

# UNIT 1A – DEER

## PROPOSAL 178A

### Intensive Management Plan for Deer in a Portion of Unit 1A

- Department Proposal

### Department Recommendation:

Adopt

# Presentation Outline

## ***Unit 1A and proposed treatment area***

- Maps of Unit 1A and potential IM Area

## ***Unit 1A-Deer***

- IM population and harvest objectives
- How IM objectives were established
- Amount necessary for subsistence (ANS)
- Estimated deer harvest with objectives
- Treatment area deer harvest
- Factors affecting deer populations
- Current measures of deer abundance
- Deer pellet trend in treatment area

## ***Unit 1A-Wolves***

- Wolf harvest
- Treatment area wolf harvest
- Wolf population estimate from adjacent area

# Presentation Outline

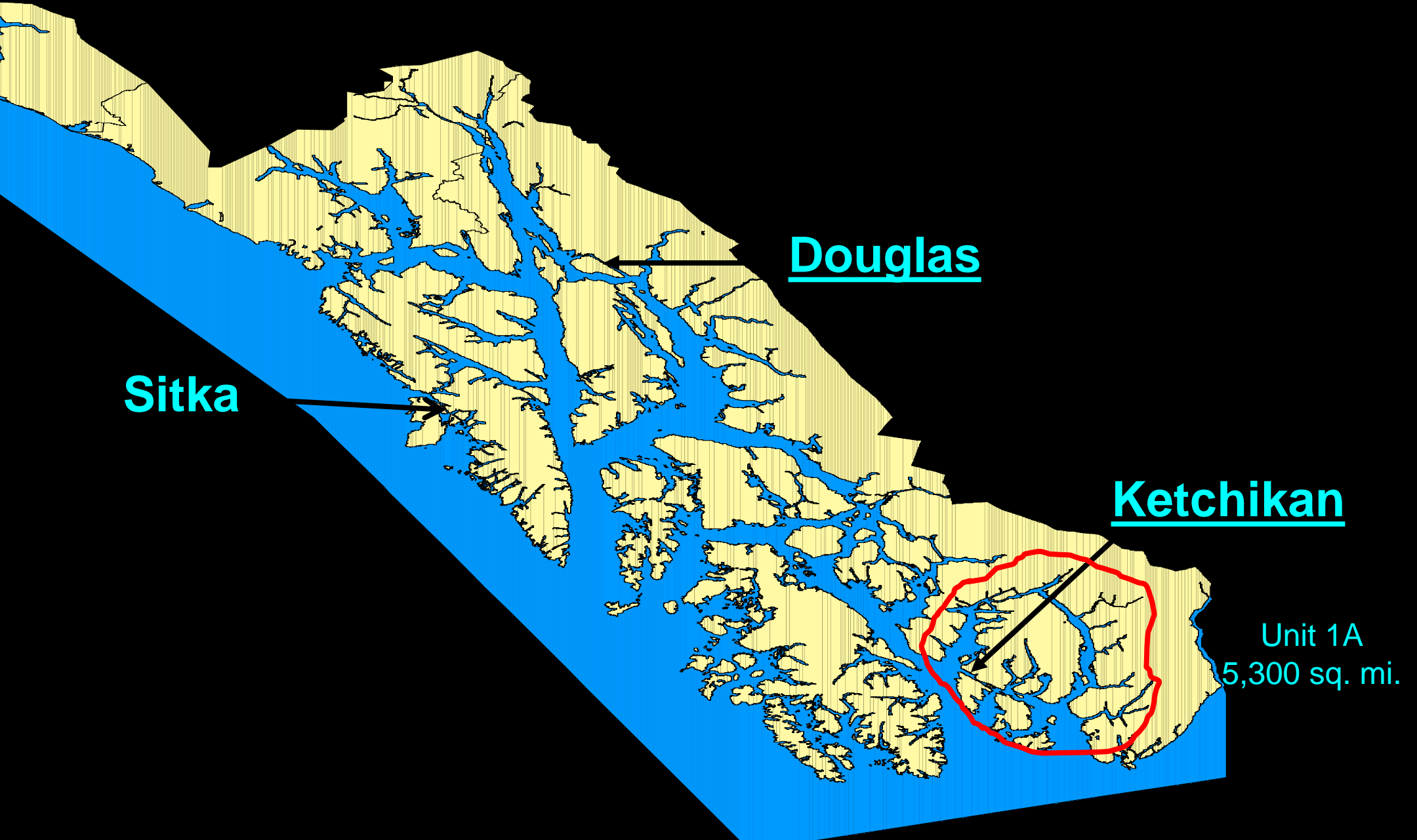
## ***Data Needs and Current Work Summary***

- **Vegetation data and summary**
- **Current pellet transects and proposed new sites**
- **How to monitor effects of any IM actions**

## ***Intensive Management Issues***

- **Potential IM activity**
- **Feasibility Assessment**
- **Operational plan**
- **Response metrics**
- **Decision thresholds**
- **Achievable deer harvest objective**
- **Map of Gravina land ownership**
- **Population assessments**

