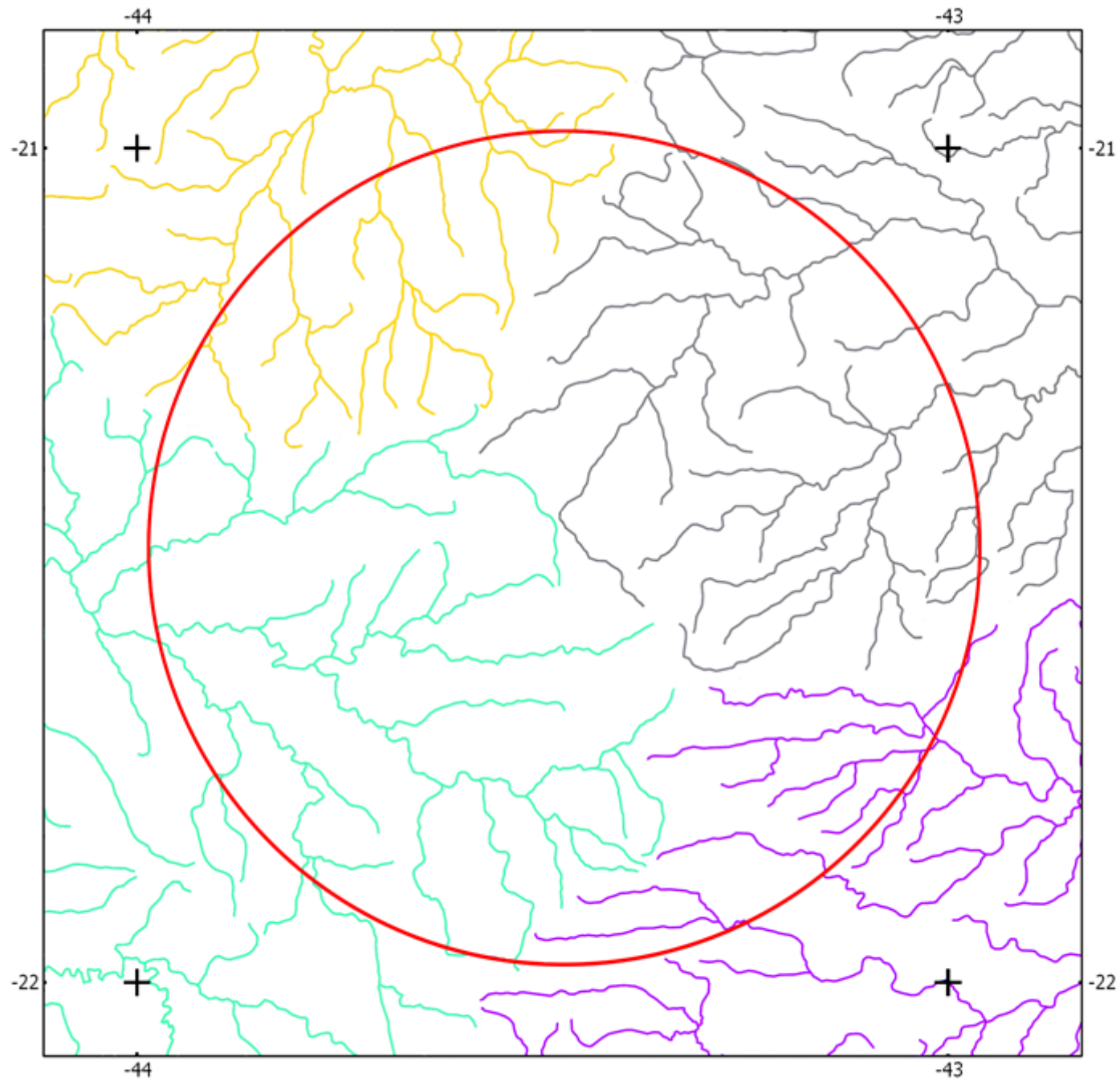
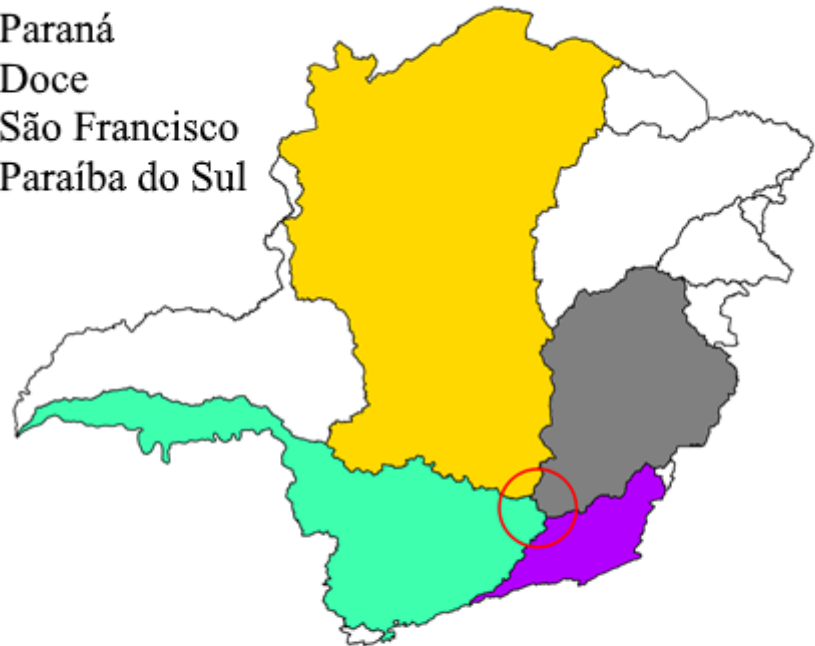
Valter M. Azevedo-Santos



# MINAS GERAIS: AN ESPECIAL CASE

- High altitudes (above 800 m)
- Different basins

- Paraná
- Doce
- São Francisco
- Paraíba do Sul







# Mapa sem título

Escreva uma descrição para seu mapa.

