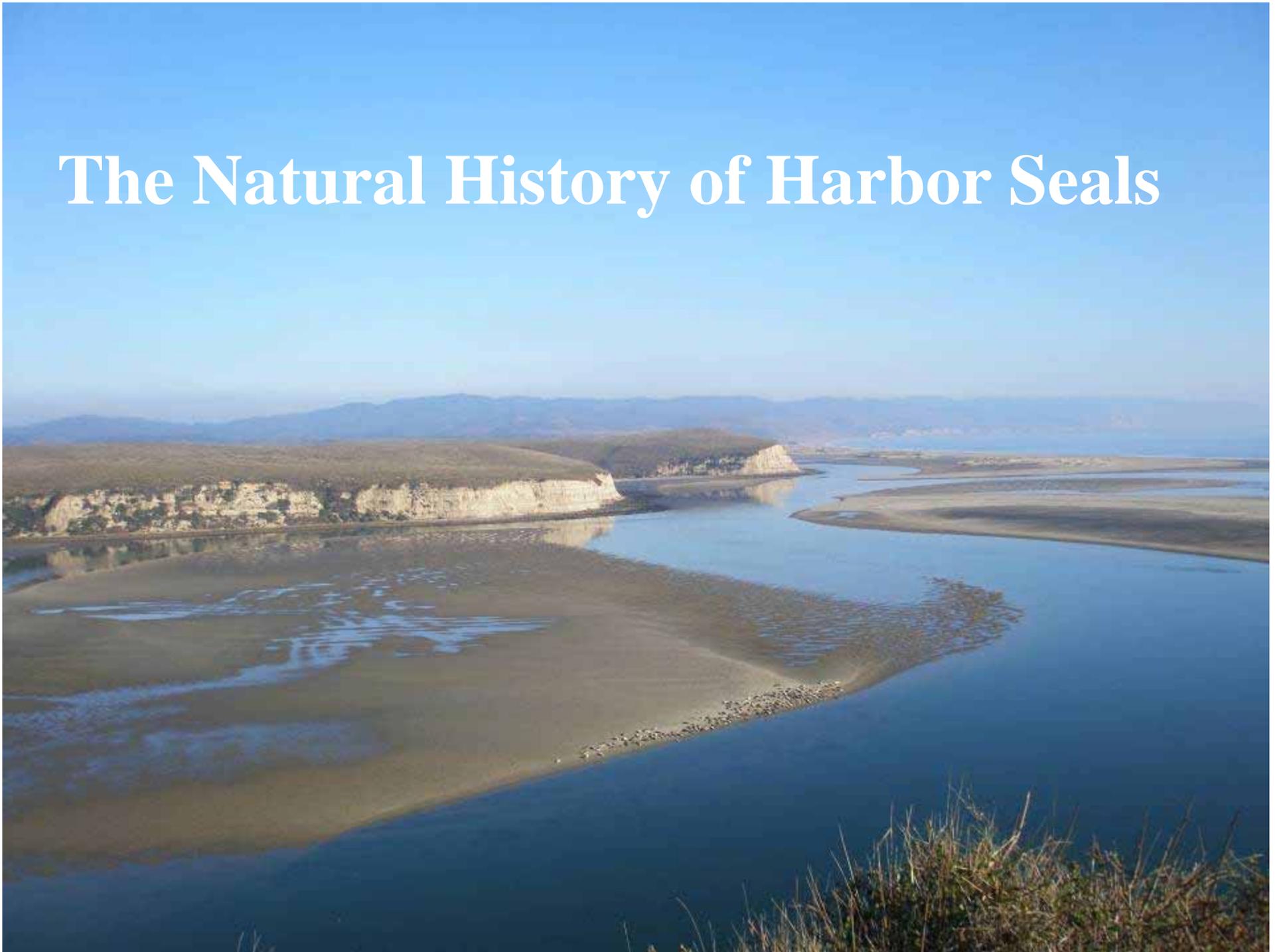


The Natural History of Harbor Seals



- **No sexual dimorphism**
- **Weight 200-250 lbs**
- **Length 4-5 ft**
- **Age - @30 years in captivity**