# UNIT 1A AND SURROUNDING AREA



Sitka

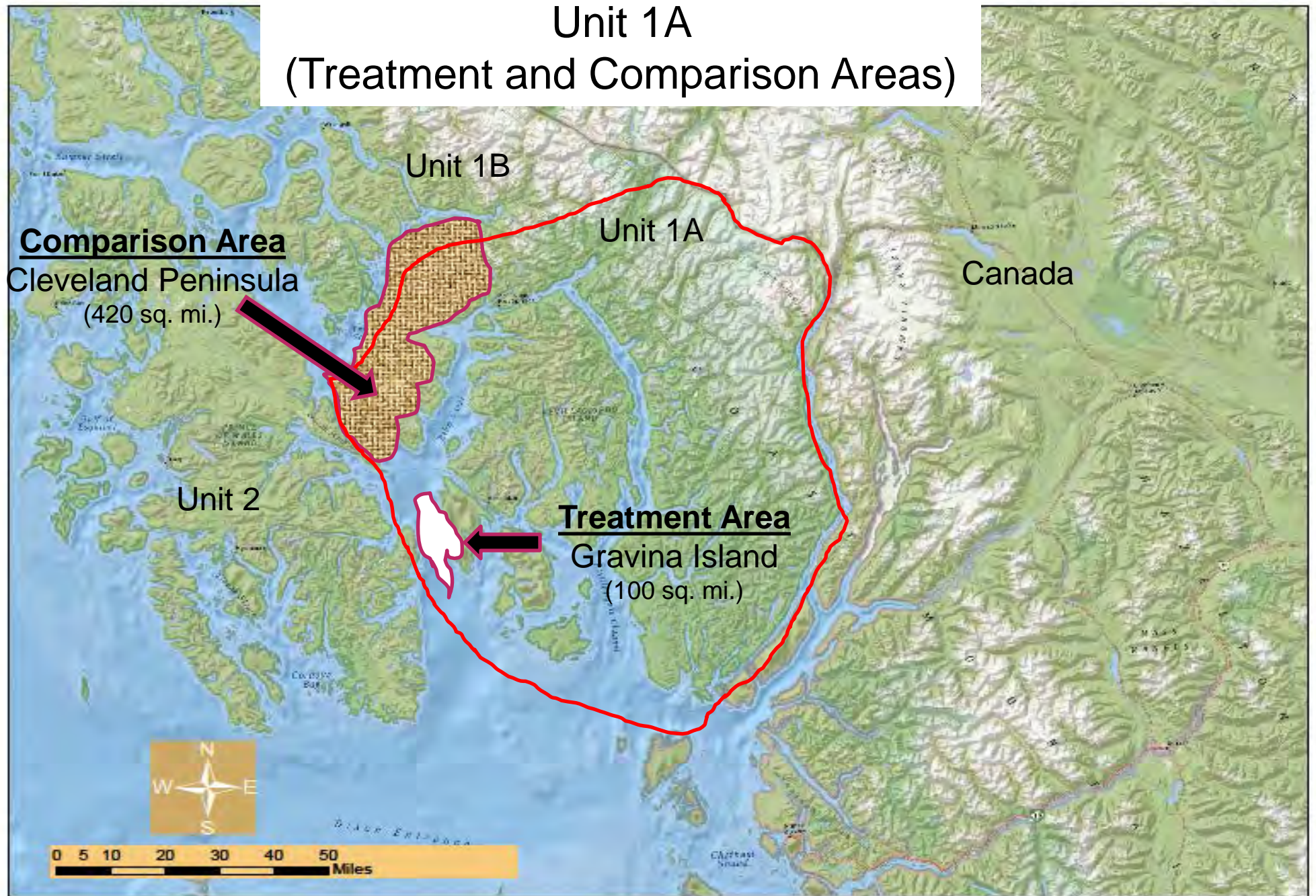
Douglas

Ketchikan

Unit 1A  
5,300 sq. mi.



# Unit 1A (Treatment and Comparison Areas)



# IM Objectives for Unit 1A Deer

<u>IM Population</u>	<u>Population Objective</u>	<u>Harvest Objective</u>
Unit 1A	15,000	700

- IM harvest objective set in Fall 2000 during peak harvest years
- Based on average harvest 1994 - 1998 plus 10 %