## Legenda

-  Caminho sem título
-  R1

~1126

R1 ~828

Google Earth

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1 km

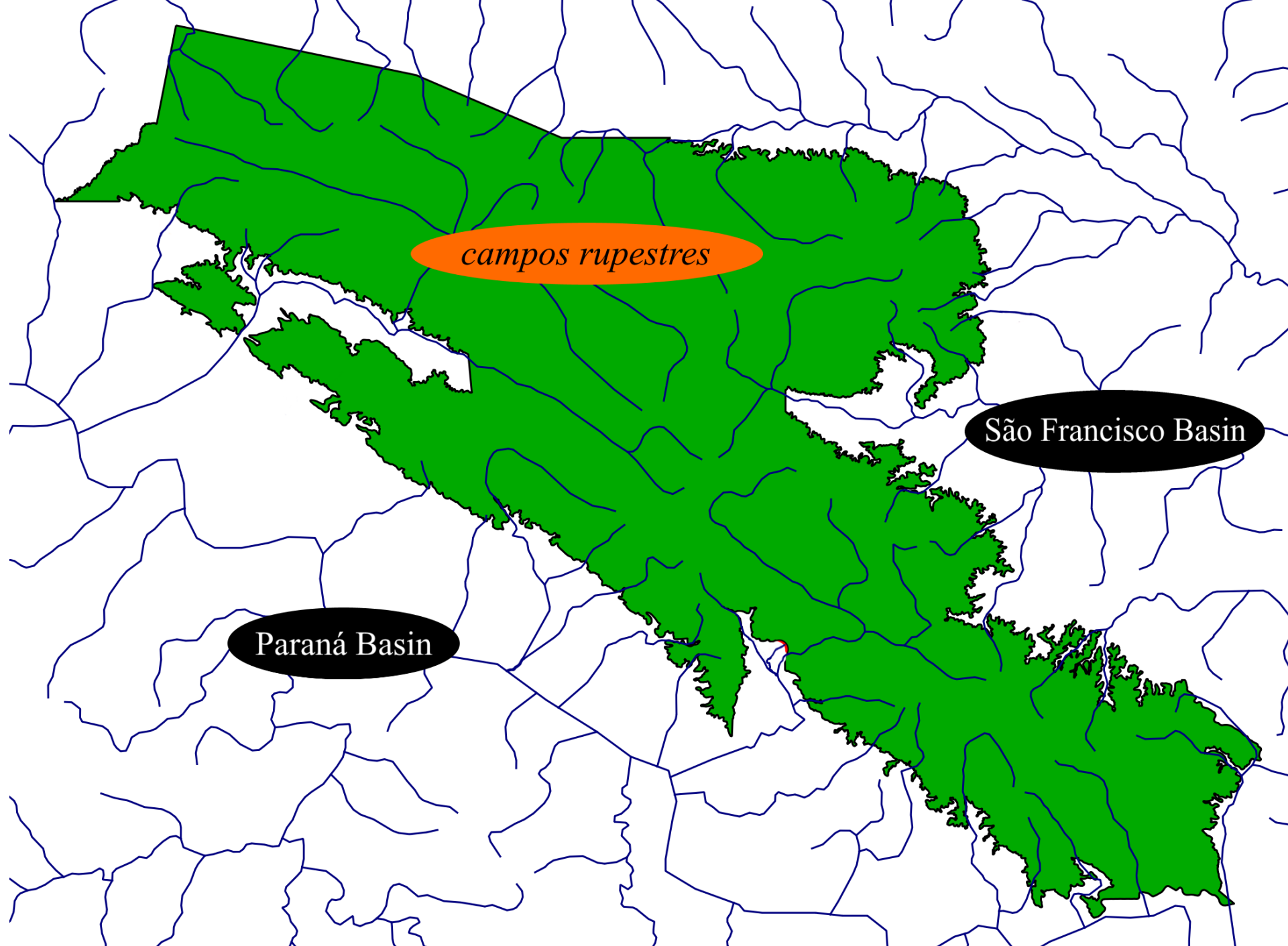


AZEVEDO-SANTOS, V. M., BRITSKI, H. A., OLIVEIRA, C., BENINE, R. C. Ichthyofauna of streams of the Rio Sapucaí basin, upper Rio Paraná system, Minas Gerais, Brazil. *Biota Neotropica*. 19(1): e20180617. <http://dx.doi.org/10.1590/1676-0611-BN-2018-0617>

# Serra da Canastra – Minas Gerais

- *campos rupestres*
- several headwater streams
- two diferente basins
- present some peculiarities





*campos rupestres*

Paraná Basin

São Francisco Basin

Serra da Canastra may be  
considered an “island” for fishes?