Wide hind flipper

No External Ear Flap

Cannot Rotate Hind flipper

Smaller front flipper



Many color phases



NOAA NMFS SWFSC PRD

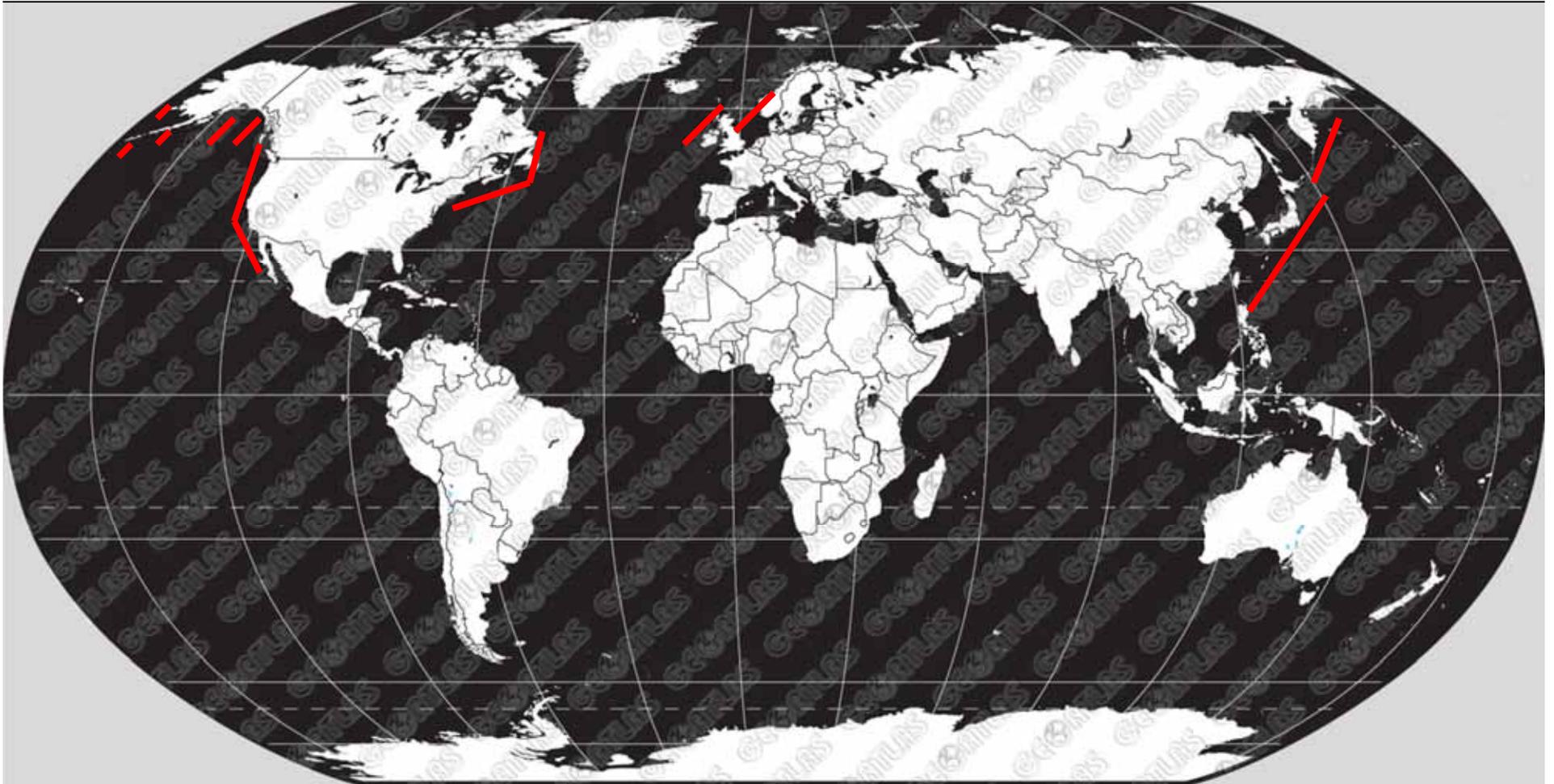
Red = Iron Oxide attached to fur



Algae grows on fur of seals



Harbor seal world distribution





Habitat Needs of All Seals

Terrestrial
reproduction
physiological
historical

Marine
food
travel



**Point Reyes National Seashore
Science Program**



(c) Chuck Davis/Tidal Flats, Ltd.

Haul-outs : locations on land where seals gather to rest, give birth, care for pups, molt.

- **Sandy Beaches**



- **Tidal Mud Flats**



- **Tidal Rocky**

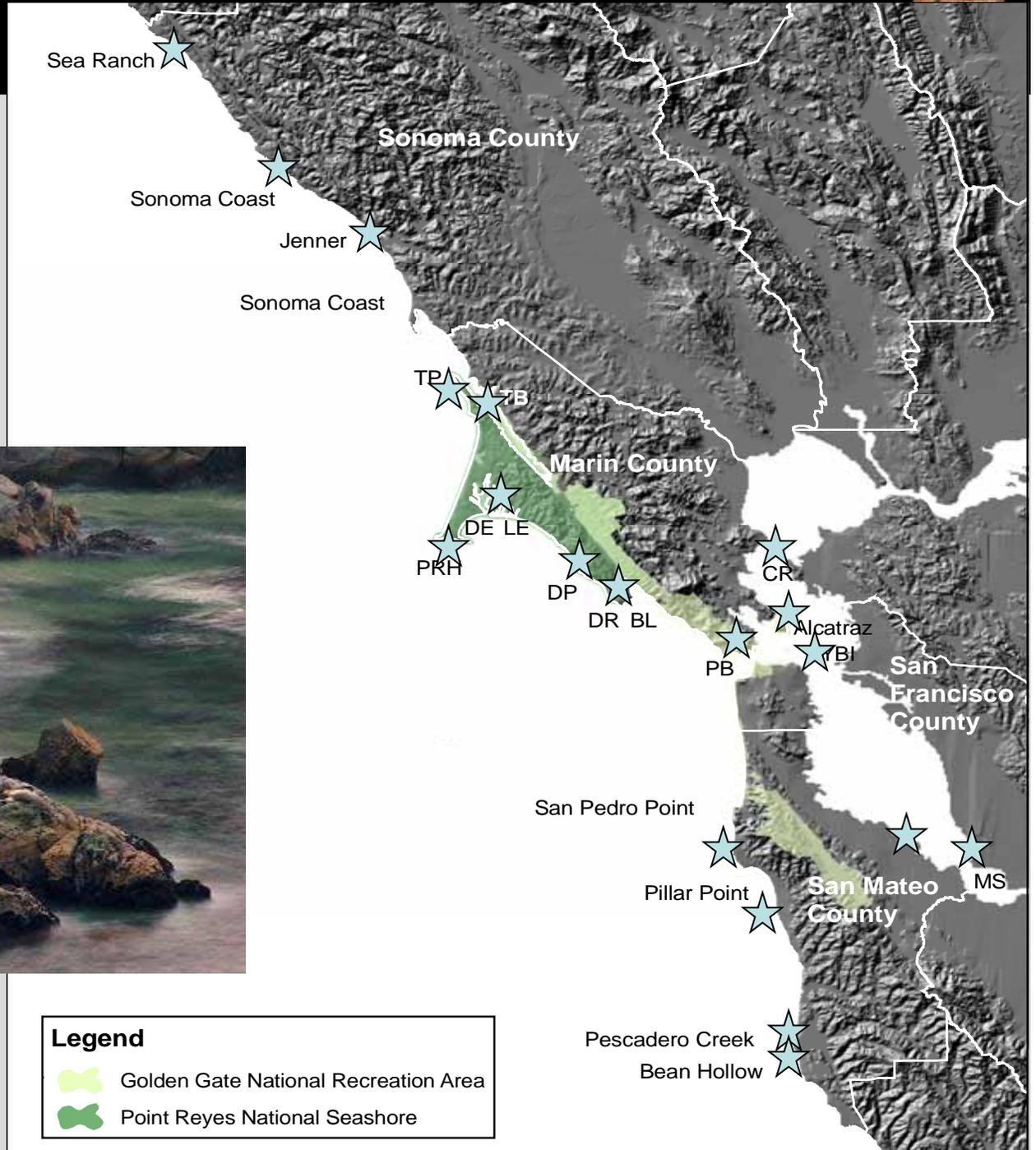


- **Tidal Sandbars**



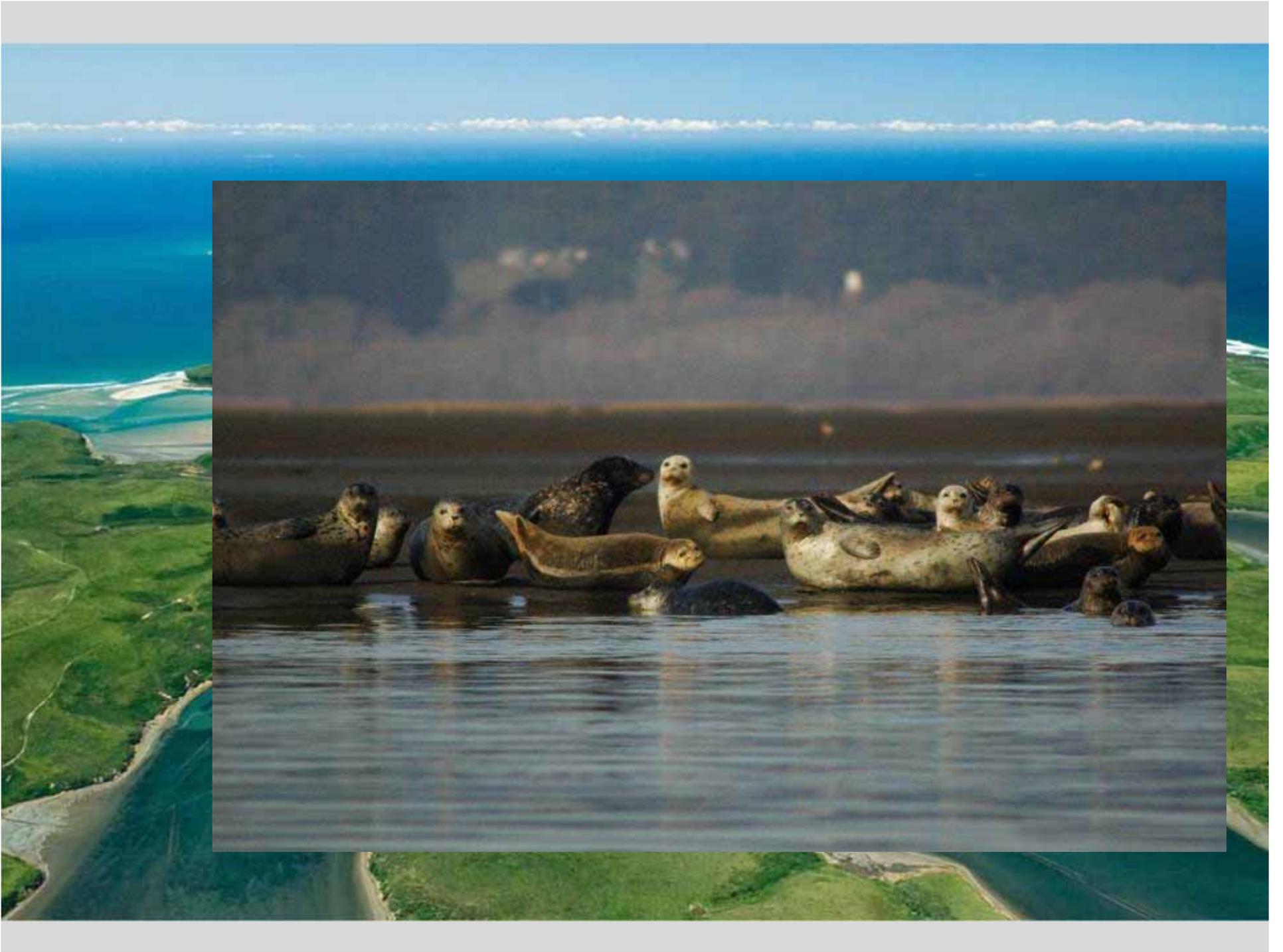
**Point Reyes National Seashore
Science Program**