# ANS Objectives for Unit 1A Deer

**Amount  
Necessary for  
Subsistence**

**Finding**

**Objective**

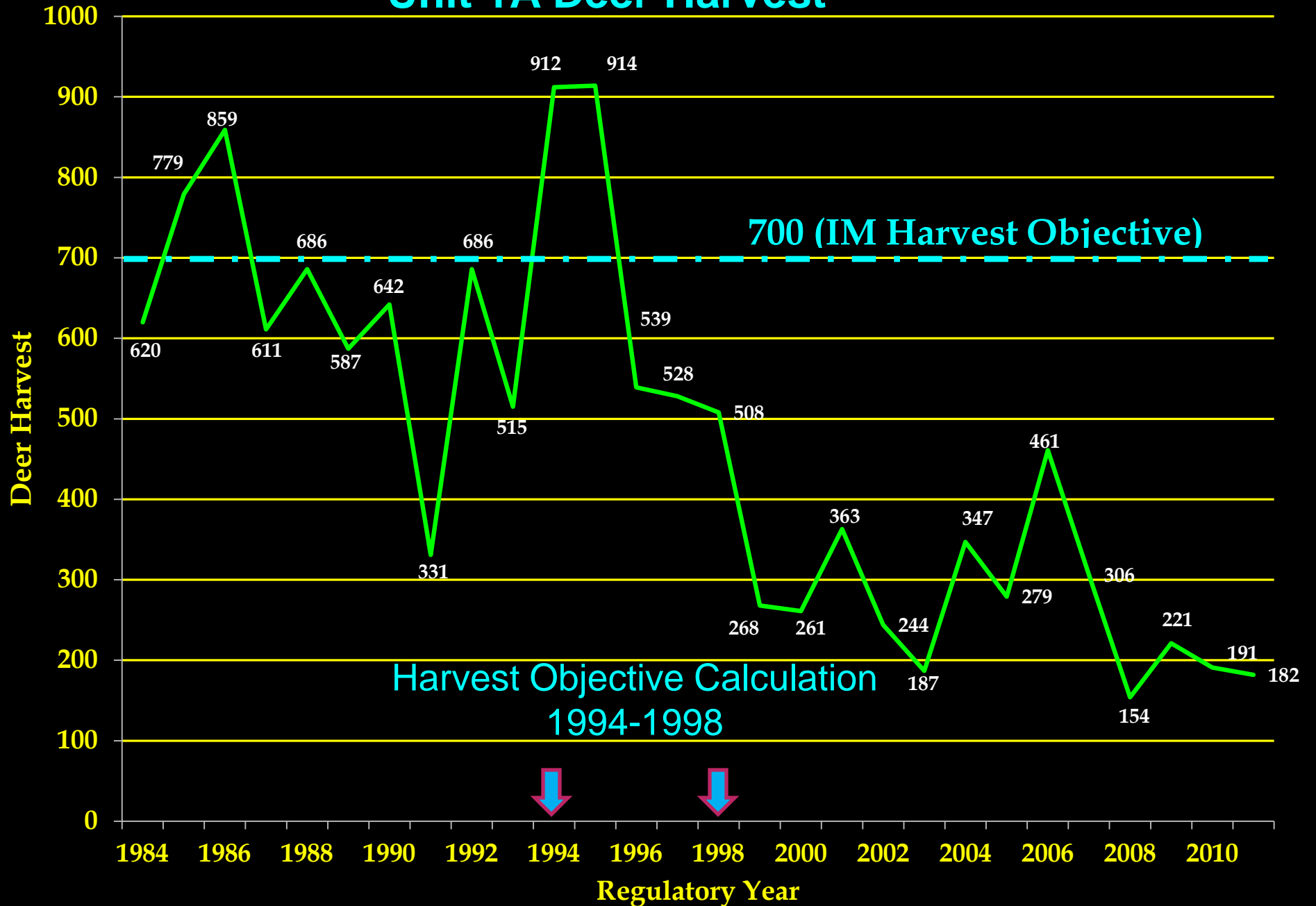
**Unit 1A**

**Positive**

**225 - 250**

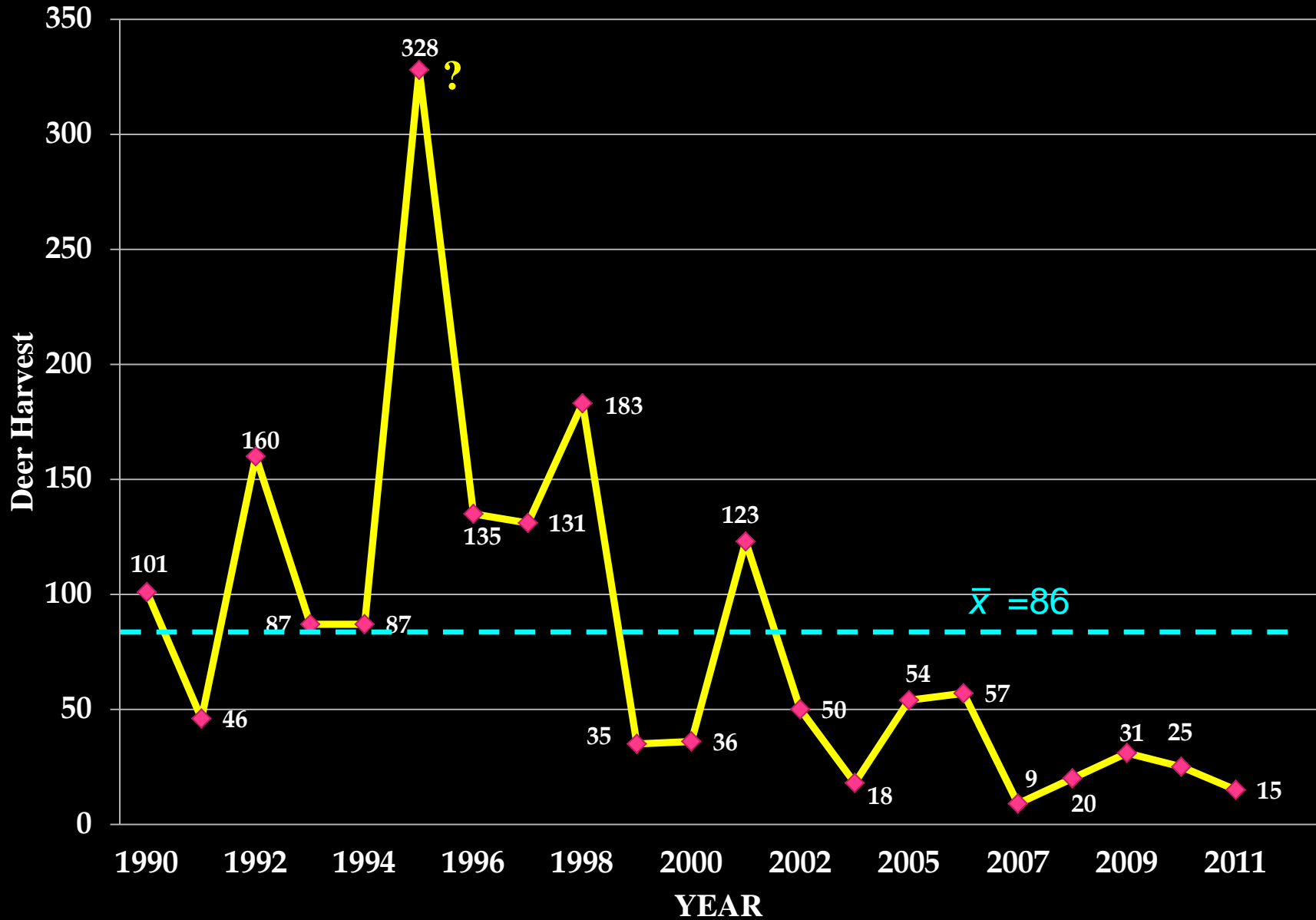
- ANS not achieved in 2003, 2008 and 2010