# Species collected from 970 to 1364m

*Astyanax fasciatus* (Cuvier, 1819)

*Astyanax rivularis* (Lütken, 1875)

*Harttia torrenticola* Oyakawa, 1993

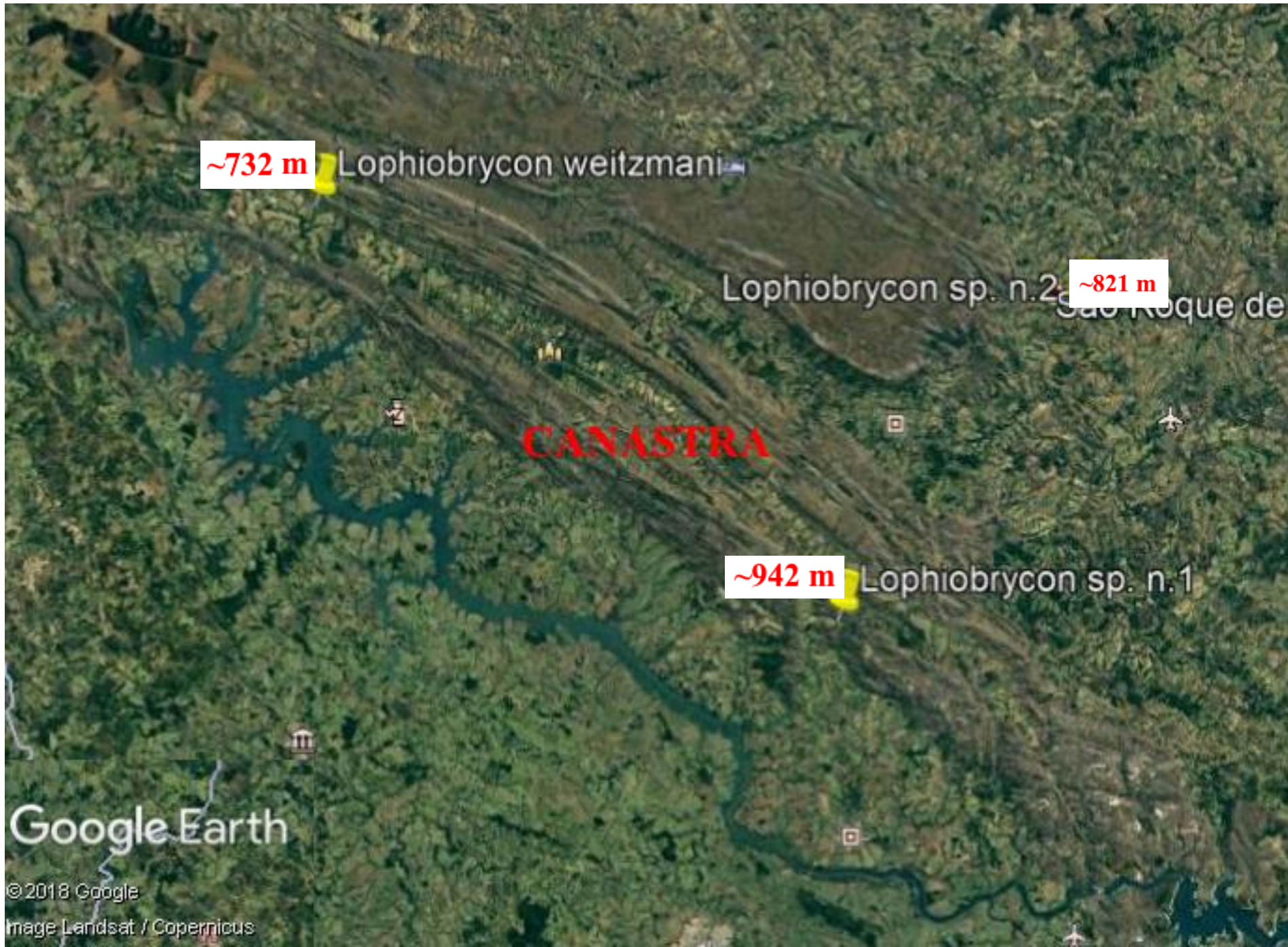
*Neoplecostomus canastra* Roxo, Silva, Zawadzki, & Oliveira 2017

*Hisonotus* sp.

