

The Case for Scientific Misconduct: Part II the Harbor Seals

A Pattern of Intentional Misrepresentation
of Scientific Data by the PRNS/National
Park Service in its Claims of Negative
Impact of the Oyster Farm on Drakes Estero

by Corey Goodman, Ph.D.

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September 16, 2007

Version 2.4 (further data analysis available upon request)

DRAFT REPORT

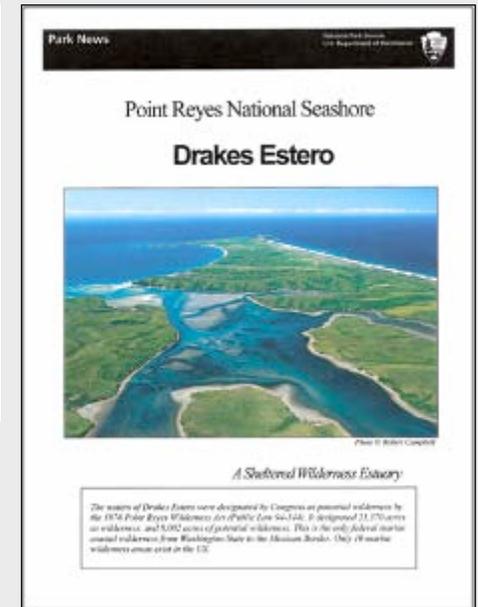
Based on partial data provided by NPS; author is still seeking additional data

Another Example of a Knowingly False Claim by the PRNS/National Park Service

Conclusion concerning harbor seals in Drakes Estero:
“In 2007, oyster bags and disturbance have reduced one sub colony by 80%”

May 11 version of PRNS Published Report
“Drakes Estero: A Sheltered Wilderness Estuary”

- The Point Reyes National Seashore Superintendent claimed that the Drakes Bay Oyster Company is seriously harming the harbor seals in Drakes Estero. Superintendent Neubacher testified on May 8 that this is a *“national issue”*. He published these claims in his official report on May 11 (quoted above). These claims were misleading and false, in conflict with his own PRNS data, apparently in violation of NPS, DOI, and Federal science policies, and intended to falsely influence other governmental agencies and contaminate the policy debate.
- In contrast to their public assertions, the PRNS data reveal that there is no harm by the oyster farm on the harbor seals. The PRNS provided some data on August 13 after FOIA requests on May 12 & 13 2007. The available NPS data is contrary to the NPS public claims. This misuse of science by the PRNS is consistent with similar false claims they made about the oyster farm’s impact on eelgrass, fish, and sediments, and appears to rise to the level of the Federal definition of scientific misconduct.



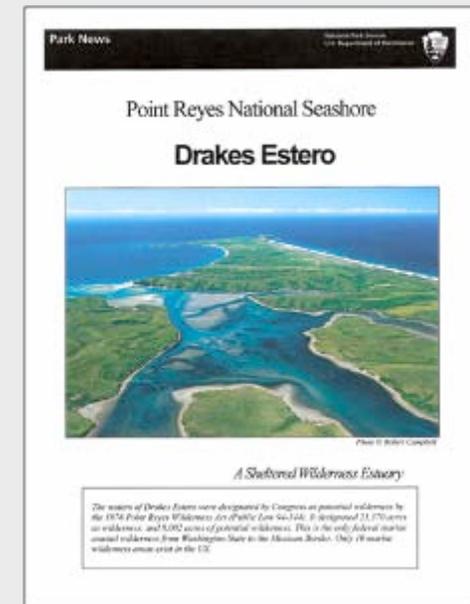
PRNS/National Park Service claims of harm have falsely influenced other agencies and contaminated the public debate

- On May 8, the PRNS Superintendent and staff scientist testified to the Marin County Board of Supervisors that the Drakes Bay Oyster Company is harming seals and seal pups in Drakes Estero, that we have a serious problem, and that this is an urgent issue of “national significance”.
- On May 11, the PRNS published a revised version of their official report entitled “*Drakes Estero, a Sheltered Wilderness Estuary*” which claimed substantial harm (80% reduction) to the seal population at one site in Drakes Estero caused by oyster bags from DBOC.
- Local groups relied upon scientific conclusions from the PRNS and began a media attack on the oyster farm. One Marin County Supervisor said that harm to seals could change her attitude toward the oyster farm.
- The Park Service contacted the Marine Mammal Commission and the California Coastal Commission and transmitted these false allegations to them. The PRNS then publicly quoted support from these agencies.