# Unit 1A Deer Harvest





# Gravina Island Deer Harvest



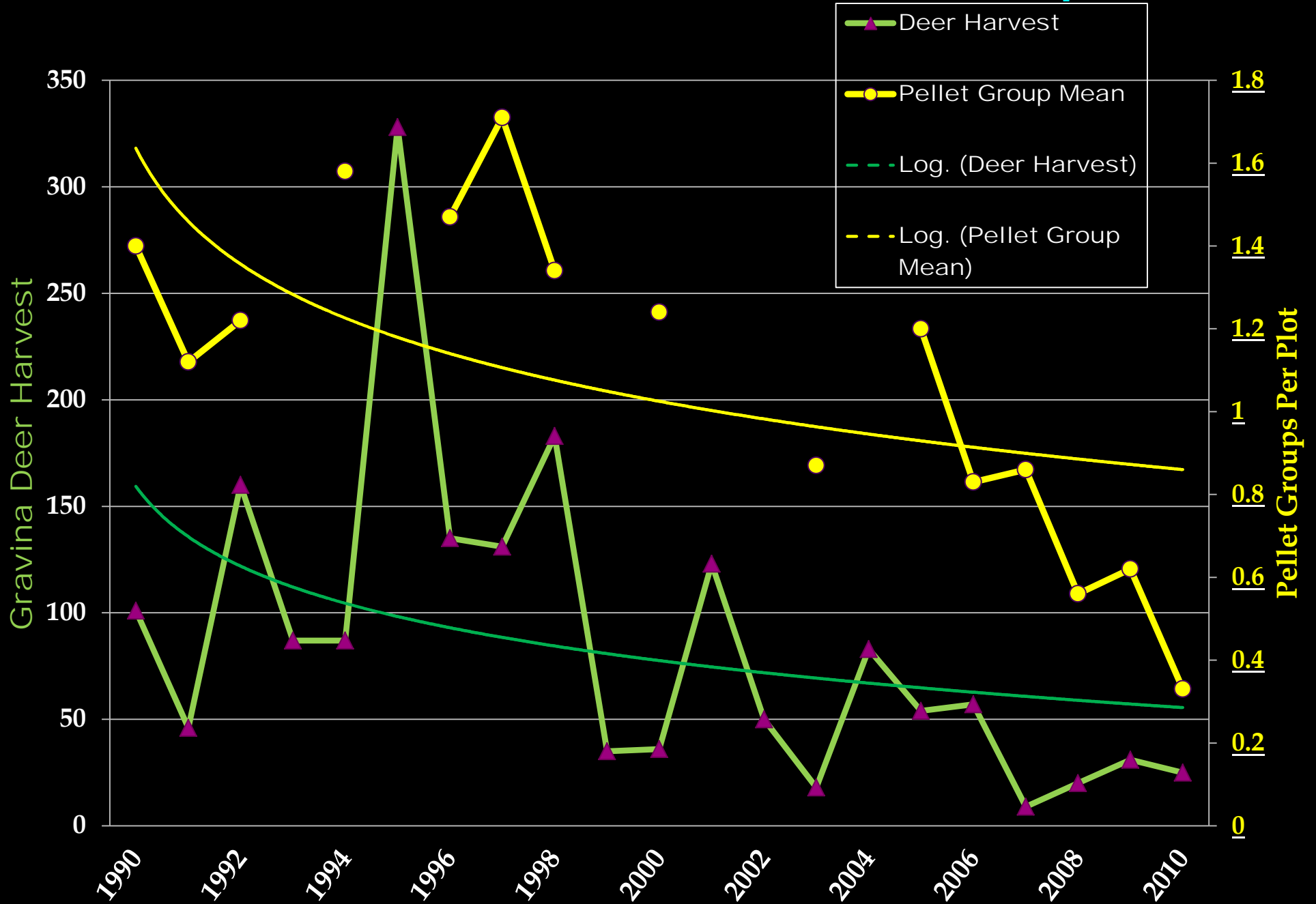
# Factors Affecting Deer Populations

- ▣ *Deep and persistent snow winters*
- ▣ *Predation by wolves and black bears*
- ▣ *Reductions in deer carrying capacity and important winter habitat*
- ▣ *Poor habitat quality*
- ▣ *Legal and illegal hunting*

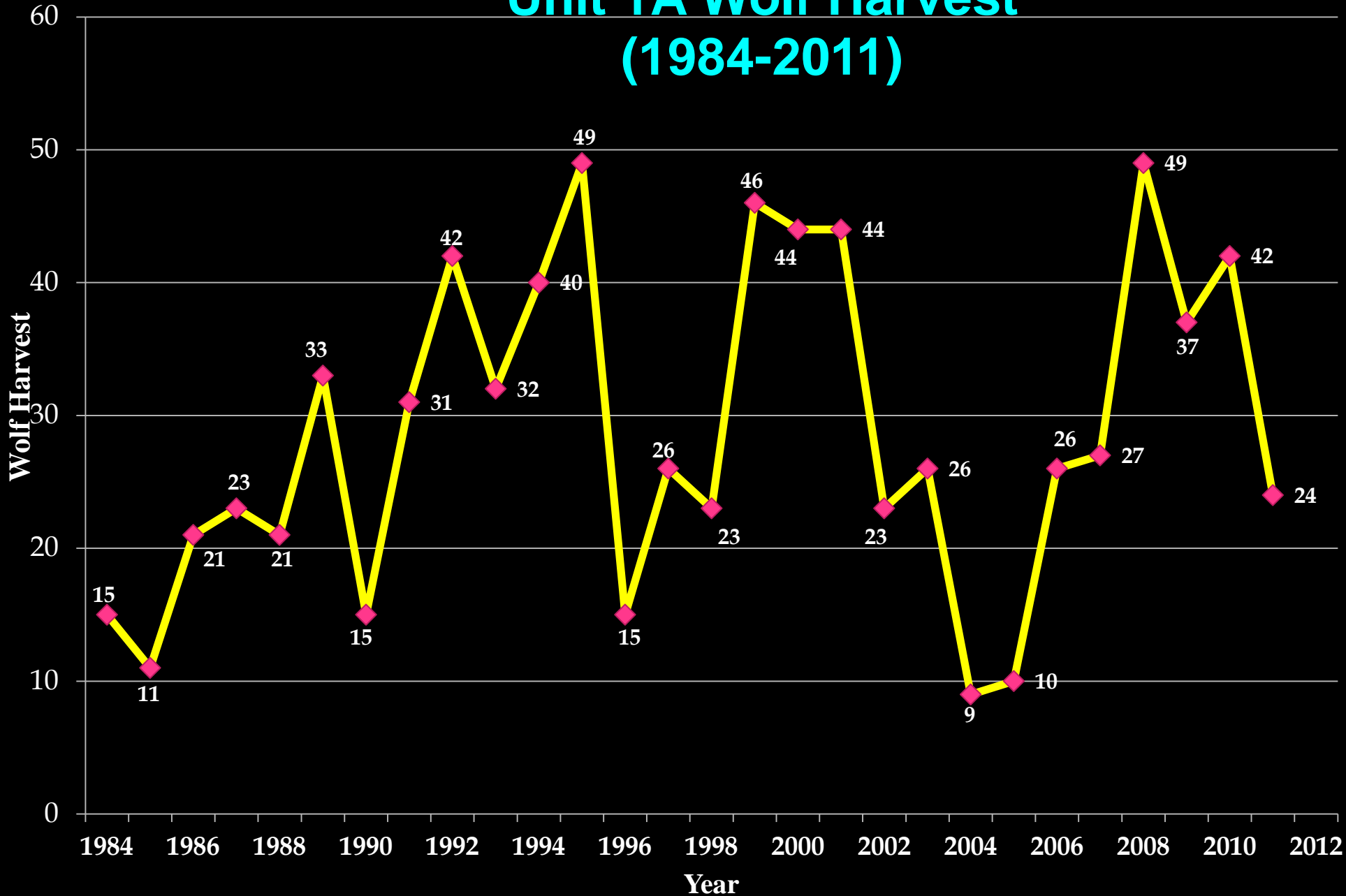
# Current Measures of Deer Abundance

- ▣ ***Deer harvest reports (mandatory)***
  - ***Provide only general trends in deer abundance over multiple years***
  - ***Harvest report results must be interpreted carefully***
  