*Pareiorhina rosai* Silva, Roxo & Oyaka, 2016

*Trichomycterus brasiliensis* Lütken, 1874

*Trichomycterus variegatus* Costa, 1992



**~732 m** Lophiobrycon weitzmani

Lophiobrycon sp. n.2 **~821 m** São Roque de

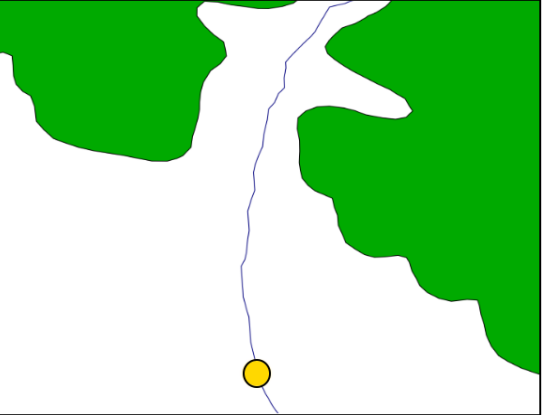
**CANASTRA**

**~942 m** Lophiobrycon sp. n.1

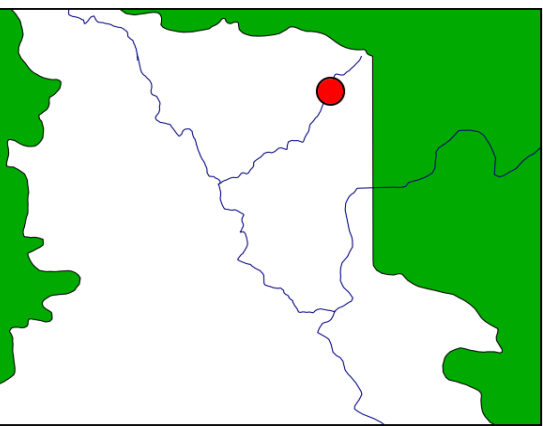
Google Earth

© 2018 Google  
Image Landsat / Copernicus

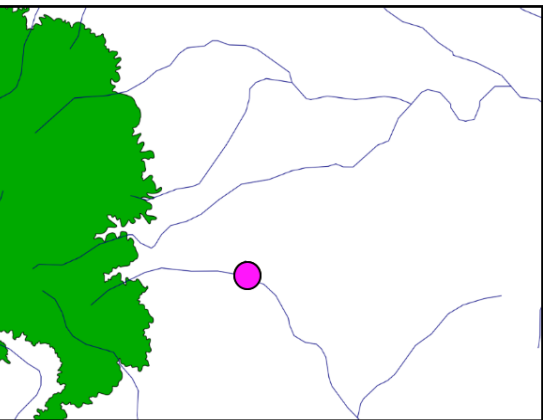




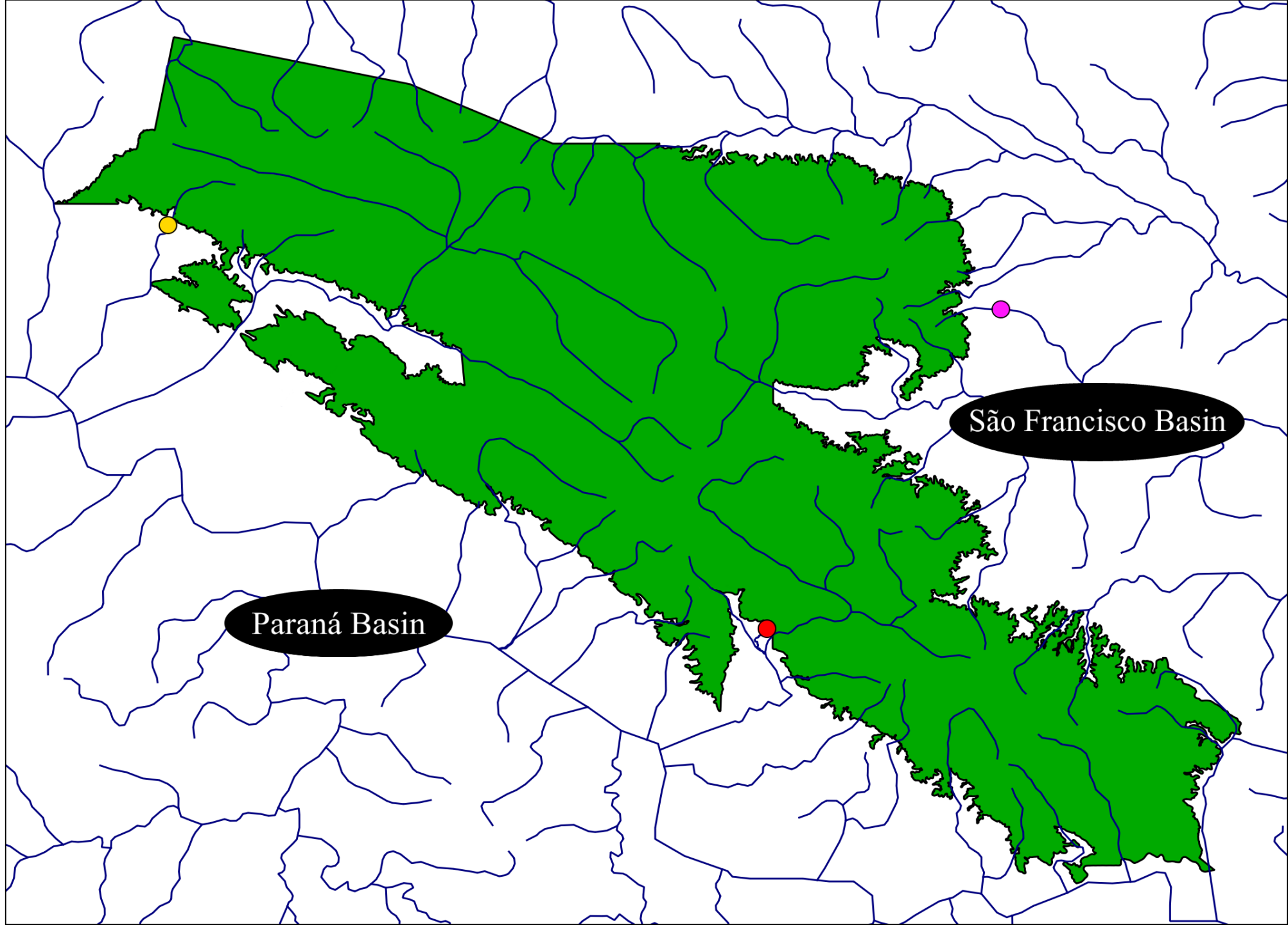
*Lophiobrycon weitzmani*



*Lophiobrycon* sp. n. 1



*Lophiobrycon* sp. n. 2



# Some possibilities

- Altitudinal tolerance for fishes is large.