Harbor Seal Regional Colonies



Point Reyes National Seashore Science Program





Point Reyes National Seashore Science Program





Point Reyes National Seashore Science Program









Offshore Rocks







Man made structures









Daily Pattern
Time of day
Tide

Seasonal Pattern

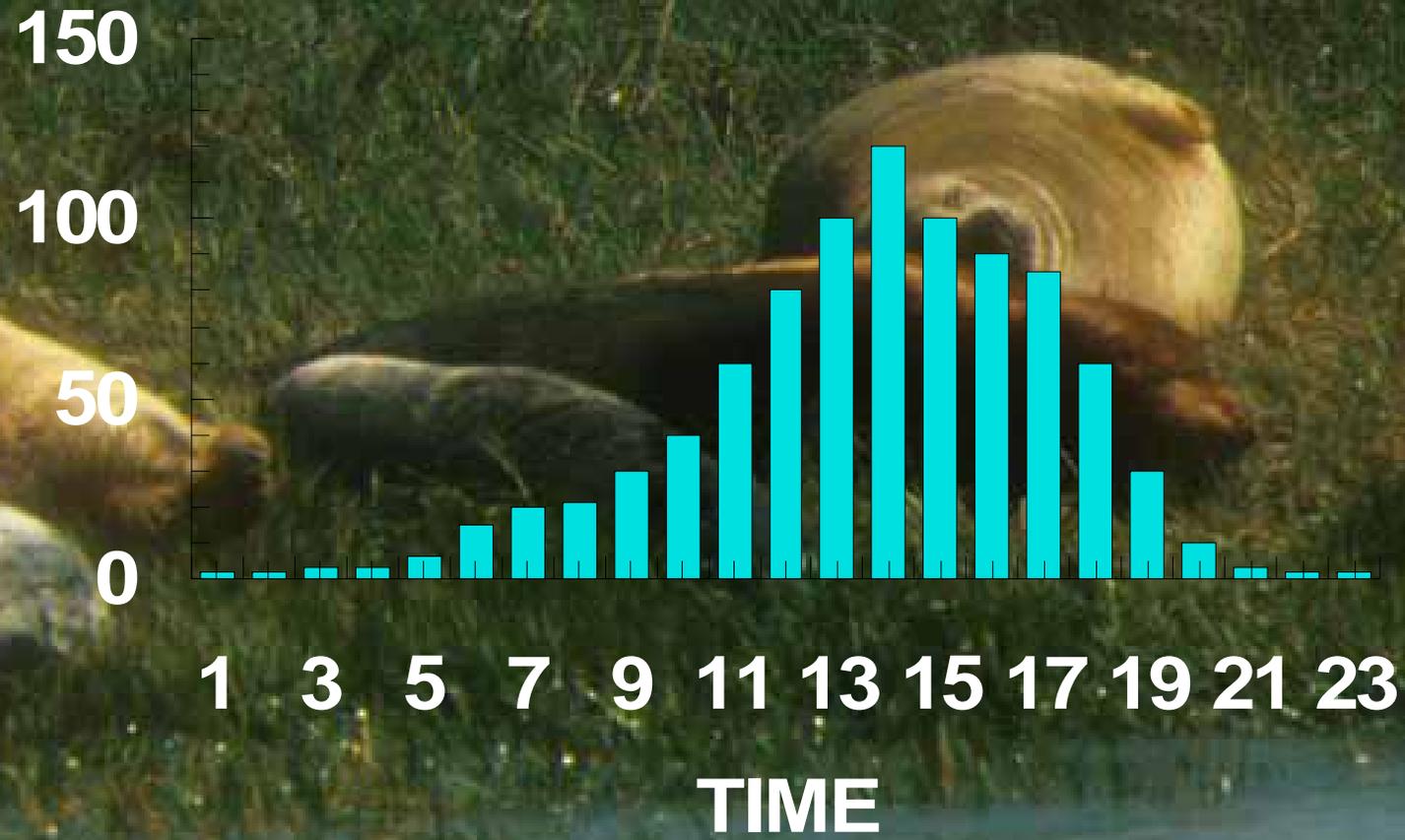
Breeding (March-June)

Molt (July-August)

Non-breeding (Sept-Feb)