- ▣ ***Traditional pellet-group surveys***
  - ***Not precise measure of deer abundance***
  - ***Factors other than deer density can affect pellet group density (i.e. winter weather, snowfall, snow persistence)***
  - ***Gravina timber sales have removed pellet trend count areas***
  - ***Testing new DNA based approach to pellet-based trend estimates***

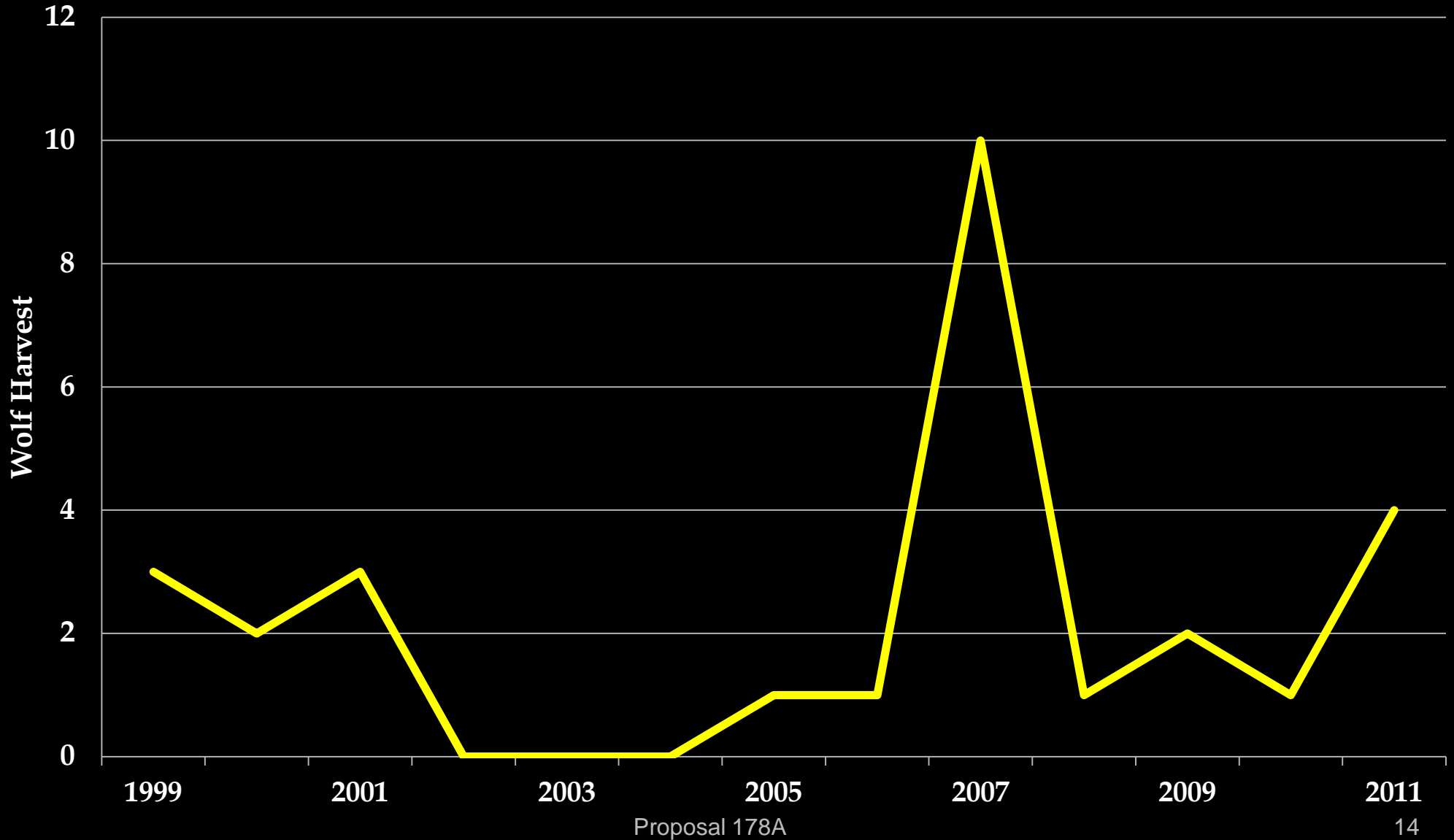
# Gravina Island Deer Harvest and Pellet Group Trends



# Unit 1A Wolf Harvest (1984-2011)



# Gravina Island Wolf Harvest



# Gravina Island

## Wolf Population Estimate

- ▣ Gravina Island
- ▣ ~ 100 sq. miles
- ▣ Distance to other islands and source wolves <1 mile
- ▣ ~ 6-12 wolves

### Prince of Wales Island

Average pack size 8.5  
(range 2-12)

Average home range

- 304 km<sup>2</sup> (117 mi<sup>2</sup>)
- SD = 63 km<sup>2</sup> (24 mi<sup>2</sup>)

*Person et al. 2001*

### Revilla Island

Average pack size 5.4  
(range 2-12)

Average home range size  
108 mi<sup>2</sup> (range 30-170 mi<sup>2</sup>)

*Smith et al. 1987*



# Intensive Management Issues

- **Current Ungulate Status**

- **Several consecutive hard winters 1998-2000, 2006-2008**
  - **Record & above average snowfall**