- “Islands” can be applied only for some species of fish.
- Or fish populations are under isolation process

# We need to be quick



Illegal mining



Roads

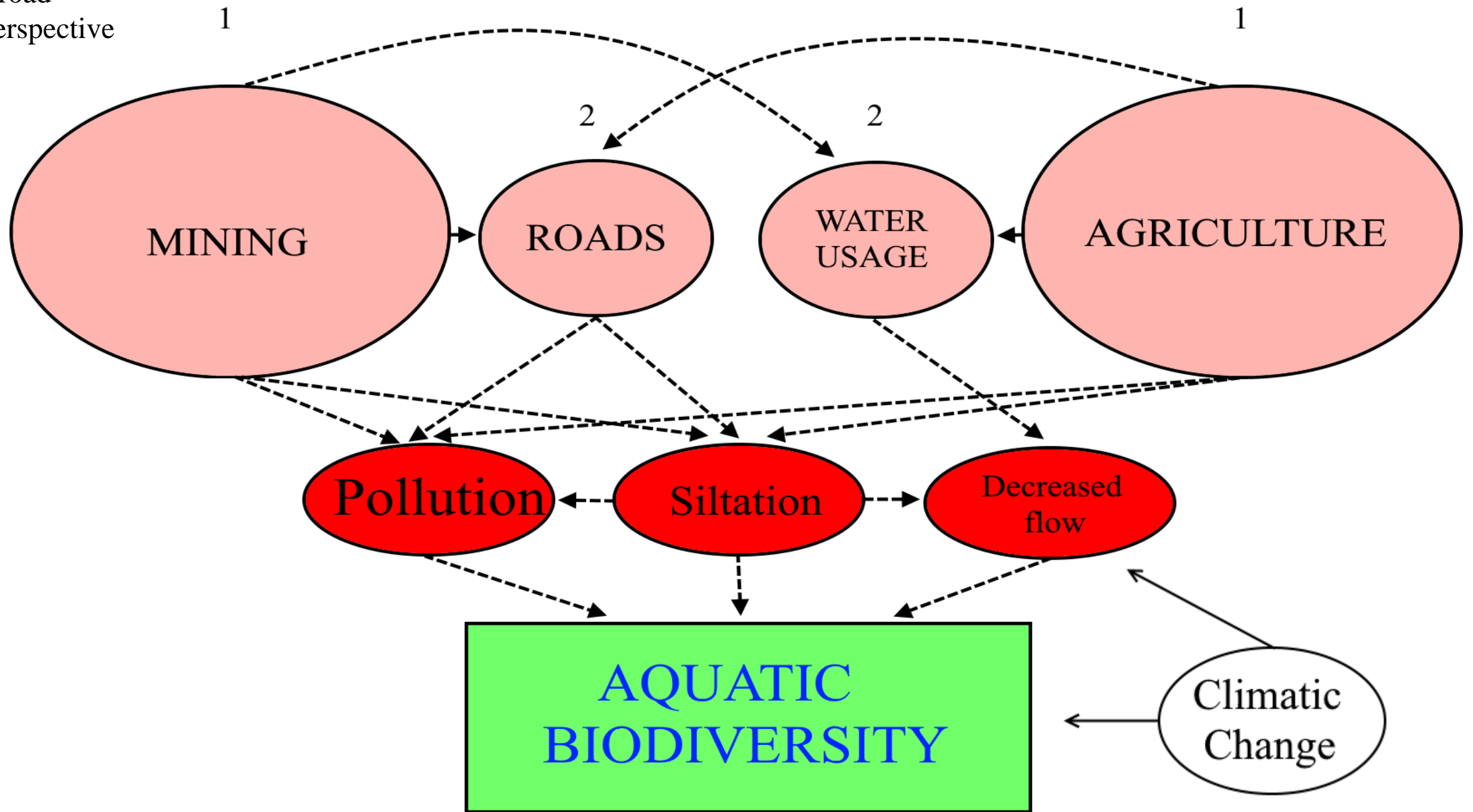
05/11/2015 19h26 - Atualizado em 11/11/2015 12h20

## ICMbio pede consciência a trilheiros para evitar degradação na Canastra

Chefe do parque diz que motoristas degradam região com motos e jipes. Especialistas apontam necessidade de guias em São Roque de Minas.



Broad  
perspective





Pôrto do Salto

~1260

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Google Earth



# Mapa sem título

Escreva uma descrição para seu mapa.

