

# The BearID Project

## Automated Visual Tools for Bears

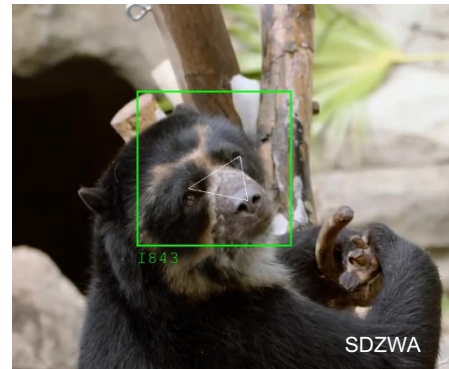
bearid.org @bearid\_project



### Project overview

When responding to the biodiversity crisis, data must be analyzed quickly, accurately, & cost-effectively. This is a huge challenge, particularly for bear research and conservation, as they are generally elusive & difficult to study non-invasively.

We use machine learning to develop tools to collect robust information on individual bears from images & videos, even under field conditions. We're guided by principles of open-access & open-source science & technology; all our code & software are free to use.



### Aims & objectives

This effort is led by the BearID Project, a registered non-profit research organization (BC, Canada) using non-invasive technologies to facilitate bear conservation. BearID is partnering with the San Diego Zoo Wildlife Alliance, other zoos, & other NGOs, in pursuit of the following objectives:

1. Improve the performance of current individual ID models for brown bears & Andean bears through image/video collection (in situ & ex situ) to train & test models.
2. Replicate individual ID models for other bear species, as widely as possible.
3. Develop models to estimate bear age classes & differentiate males from females.
4. Evaluate automated & manual estimation of bear size/mass/condition (partnering with ex situ institutions).

### How zoos, rescue centers, & researchers can contribute/collaborate

If you are interested in contributing to the BearID Project by donating images or videos of **any bear species**, please note the following:

- A) Each organization determines its own level of involvement.
- B) We seek imagery of individually identified bears whose sex is known. We need at least 20 images (or 10 videos) per bear, with both eyes of the bear visible. Preferably, imagery would be collected across multiple days/months. We recommend photos of at least 2MP and videos of at least 720P (1280x720), in relatively close proximity to the bear.
- C) To support models estimating age class, differentiating M vs F, or estimating body size/mass/condition, we'd need some additional imagery & information, which are straightforward to collect & can be easily explained.
- D) Image copyright remains with the contributor: BearID will not share imagery without obtaining prior consent.
- E) Co-authorship for major contributors is possible.

If interested, please contact [info@bearid.org](mailto:info@bearid.org) for more information.