## Predation

- **Wolves**
- **Black Bears**

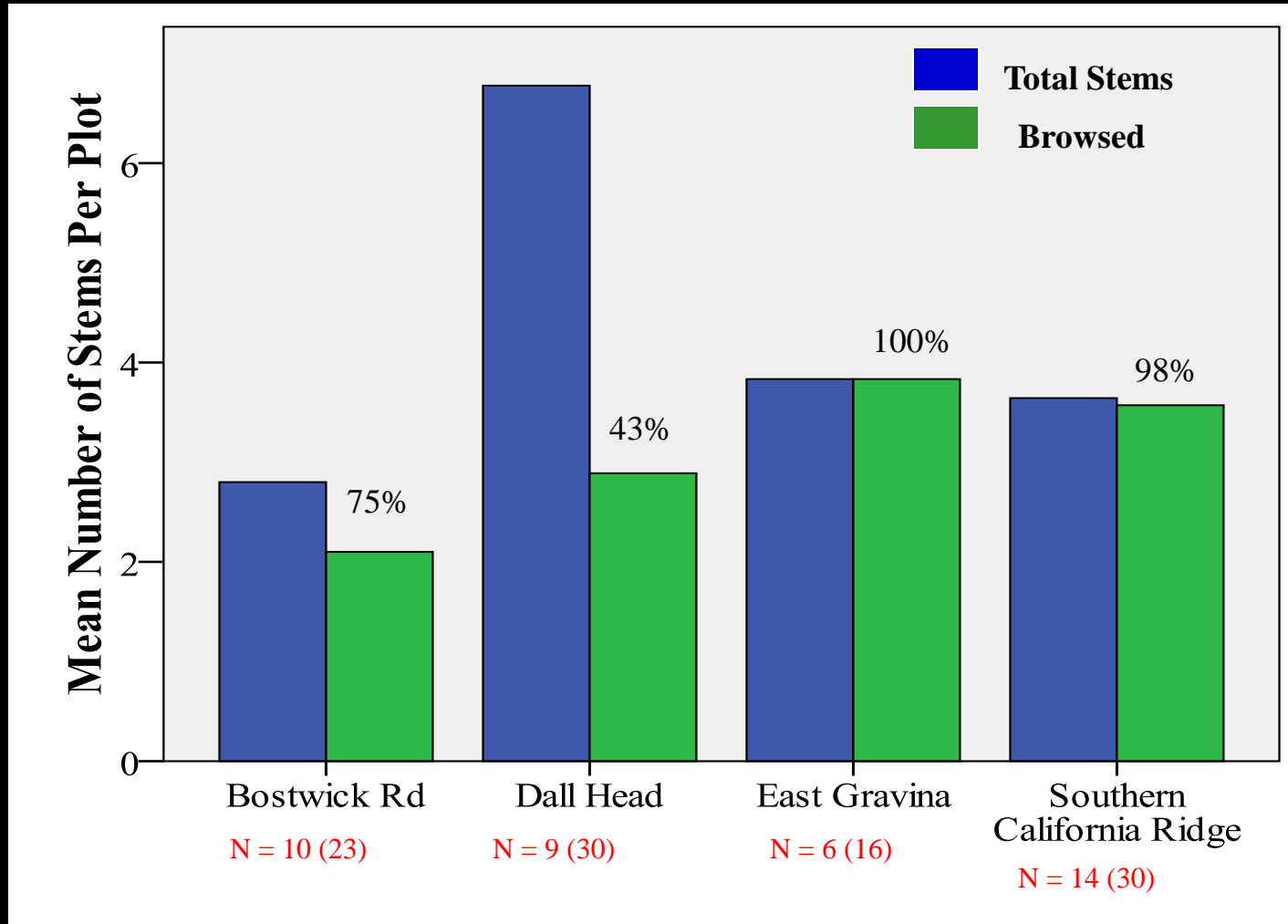
## Habitat

- **Habitat loss from Federal and State clearcuts both past and proposed, Mental Health selective logging, and forest fire on south end of Gravina Island**
- **Loss of important deer winter range**
- **Reductions in deer carrying capacity**
- **Majority of Gravina poor winter deer habitat**
- **Low volume muskeg scrub- ideal killing fields for wolves**

# Data Considerations for Gravina Island

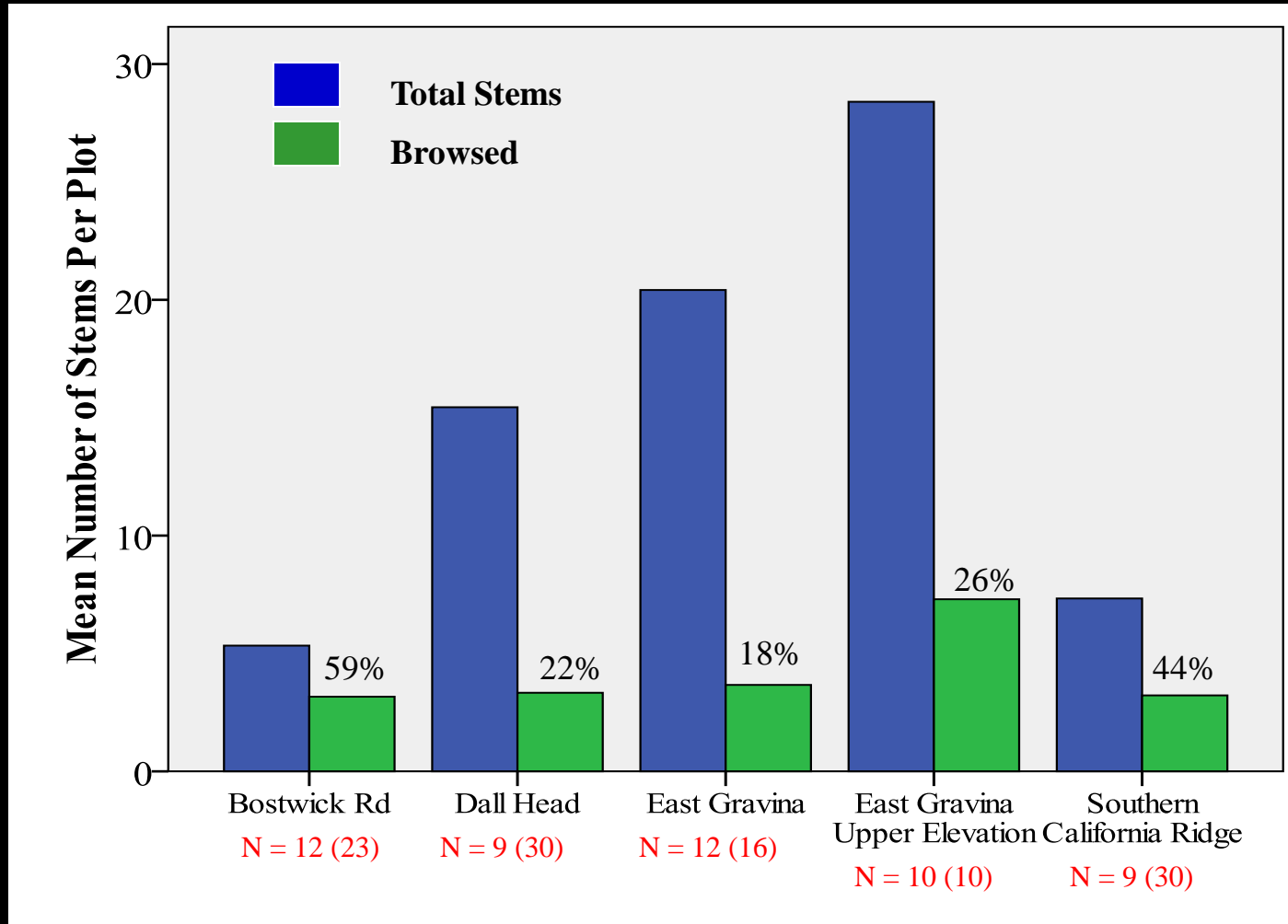
- Physical condition of adult females (ultrasound scanner)
- Pregnancy rates of adult females
- Pregnancy rates of yearlings
- Twinning frequency in adults
  