## Legenda

 Caminho sem título

~1153 m

Google Earth

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400 m







~1078m

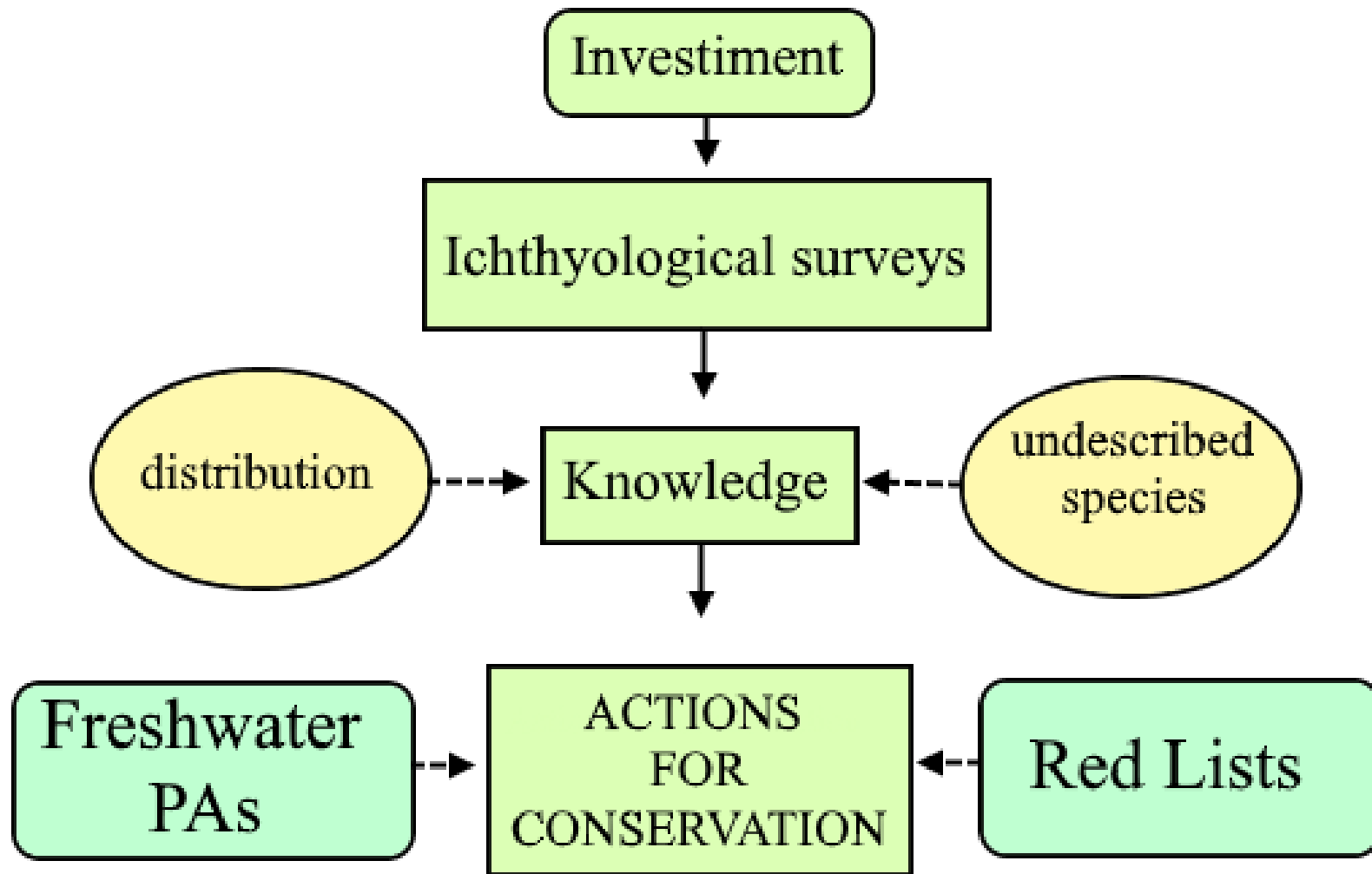
Google Earth

Image ©2019 DigitalGlobe

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# Ways needed.