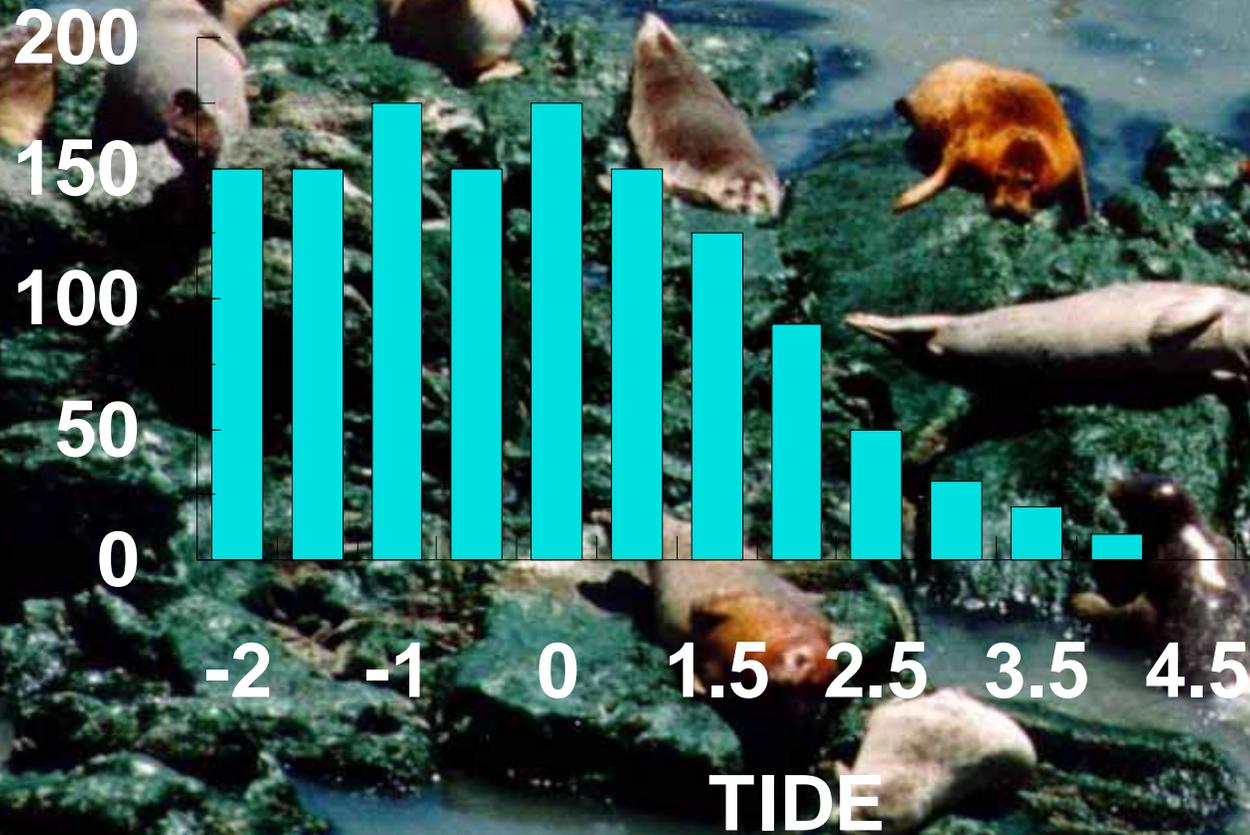


Daily Haul Out





Tidal Haul Out







Seasonal variation in number

Pupping

Mar-Jun

Molt

Jul-Aug

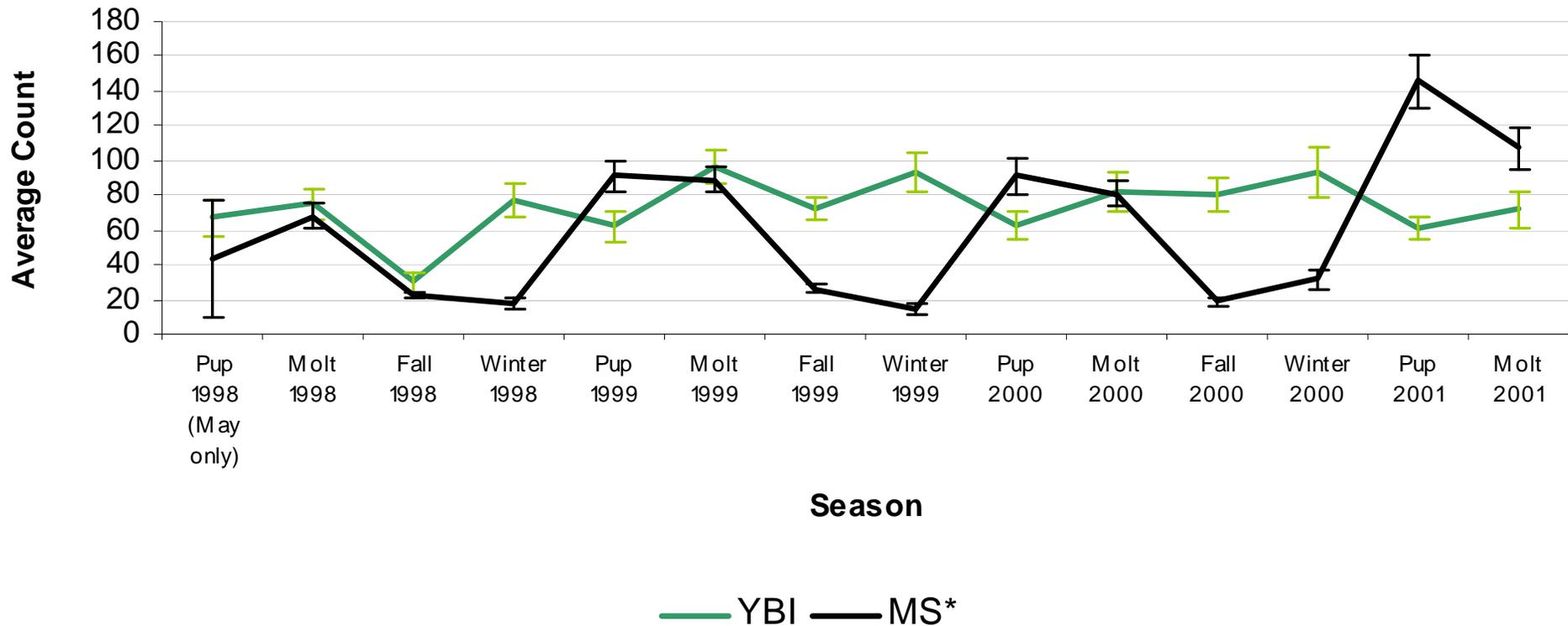
Fall/Winter

Sept-Feb





Seasonal and annual variation



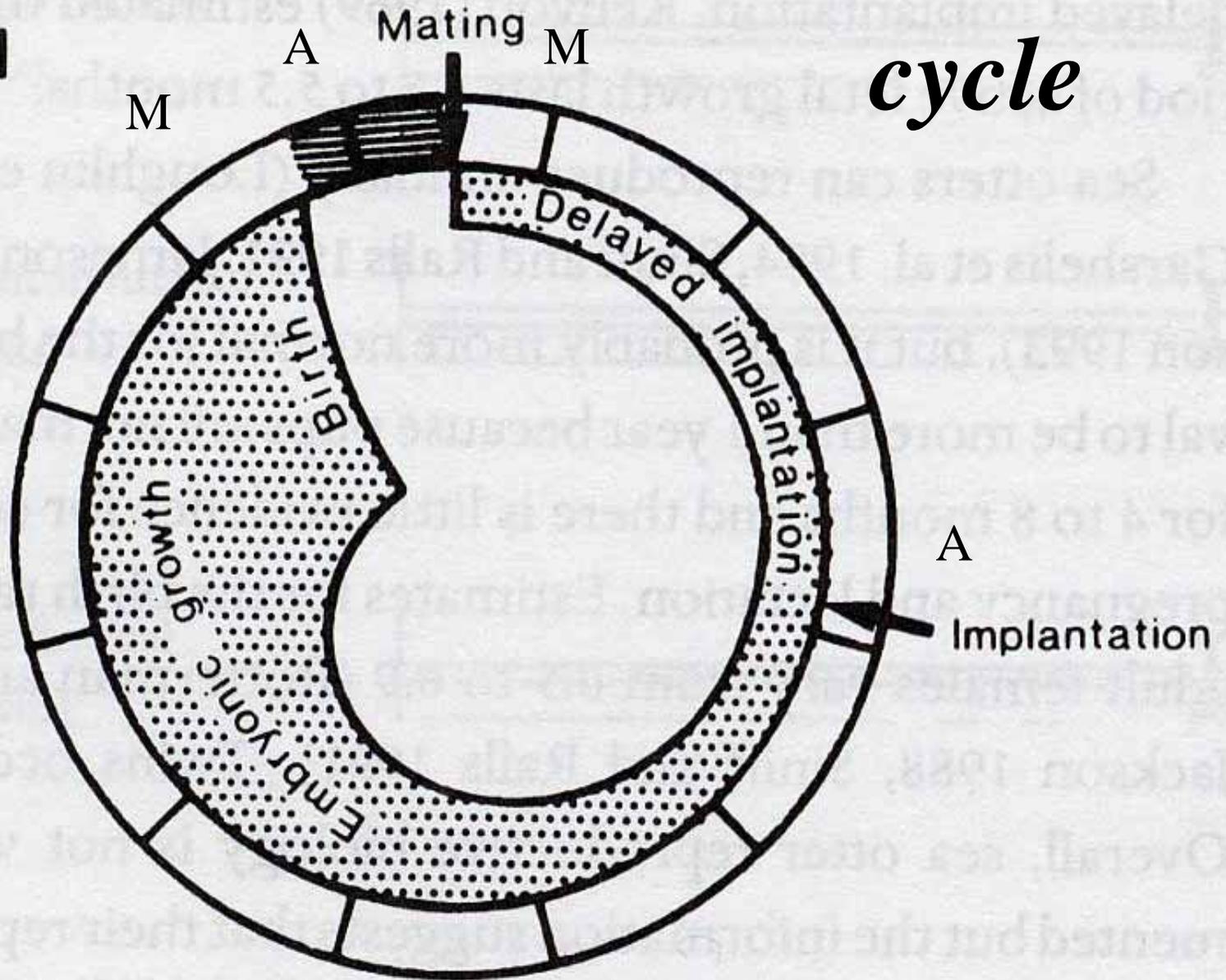


Pupping



Annual cycle

Phocid



Birthing



- Females give birth to one pup/year
- Mothers recognize pups by sight, sound and smell
- Pups can swim at birth



