

# Hokkaido's brown bear research and management update 2007



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# Outline of the Brown Bear Range in Hokkaido

1. Oshima Pen.
2. Shakotan-Eniwa
3. Teshio-Mashike
4. Doto-Sohya
5. Hidaka-Yubari

○ HIES HQ

● HIES Branch Stations



# **Brown bear conservation and management plan for the Oshima Peninsula, Hokkaido**

since 2000

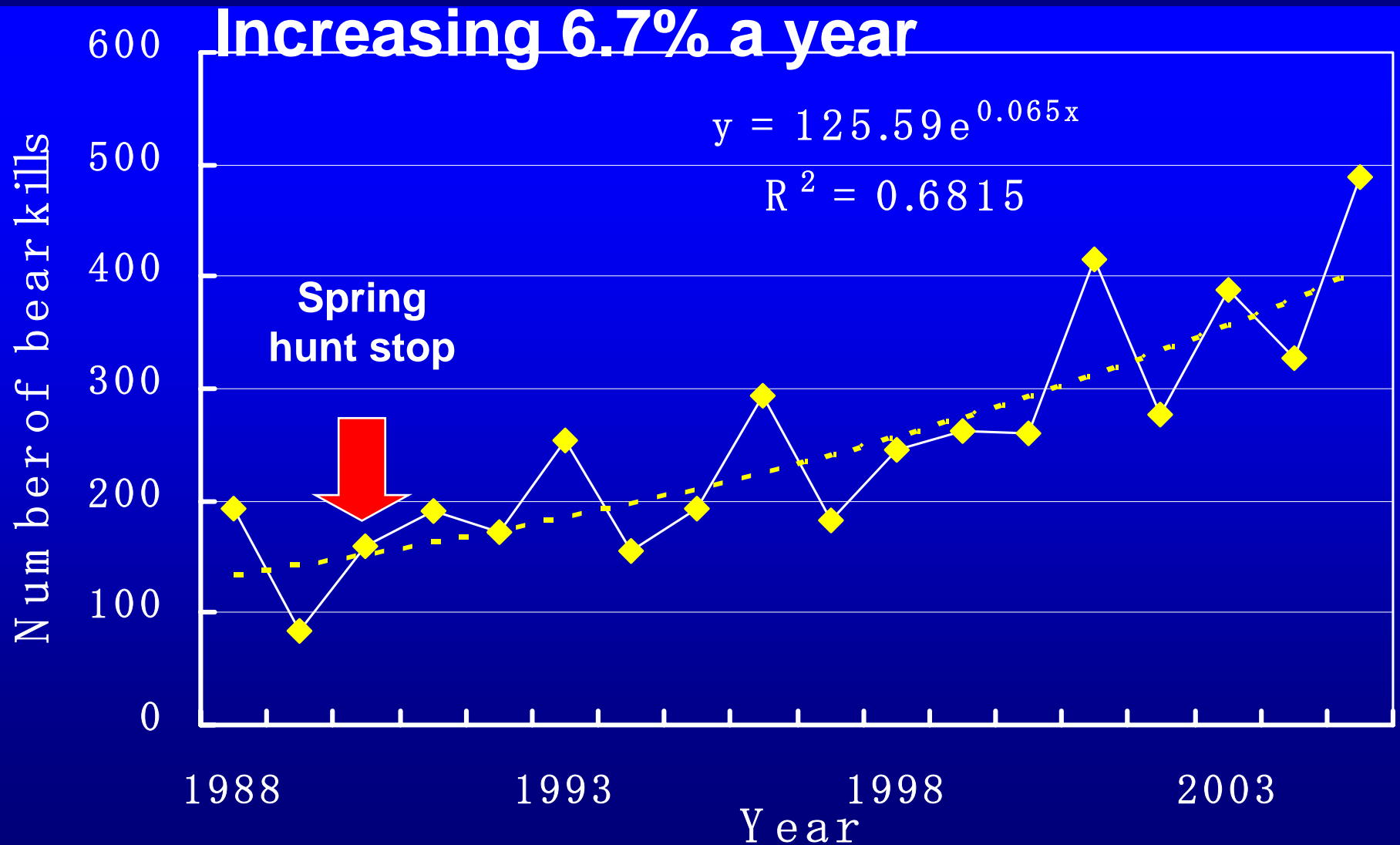
## **(1) Targets**

- ① Prevention of human injuries by brown bears**
- ② Minimizing economic damages by brown bears**
- ③ Guarantee of bear population maintenance**

## **(2) Approaches**

- ① Emphasizing damage prevention**
- ② Management measures based on monitoring**
- ③ Encouraging communication with various people and institutions for better co-operation**

# Brown Bear Kills in Hokkaido, 1988-2005



# Brown bear-caused damage and kills are increasing

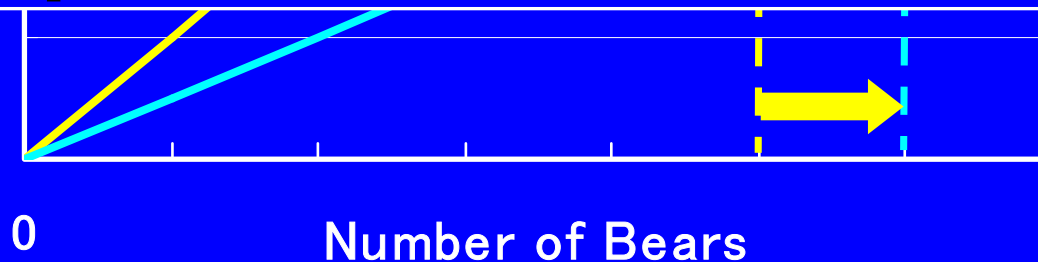


# Two risks to be managed for brown bear population conservation



- 1. Risk of the population extinction**
- 2. Risk of human injury and human property damage occurrence**

- It should be essential to establish a proper relationship between people and bears in the bear population management.
- We should choose improvement of the parameter  $\theta$  than the population control.