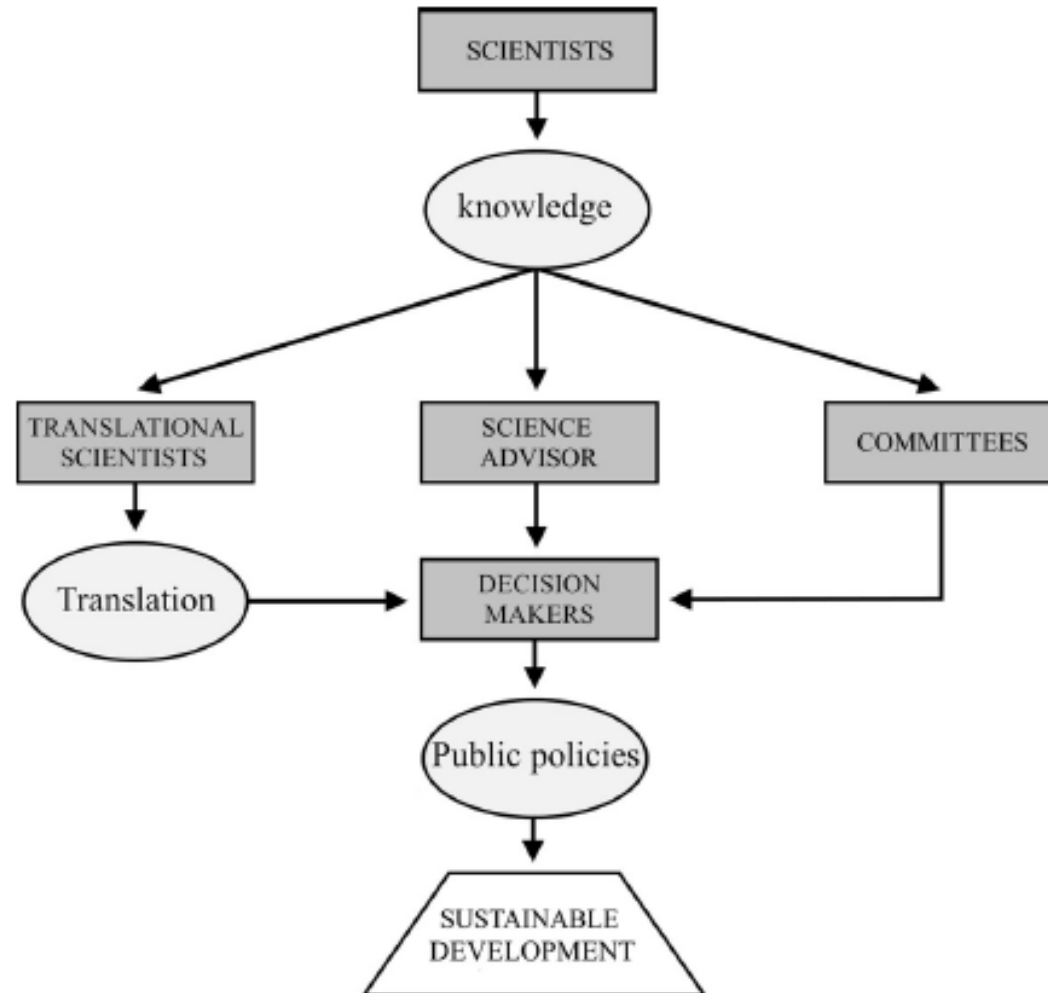


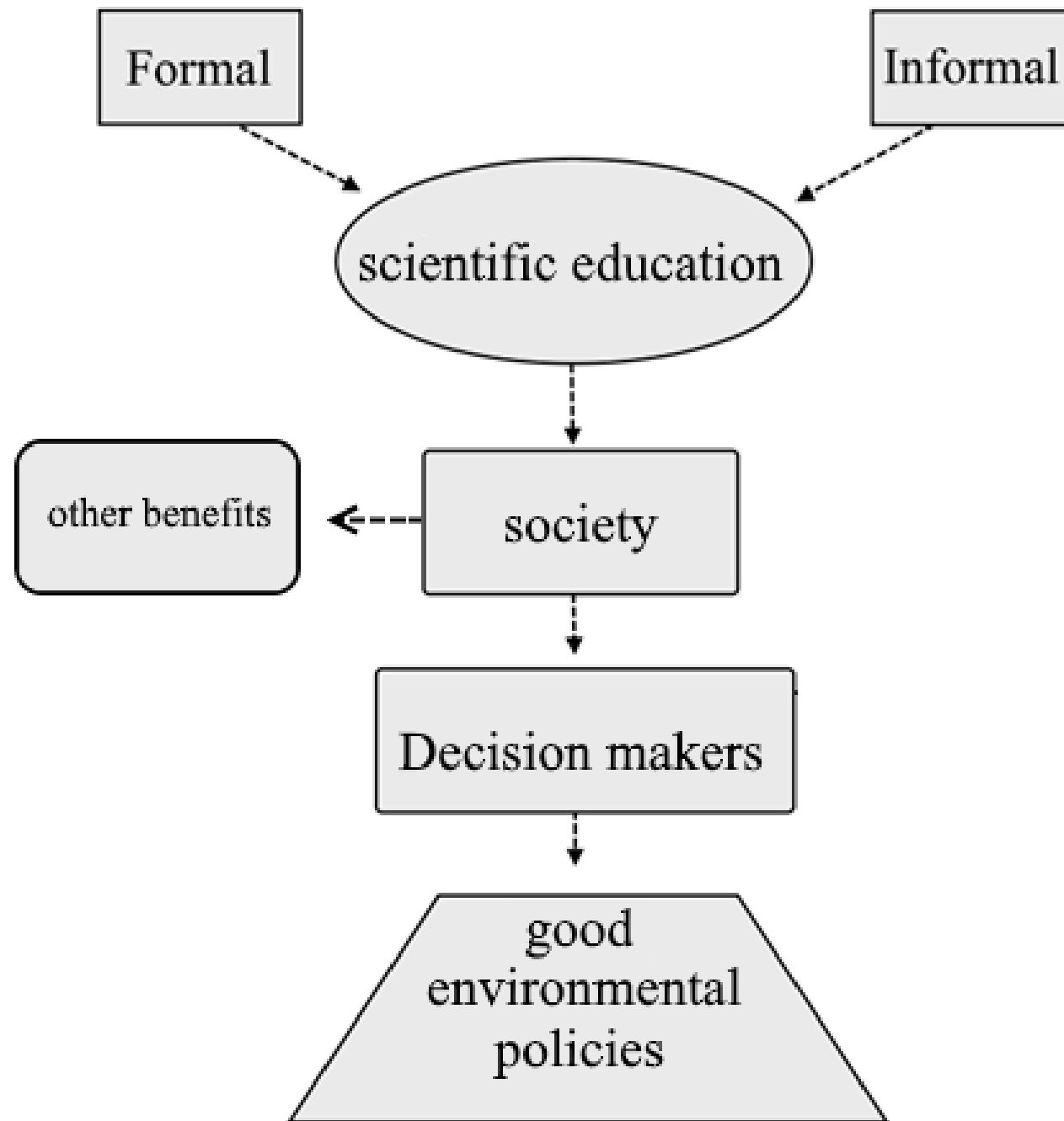


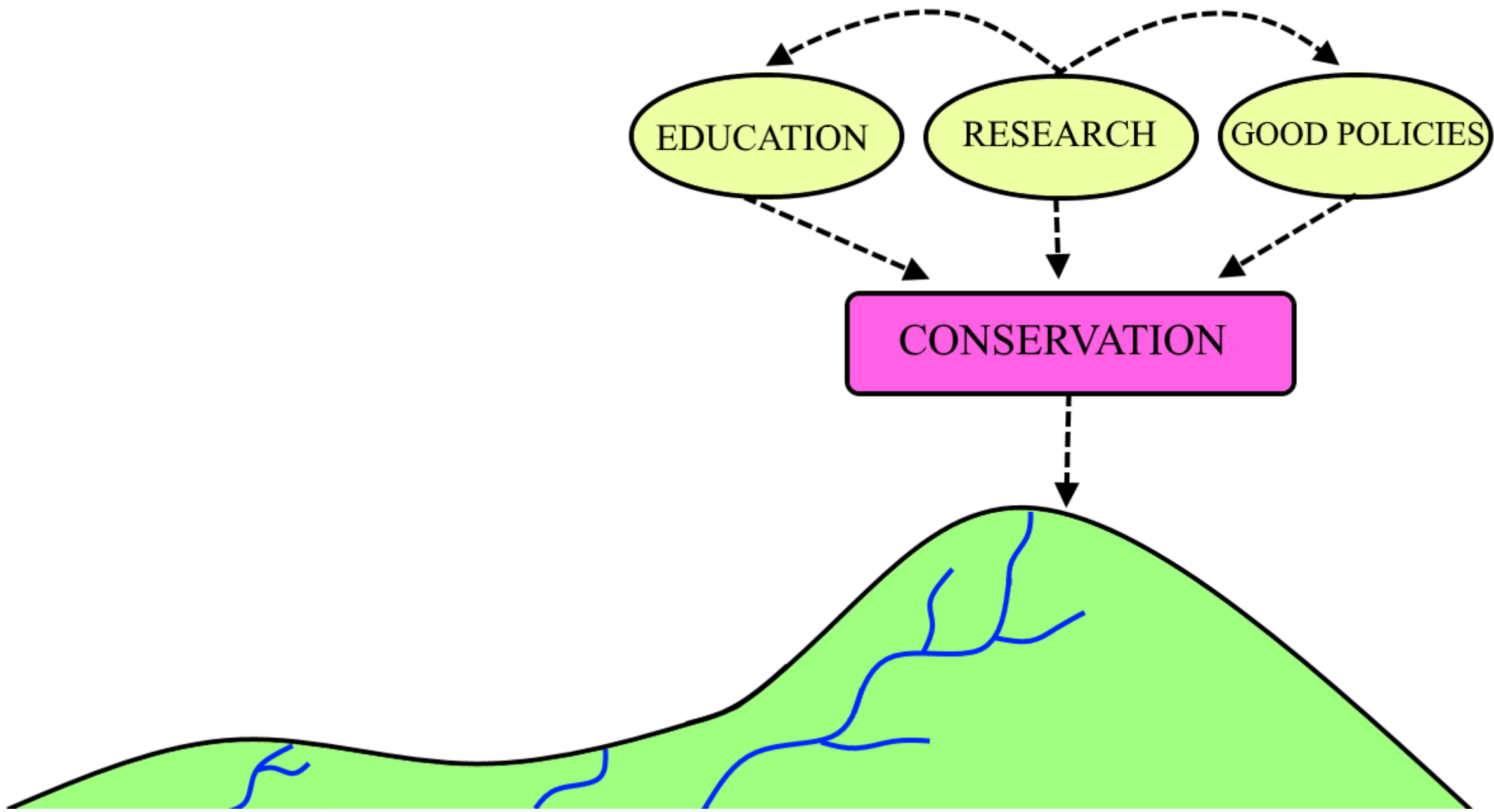
# Ways needed..

1748

Biodivers Conserv (2017) 26:1745–1752









AGÊNCIA NACIONAL DE ENERGIA ELÉTRICA

P&D - PROGRAMA DE PESQUISA  
E DESENVOLVIMENTO



*Rilhas Team*

**Thanks**

U F *m* G



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DE MINAS GERAIS



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Thank you.

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