Birth sequence

**Drakes Estero 2007
Photos by volunteer
Judy Bourke**





- Pups weigh 24 lbs at birth
- Pups weigh 50 lbs at weaning
- Pups are weaned at 30 days



©2008 Richard James

Harbor Seal Lowe

15 April, 2008



Newborn pups



Lanugo pup



Pup without lanugo







Aquatic Mating



Mating behavior (Hayes 2002)

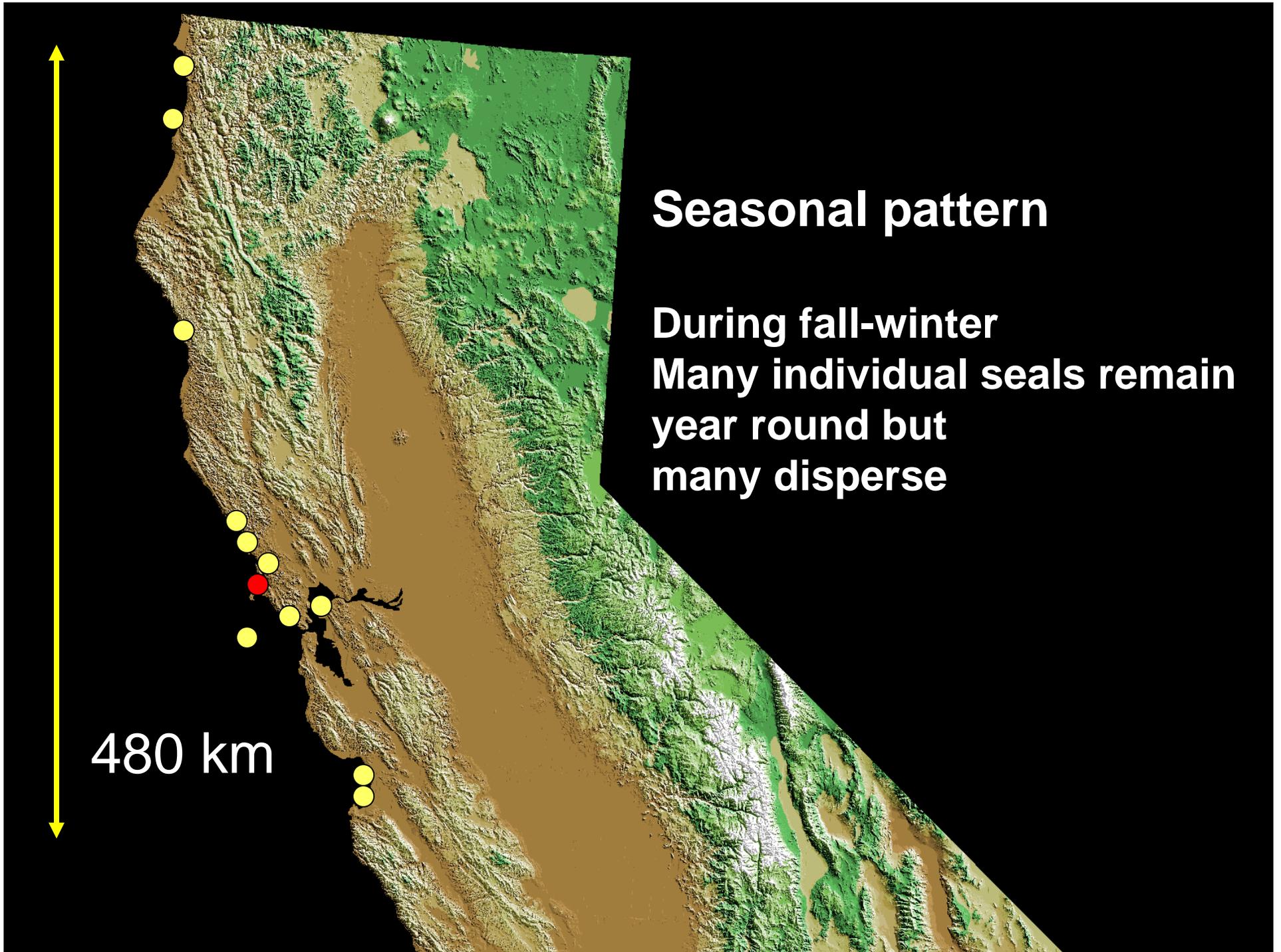
- **Male maritories 3-21 acres**
- **Males vocalize to compete and attract females**



