

# POLAR BEARS

Keynotes address on polar bear-human conflict

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**Understanding Polar bear nature and behavior:  
Why behavioral research is important?**

**Main goals:**

**Understand processes that govern:**

- **population dynamics,**
- **social life,**
- **encounters with other species, including humans.**

## **POLAR BEAR RESEARCH ON WRANGEL ISLAND**

**- key polar bear refuge and model study territory**

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*Leading organizations:*

*Wrangel Island State Nature Reserve*

*Institute of Problems of Ecology and Evolution, RAS*

**Research objectives:**

- 1. Monitoring local polar bear sub-population in autumn seasons*

**Objectives:**

- Number and distribution

- Demographic composition
- Physical condition

- 2. Research on polar bear population and behavioral ecology in Wrangel Island region*

**Objectives:**

- Dynamics in distribution and demographic structure of polar bears stranded on Wrangel Island during ice free seasons;
- bear on-shore movement patterns, terrestrial habitat use;
- foraging activity and hunting behavior;
- social behavior;

- behavior during encounters with humans;
- reaction to disturbance - human presence and activity, AVTs and other transportation devices, response to deterrent tools;
- Dynamics of bear physical condition and mortality.

## LOGISTICS

### Number of polar bears recorded on Wrangel island

year	max number of bears in congregation at Cape Blossom at a time	overall count on the island	overall estimated number of bears on the island	Sea ice conditions
2004	9	261	300	Ice Free
2005	18	104	200	Ice Free
2006	2	99	150	Ice Free
2007	11	391	600	Ice Free - Extreme
2008	5	200	300	Ice Free - Extreme
2009	3	165	200	Ice Free

The largest observed congregation was up to 160 bears at a time

### POLAR BEAR NATURE

- Harsh environment
- Specialized predator
- Generalist
- Nomadic
- Social
- Non-territorial
- High intellect
- Good perception
- Strong ability for learning
- Highly cautious
- Tough and inertial

### SOCIAL BEHAVIOR

- Socially flexible
- Socially tolerant
- Well developed communication means
- Skillfully manage social distance
- Social orientation is important
- Taught to respect power
- Naive

## **Encounters with humans are inevitable**

**Encounters are easily manageable without conflicts when natural features of polar bear social behavior are known and encounter management technique is based on them**



**Polar Bear response to encounter with a human is highly predictable**

**Polar bears are highly sensitive to disturbance**

### **CONFLICT CONDITIONING**

#### **1. Habituation:**

- **attractants**
- **food conditioning**
- **familiarization**

#### **2. Surprise encounters**

#### **3. Mistaken Identification of an object by a bear**

#### **4. Fear-based response by a human to encounter with a bear**

## **PRINCIPLES**

**For polar bear-human safety concept in Wrangel Island State Nature Reserve**

**1 – Preventing conflicts is always preferable (constant attention and no encounter provocations)**

**2 – Respect to polar bears, superiority of their rights to live in their country**

**3 - No harm to polar bears**

**4 – Human safety is human responsibility**

**5 - No attractions for polar bears near human dwellings**

**6 – No familiarizing with humans for polar bears**

**7 – Instructing and training field workers and visitors**

**8 – Rules are obligatory for all field workers and visitors**

# **Gun free policy in managing polar bear-human encounters in the reserve**

## **Reasons:**

- **Not effective as deterrent tool**
- **Put carrier into inadequate psychological mood**
- **Risk of injure for a human**
- **Risk of injure for a bear**
- **Risk to provoke conflict escalation**
- **Risk to create a problem bear**

**Conclusion: Gun is a useless load to carry.**

## **New reality – sea ice shrinking**

**Consequences – increase of bear-human encounters and conflicts**

**Does developing tourism in the Arctic introduce additional impacts to polar bears?**

**Yes, it does!**

## **Kinds of tourism that can impact polar bears**

- **Land traveling in polar bear country**
- **Skiing to the North Pole**
- **Ship based tourism**

## **Ship based tourism – negative aspects:**

- **Guarding tourists from polar bears is based on rifle use concept**
- **Expedition Staff and Guards are often not specially trained and qualified to manage landings without impacting polar bears**
- **Polar bear chasing is practiced by some expedition leaders**
- **Landings are run in key polar bear coastal habitats**
- **Disturbance by helicopter and landing operations**

## ***What should be done to minimize impacts of tourism?***

- **Develop restrictive guidelines for the entire Arctic**
- ***Use only non-lethal deterrent tools as polar bear safety measures***
- **License tour operators on national level**
- **Training courses for expedition staff**
- **Education for travelers and tour operators**
- **Regulation Enforcement**

## **CONCLUSIONS:**

- 1. Sound management of polar bear – human encounter/conflict is human responsibility and should be focused on managing humans**
- 2. To be effective managements should be based on natural behavioral features of the species**
- 3. Management should be environmentally animal friendly**
- 4. Ethic aspect is critically important**

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