PRNS Published Report

May 8 & May 11, 2007 - Versions IV & V

- *"One area where 250 seals nursed more than 100 pups two years ago, have around 50 total seals including around 25 pups in 2007, an 80% decline."*



PRNS Published Report

May 11, 2007 version only (not in May 8 version)

- Conclusion concerning harbor seals:
"In 2007, oyster bags and disturbance have reduced one sub colony by 80%"

Testimony by Don Neubacher

Superintendent, PRNS
to the Marin County Board of Supervisors
May 8, 2007



“... the harbor seal pupping area in Drakes Estero is seriously threatened now. Dr. Allen is going to discuss this, but we have some major problems because you can see from your handout that oyster bags have been recently put in pupping areas, you’ll get statistics, but it’s amazing how many pups we have probably lost this year. We have a serious problem right now.”

“ I mean it’s that complex, because now you’re talking about the Marine Mammal Commission -- wrote us a letter this morning, they’re going to take it up. This is a national issue. They’re going to take it up on a national level. Now here’s another reason why the permit is not available at this time.”

Testimony by Sarah Allen

Senior Staff Scientist, PRNS
to the Marin County Board of Supervisors
May 8, 2007



"The harm is resulting in abandonment of one area where more than 250 seals, including 100 pups 2 years ago occurred in that spot. This year chronic disturbance and placement of bags on the nursery area has caused an 80% reduction in the seals dropping to around 35 this last Saturday. I was out there on Saturday. This issue has been raised, has been received and recognized by the Marine Mammal Commission and we've received a fax today from the executive director of the Marine Mammal Commission because they've just heard about this which I will provide to you. And they're going to bring it up in their next commission meeting because it has national significance."

Letter from Timothy Ragen

Executive Director, Marine Mammal Commission
to Don Neubacher, Superintendent, PRNS

May 4, 2007



“It has been brought to my attention that activities associated with commercial shellfish operations (oyster farming) are leading to the disturbance of harbor seals in Drakes Estero in PRNS.”

Letter from Peter Douglas

Executive Director, California Coastal Commission
to Kevin Lunny, owner DBOC

June 5, 2007



“The science advisor to the NPS, who has amassed 25 years of continuous data about the harbor seal nursery at the Estero, has documented evidence of recent adverse impacts to harbor seals in intertidal areas affected by oyster and/or clam culture operations.”

PRNS harbor seal claims repeated in the local press

“Coastal Wilderness”

Article in the April 26, 2007 issue of Point Reyes Light by Sarah Allen et al.

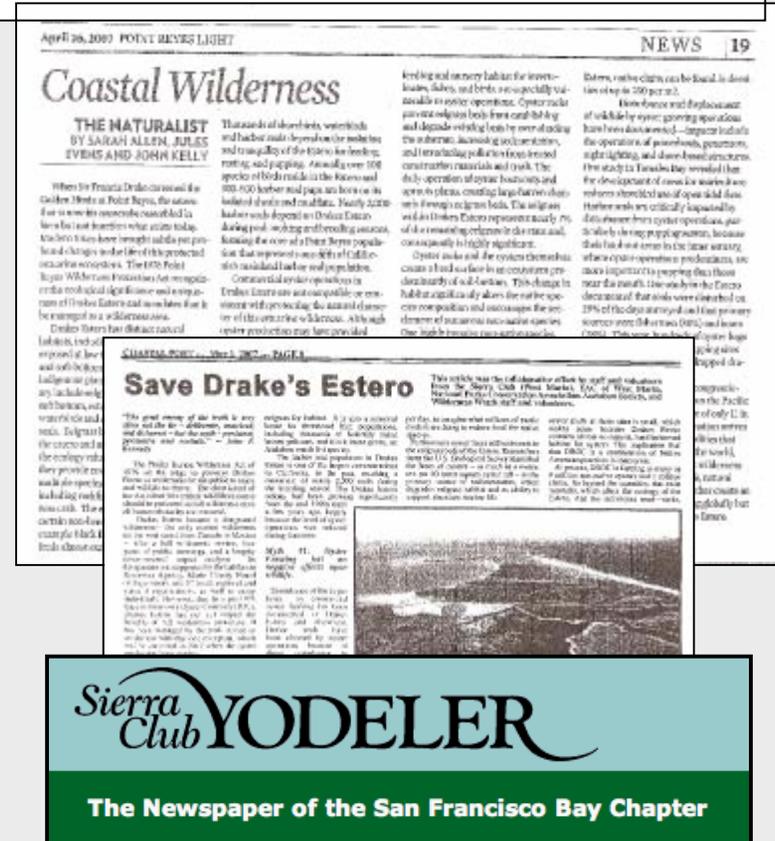
“Save Drakes Estero”