Molt

June-Aug

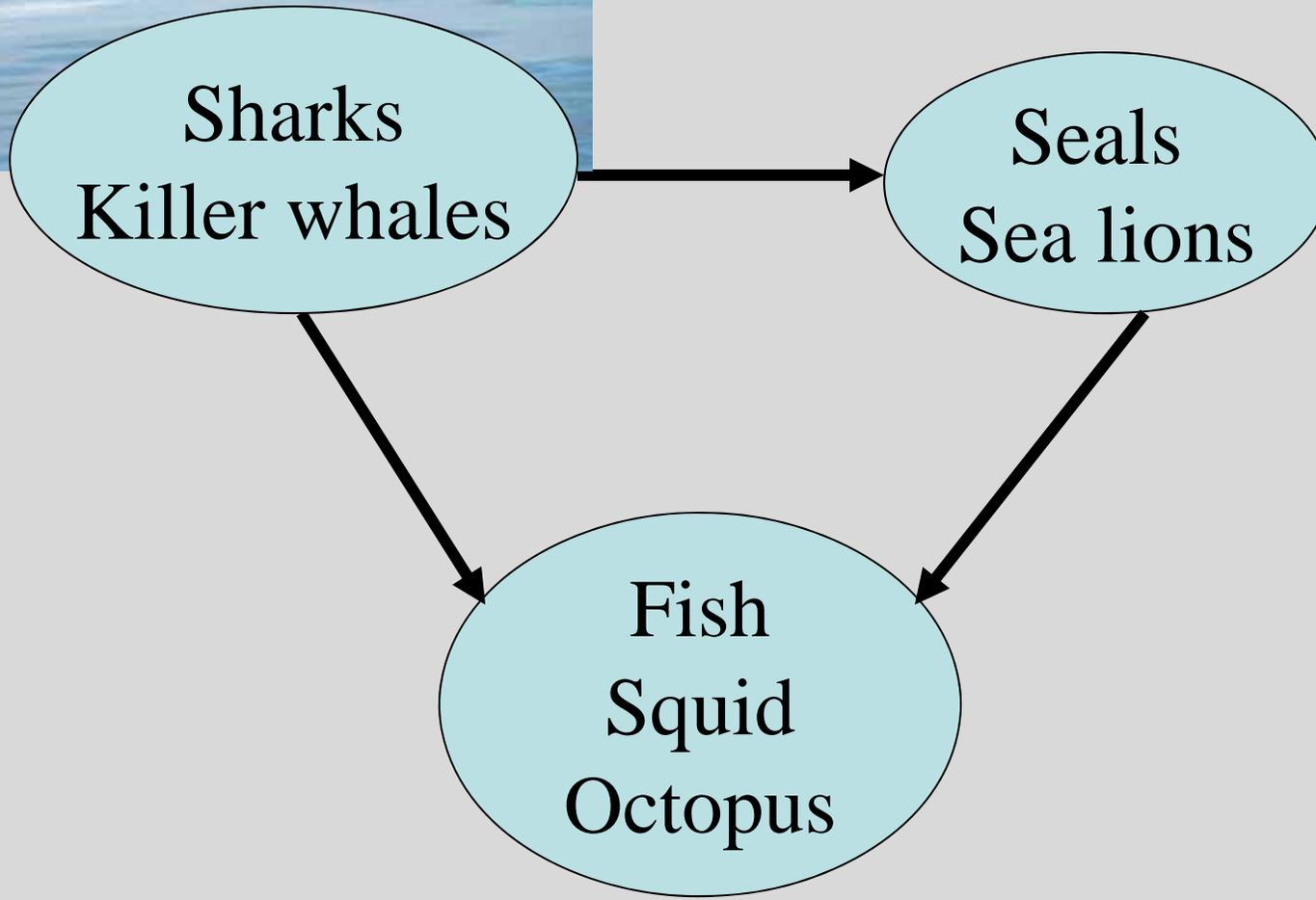




Seasonal pattern

During fall-winter
Many individual seals remain
year round but
many disperse

Food Web





(c) Chuck Davis/Tidal Flats, Ltd.