# The *Ainu's* brown bear recognition

- Brown bears should be respected as the god of mountains, what is called “*Kimun-Kamui*”.
- Because god, i.e. brown bear, hates wrong behavior of people, human beings should behave well.
- Some problem bears that attack human beings or damage properties of people are called “*Uen-Kamui*” which means wicked spirit.
- Wicked spirit must be punished, and therefore problem bears must be destroyed completely.

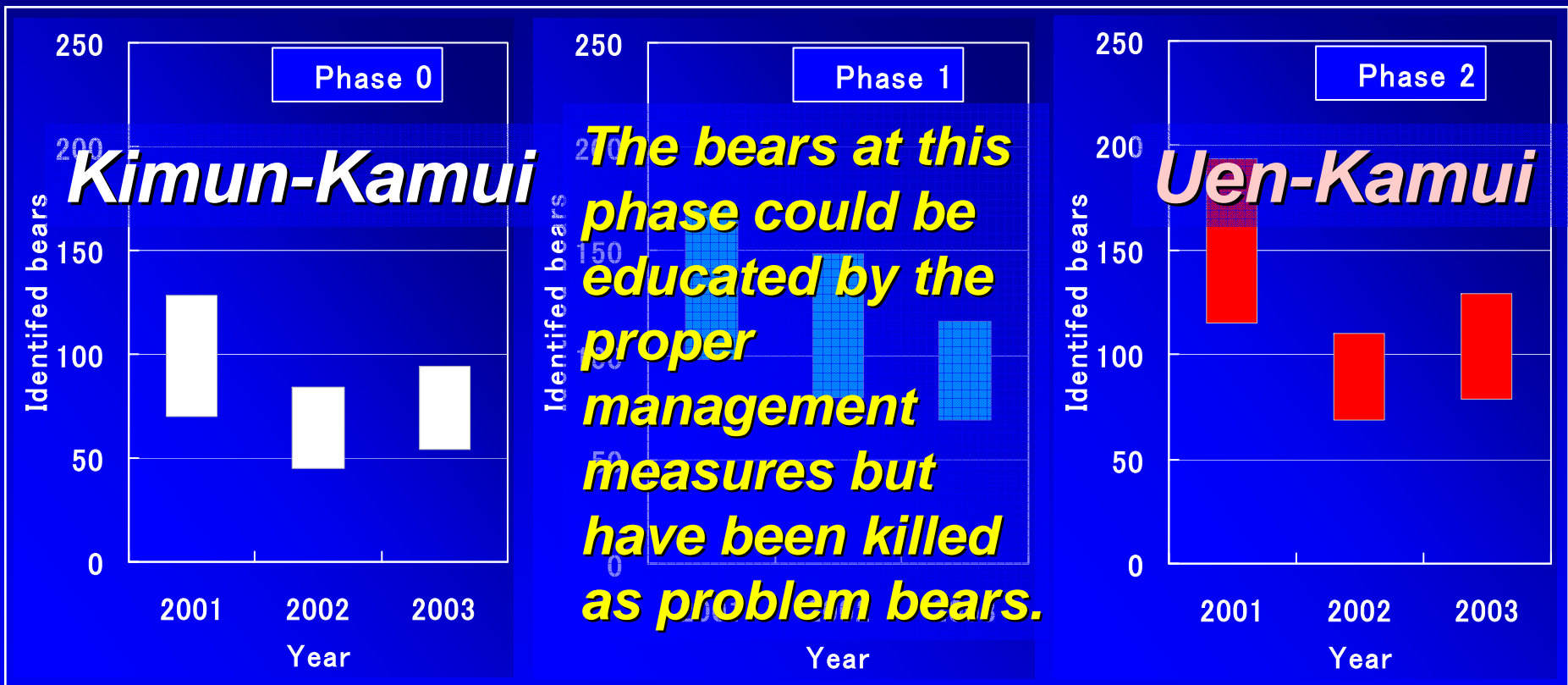
# “Phase” Specific Bear Control Plan in Hokkaido

## A criteria for the "bear phase" discrimination

Attitude toward crop or livestock	Attitude toward humans		
	Avoiding	Not avoiding or approaching	Offensive attacking
Not damaging	Phase 0	Phase 1	Phase 3
Damaging	Phase 2	Phase 2	Phase 3

- *Kimun-Kamui*: Normal bears → Phases 0 and 1
- *Uen-Kamui*: Problem bears → Phases 2 and 3

# Phase specific number of “problem bears\*” on the Oshima Peninsula region 2001-2003



The number of individuals was shown with range.

\*"Problem bears" mean that the bears were recognized their existence by people and reported with their sighting.

# Hokkaido's Bear Population Management Plan in Preparation with the Numerical Target

## Subjects to be monitored

### A. Population Index

- *Hunting Statistics Analysis*
- *Biological Survey of Killed Individuals*
- *Periodical Questionnaire on Distribution*
- *Landscape Level Bear Sign Survey*
- *Population Estimates Using Genetic Tagging*

### B. Degree of inappropriate relationship between people and bears (Parameter $\theta$ )

- *Number of conflict occurrence*
- *Identification of phase of bears regarding each conflict*
- *Phases of killed bears*
- *% of false charges for bear control action*

# Age class and number of registered hunters in Hokkaido, 1978-2004