- Diet quality (based on evaluation of pellets, fecal nitrogen etc)
- Evaluate past and current habitat condition for deer (1990-present)
- FS layers
- Estimate wolves (collar 2-4) - also allows aerial composition
  
- Work In Progress
- DNA hair trap density estimates and individual ID of wolves
- Camera traps for individual ID and density of wolves
- Deer forage plots, deer pellet transects, harvest data collection

# Gravina Island Vegetation Plot Data



Total *Vaccinium* spp. stems and number browsed per 2 m<sup>2</sup> plots located in the vicinity of deer pellet group transects on Gravina Island, July 2009. Percent of stems browsed is shown and N indicates number of plots containing *Vaccinium* and () = total number of plots sampled. All plots = 109

# Gravina Island Vegetation Plot Data



Total **non-Vaccinium** stems and number browsed per 2 m<sup>2</sup> plots located in the vicinity of deer pellet group transects on Gravina Island, July 2009. Percent of stems browsed is shown and N indicates number of plots containing non-Vaccinium species and () = total number of plots sampled.

# Gravina Island Habitat Evaluation Summary (Vegetation Plots)

- ▣ Winter habitat may not support substantially more deer
- ▣ Important winter browse plants limited
- ▣ High browse intensity across island
- ▣ Browse use of non *vaccinium* spp.
- ▣ Need more vegetation plots to evaluate island wide deer carrying capacity

# Gravina Island Deer Pellet Trend Monitoring Sites



# Potential IM Activity...

- Hire 1 or 2 “experienced” trappers to intensively trap wolves within treatment area.
- 
- Trapping would occur during the established trapping season (Nov 10 – Apr 30), using standard trapping techniques.
- Treatment area is “semi closed system” ... wolves from adjacent non-treatment areas could replace those that are removed.
- Continue trapping efforts for 4-5 years to maintain wolf population at zero.



# Feasibility Assessment

- ▣ Land ownership patterns may be suitable for IM actions
- ▣ Numerous factors may be contributing to low deer numbers
- ▣ Wolf control alone may not increase deer population to levels that reach our objectives
- ▣ Pre-treatment data needs for both deer and wolves
- ▣ Wolf removal may reallocate deer to human harvest

# Operational Plan

(response metrics)

- Monitor trend in reported deer harvest
- Monitor CPUE (hunter days per deer)
- Monitor trend in deer abundance
  - *Traditional pellet-group counts*
  - *Trail method pellet group counts*
  - *Camera-trap surveys (deer and wolves)*
  - *Alpine trend count surveys*
  - *Winter track-count surveys (deer and wolves)*
  - *Establish wolf and deer track surveys along key beaches*
  - *Roadside spotlight surveys*
  - *Monitor vegetation and browse plots*
  - *Gravina and Cleveland deer registration permit?*

# Operational Plan

(decision thresholds)