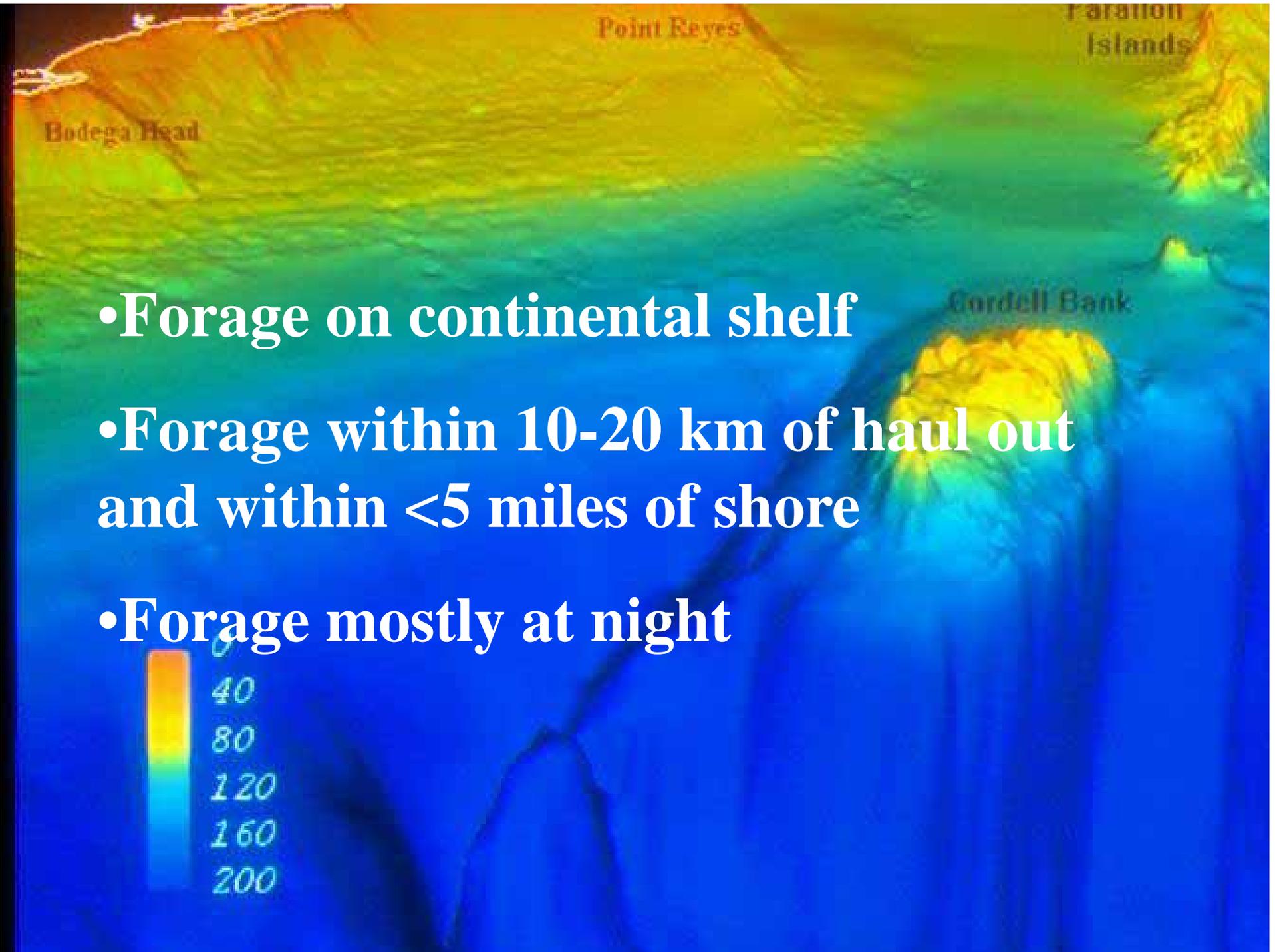
Photo: Jason Thompson



Photos: Jason Thompson







Point Reyes National Seashore Science Program



Movements of one satellite tagged seal



Point Reyes National Seashore Science Program



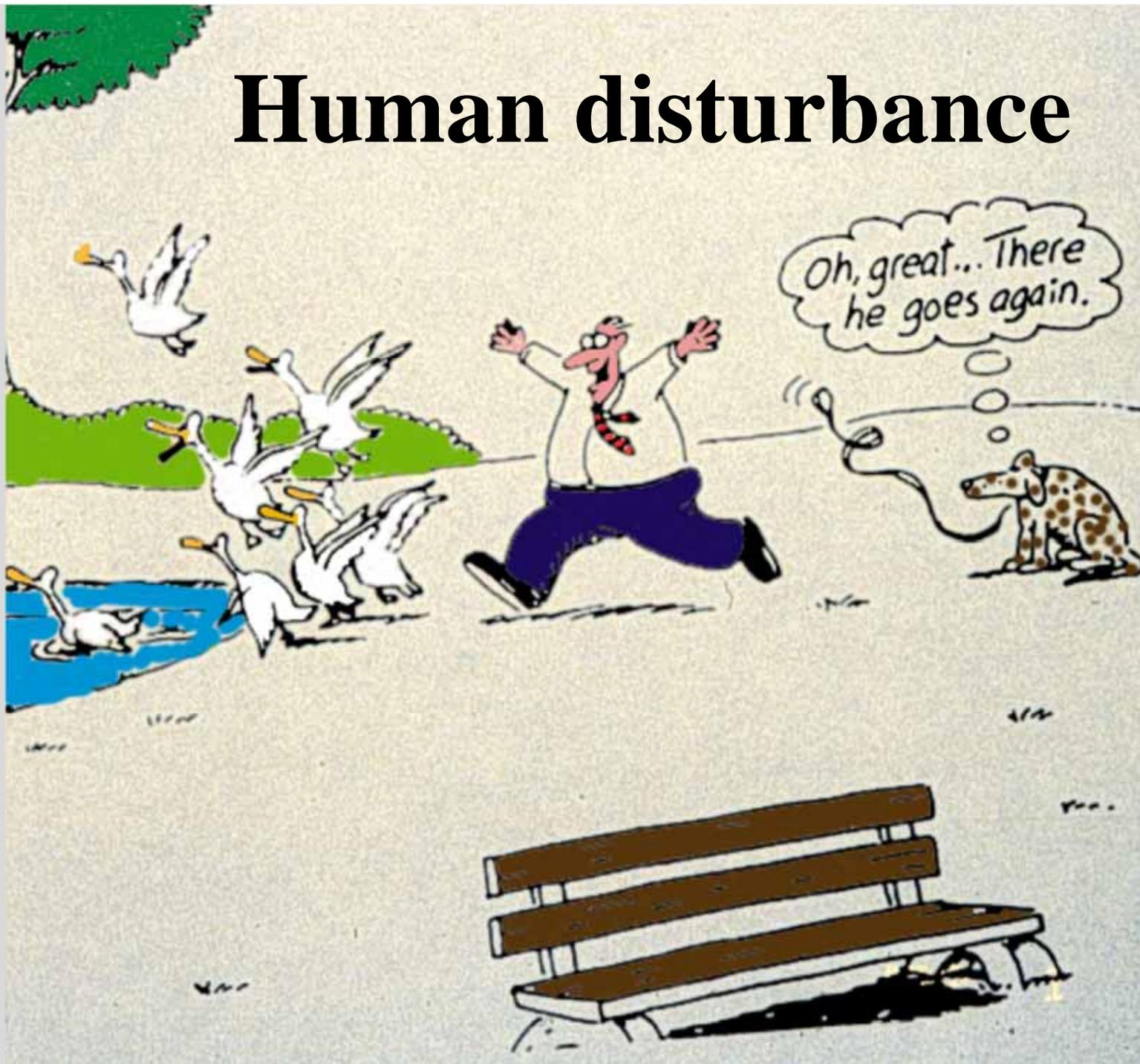
Movements of satellite tagged seal



Radio, satellite, and flipper tag



Human disturbance



Disturbance sequence

Head alert

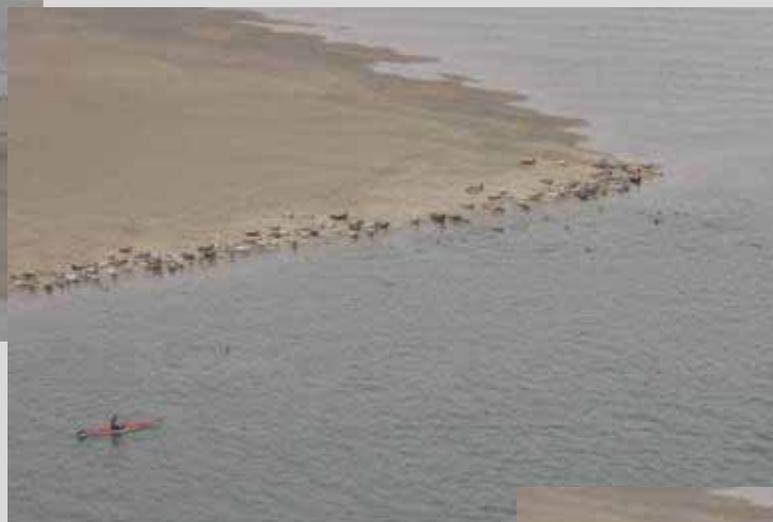
Flush to water

Enter water

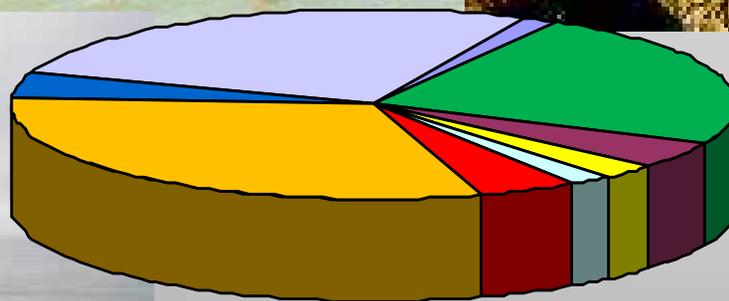
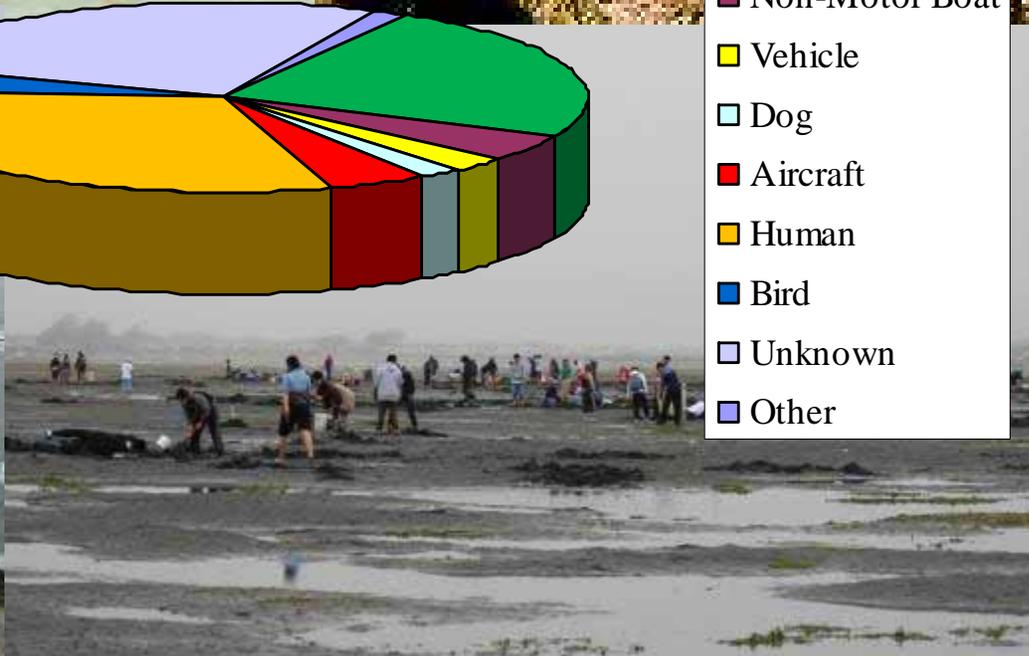
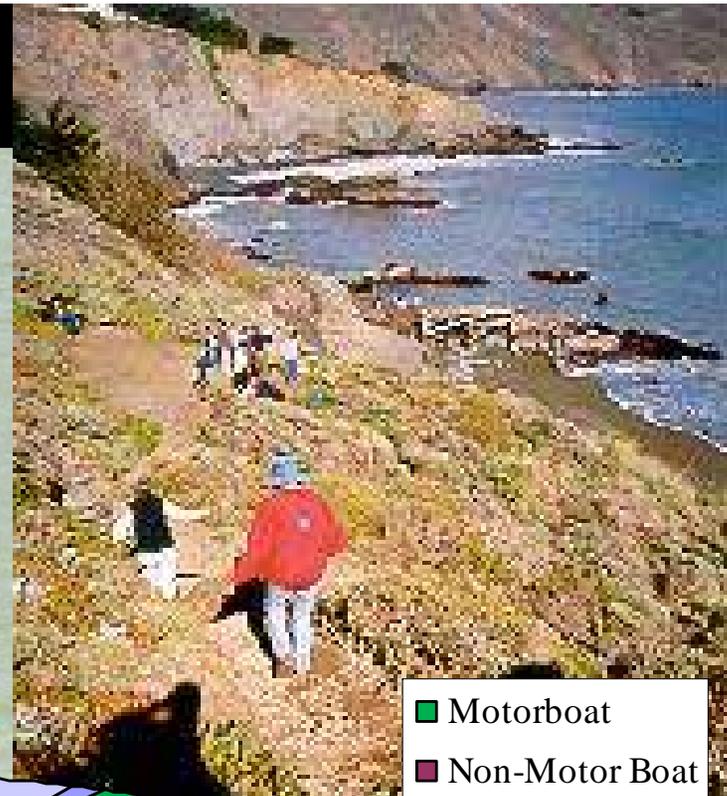




Disturbance sequence



Point Reyes National Seashore Science Program