Article in the May 1, 2007 issue of the Coastal Post by Sierra Club Marin Group, EAC, National Parks Conservation Assoc., Audubon, Wilderness Watch

“Attack on wilderness here in the Bay Area”

Article in the July 2007 issue of the Yodeler by Gordon Bennett, Chair, Sierra Club Marin Group

“As many as 300-500 seal pups used to be born annually in the Estero, 100-200 using the middle sandbars. Expanded oyster operations and oyster bags placed in seal nursery areas have reduced baby seals on the middle sandbars to about 50 in 2006 and less than 10 so far in 2007.” Gordon Bennett in July ‘07 Yodeler



NPS Neither Informed Nor Provided the Data to DBOC or CDFG

- According to Kevin Lunny, owner of Drakes Bay Oyster Company (DBOC), and Tom Moore at California Department of Fish & Game (CDFG, which oversees the DBOC lease), from '05 to '07, the PRNS never notified them about the data or claims of the alleged negative impact of the oyster farm on the harbor seals.
- Lunny and Moore first heard about this urgent issue of “*national significance*” in the popular press and at the May 8 hearing of the Marin County Supervisors.
- If this is such an emergency of “*national significance*”, why wasn't DBOC or CDFG notified and shown the data?
- The DBOC continues to follow the protocols established for the oyster farm originally in 1992 and for the DBOC by PRNS staff in early 2005.

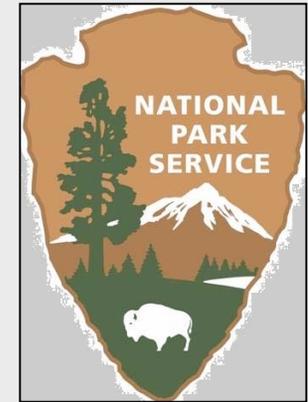
NPS Never Provided the Data to the Marine Mammal Commission

- Although the PRNS told the Marine Mammal Commission that this was an urgent issue of “*national significance*” in early May, as of late August, the PRNS had not provided any documentation or data to the Commission.
- Although the PRNS told the Marin County Supervisors on May 8 2007 that this would be discussed at the next meeting of the Marine Mammal Commission, because the PRNS never supplied any data, Drakes Estero was not on the agenda when the Commission met nearly 4 months later on August 28 & 29 '07.

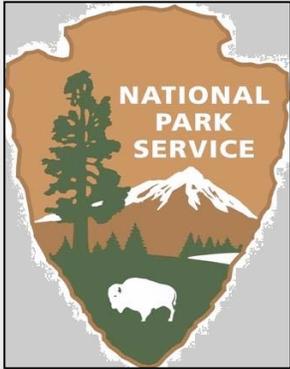
Summary of Three Major Claims by NPS

1. The number of harbor seals in Drakes Estero is negatively impacted by the oyster farm: as number of oysters go up, number of seals go down
2. Harbor seal pups in Drakes Estero were down in 2007 due to the oyster farm
3. Harbor seals at the middle sandbar were down 80% in spring 2007 due to disturbances from oyster bags and oyster workers

Analysis of:
***“Harbor Seal Monitoring Data, PRNS,
Drakes Estero Subsites, 1997-2007”***