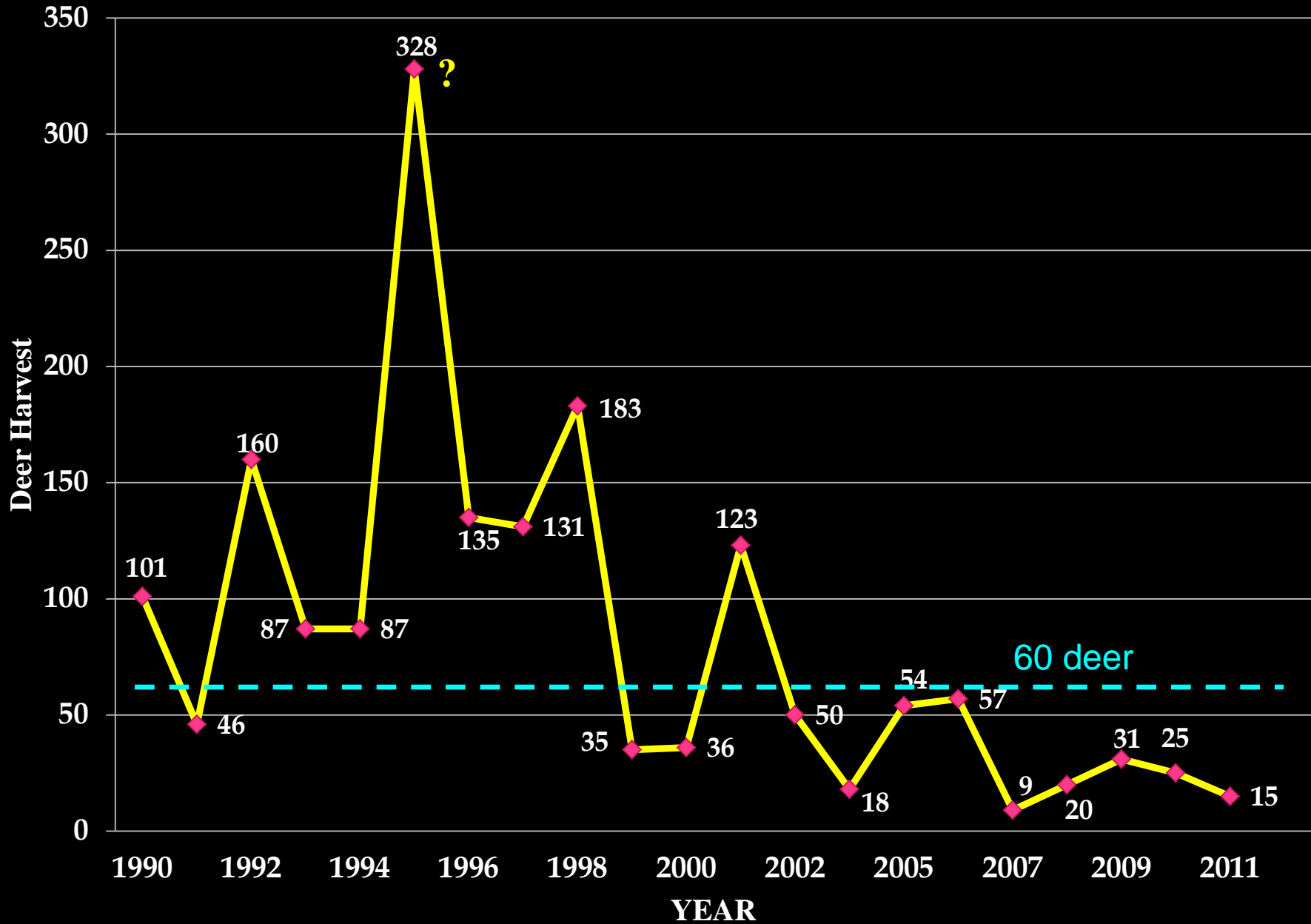
- Wolves

If indices of wolf abundance indicate that wolf control has been effective (i.e. most wolves have consistently been removed from the predator control area each year), but indices of deer abundance have not measurably changed in the predator control area, the program will be reevaluated.

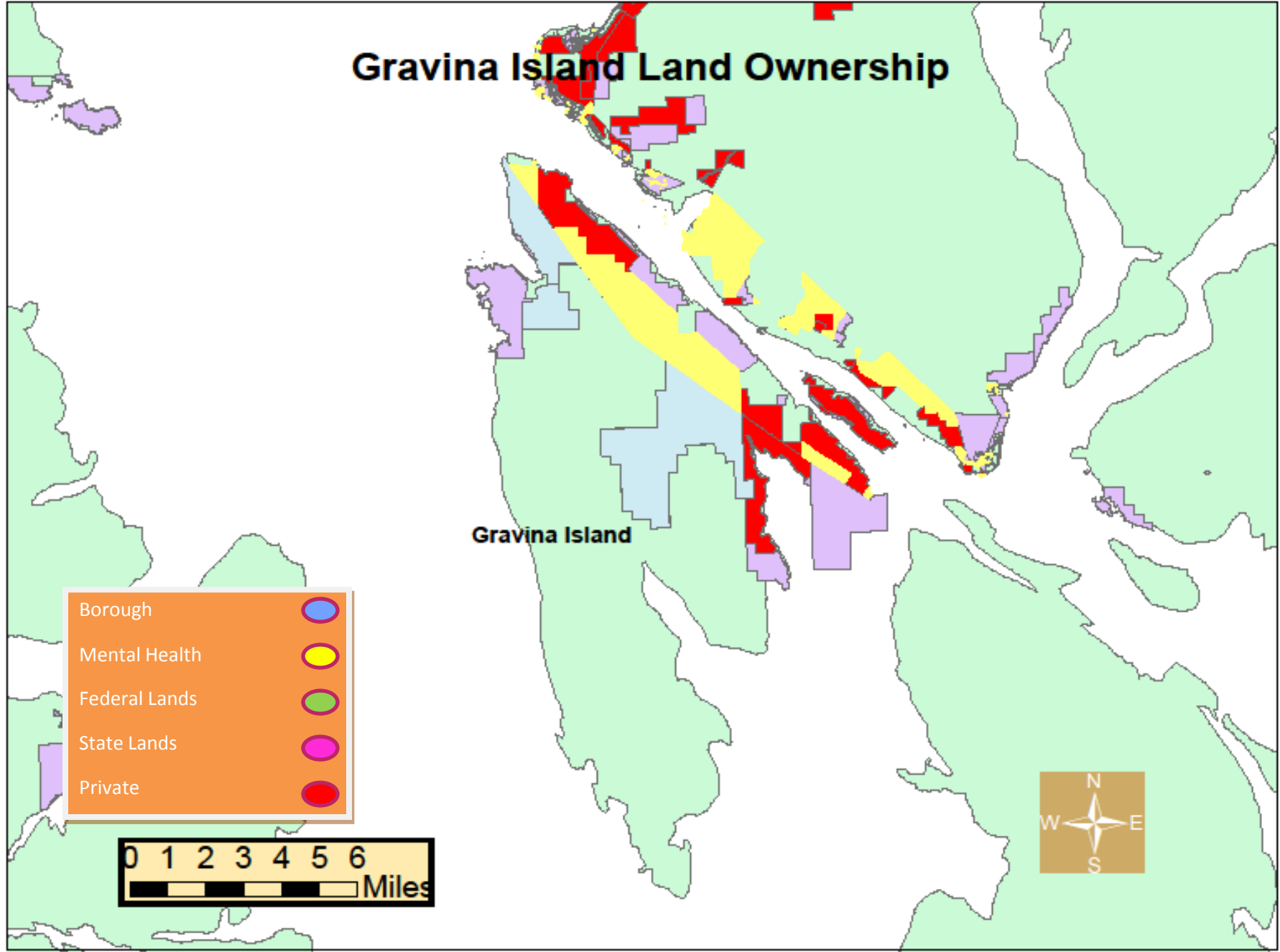
- Deer

If deer harvest is increased to 60 deer in predator control area (Gravina Island) for two consecutive years control efforts will be reevaluated.

# Deer Harvest From Treatment Area



# Gravina Island Land Ownership



# Population Assessments

- ▣ *We are testing methods to better assess wolf and deer numbers*
- ▣ *Sent 10 wolf hair samples from Gravina to DNA lab*
- ▣ *Currently monitor 8 camera traps on Gravina*
- ▣ *At the completion of pellet and hair analysis we will have a better idea how to focus our efforts*
- ▣ *In the interim we have increased our efforts to assess deer harvest (harvest report) ,deer population trends (deer pellet sampling and DNA methods development), and deer habitat quality (vegetation plots).*



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HC600 HYPERFIRE

HC600 HYPERFIRE

Proposal 178A



# **RECOMMENDATION**

## **Proposal 178A**

**Intensive Management Plan for Deer in a  
Portion of Unit 1A**

**Department Recommendation**

**Adopt**



Questions?