- Motorboat
- Non-Motor Boat
- Vehicle
- Dog
- Aircraft
- Human
- Bird
- Unknown
- Other

Point Reyes National Seashore Science Program





Disturbance effects

Short-term

Disturb resting period

Pup separation

Long-term

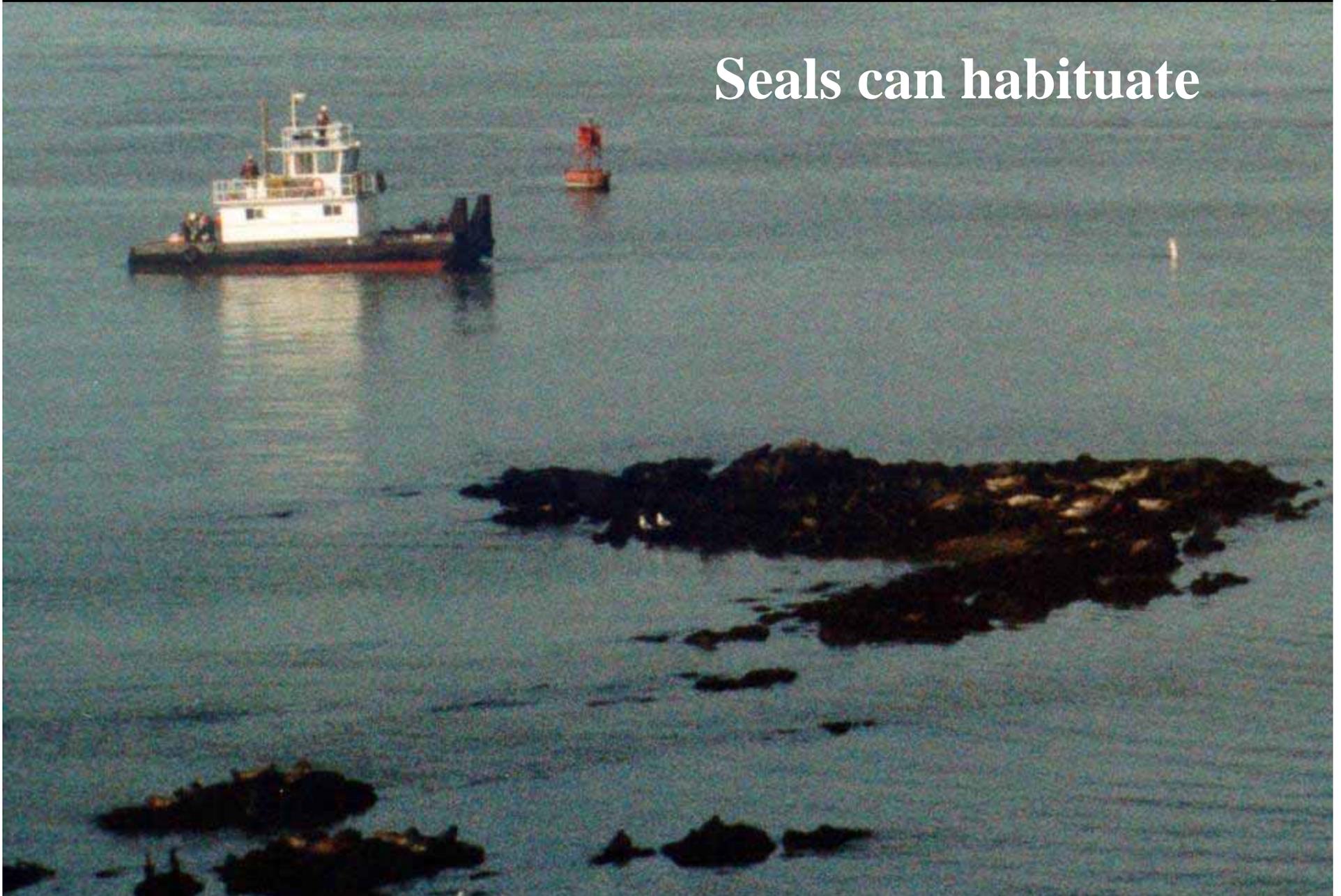
Reduced usage/abandonment

Nocturnal haul out

Reduced pup production



Seals can habituate



Chronic disturbance results in site abandonment at Hog Island on Tomales Bay.



Coming next training day.....

***Long-term Monitoring of
Harbor seals at
Point Reyes***





The end.....



Special protections of colonies during the breeding season

FERAL WEST

By K. LeMieux