- At the May 8, 2007 hearing of the Marin County Supervisors, the PRNS claimed that the oyster farm was having a serious negative impact on the harbor seals and seal pups in Drakes Estero.
- Dr. Corey Goodman, a member of the National Academy of Sciences and West Marin resident, asked to see the data supporting those claims, and when he got no reply, filed FOIA requests on May 12 & 13.
- The NPS denied request on June 13 citing “deliberative process privilege” even though data is not included in that exemption and they had made public claims.
- Goodman appealed June 27 to Dept. of Interior Solicitor. July 31 DOI responded that they could not process appeal and Goodman could seek judicial review.
- Senator Feinstein persuaded NPS Director Mary Bomar on July 21 to provide Dr. Goodman with the requested harbor seal data within two weeks.
- The NPS data analyzed here is from CDs provided to Dr. Goodman by Superintendent Neubacher on August 13 as an incomplete response to the FOIA requests for data. Historic legacy data prior to 1997 was not provided.



“Pinniped Long-Term Monitoring Program: San Francisco Area Network of Parks”

by Michelle Hester, Sarah Allen, Dawn Adams, and Hannah Nevins
A National Park Service report, 2004

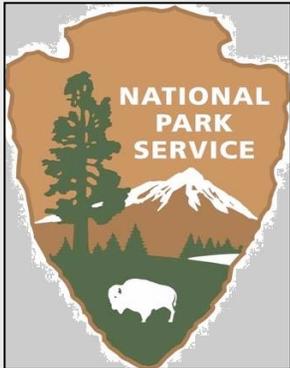
“Specific management objectives will vary by species and will meet certain assumptions regarding the inherent variability of the data. ... The threshold/target objectives for the pinniped guild are as follows:

- *Detect any change in the number of primary colony sites of harbor seals within a year ...*

The condition/trend objectives for the pinniped guild are as follows:

- *Detect a 25% reduction in the productivity of harbor seals in one season ...*

A management action might be initiated if any of the above threshold or trend objectives is detected.”



“Harbor Seal Monitoring, San Francisco Bay Area, 2006”

by Jeannine Manna, Dale Roberts, Dave Press, and Sarah Allen
A National Park Service report, 2006

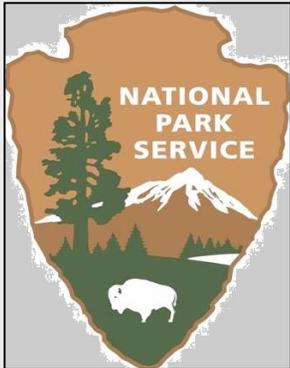
- *“The decline in the overall number of pups produced in 2006 compared to the previous five years may be related to changes in marine conditions. Upwelling was much reduced in 2006 and similar to 2005, resulting in reduced krill, which in turn may have affected food availability for harbor seals.”*
- The PRNS reported that the number of pups increased in Drakes Estero from 2005 to 2006 in contrast to the general trend. There was no mention of disturbances from the oyster farm. There was no trend or discussion of a decrease in seals or pups as the oyster farm doubled in size from 2005 to 2006.
- The PRNS reported that in 2006, disturbances were from kayaks, canoes, hikers, clam diggers, coyotes, bobcats, and turkey vultures. Oyster workers were not listed. Park visitors were the major source of disturbances to the harbor seals.

Summary of NPS reports and objectives

- By the mid-1990's, the harbor seal population had returned and reached steady-state at the PRNS colonies including Drakes Estero
- After that, PRNS reports described population fluctuations as due to food availability, predation, disease, climate, and disturbances
- Populations fluctuate between colonies and between subsites -- if one site goes down, another can go up -- seals move between sites
- None of the many published PRNS harbor seal reports up to and including one dated May 2007 describe any serious harm to theseals from the oyster farm.
- Management objectives take into account the inherent variability of the data and thus look for statistically significant trends:
 - Look for a 25% reduction at any one colony in one season
 - A management action might be initiated if this threshold is detected
- Key question for management action according to NPS protocol:
Did the population decrease by 25%, and if so why?
- Key questions for the analysis here:
Do the 2007 data rise to this threshold? If so, why?
Has NPS correctly described their own data using their own rules?

Summary of NPS Claims vs. NPS data

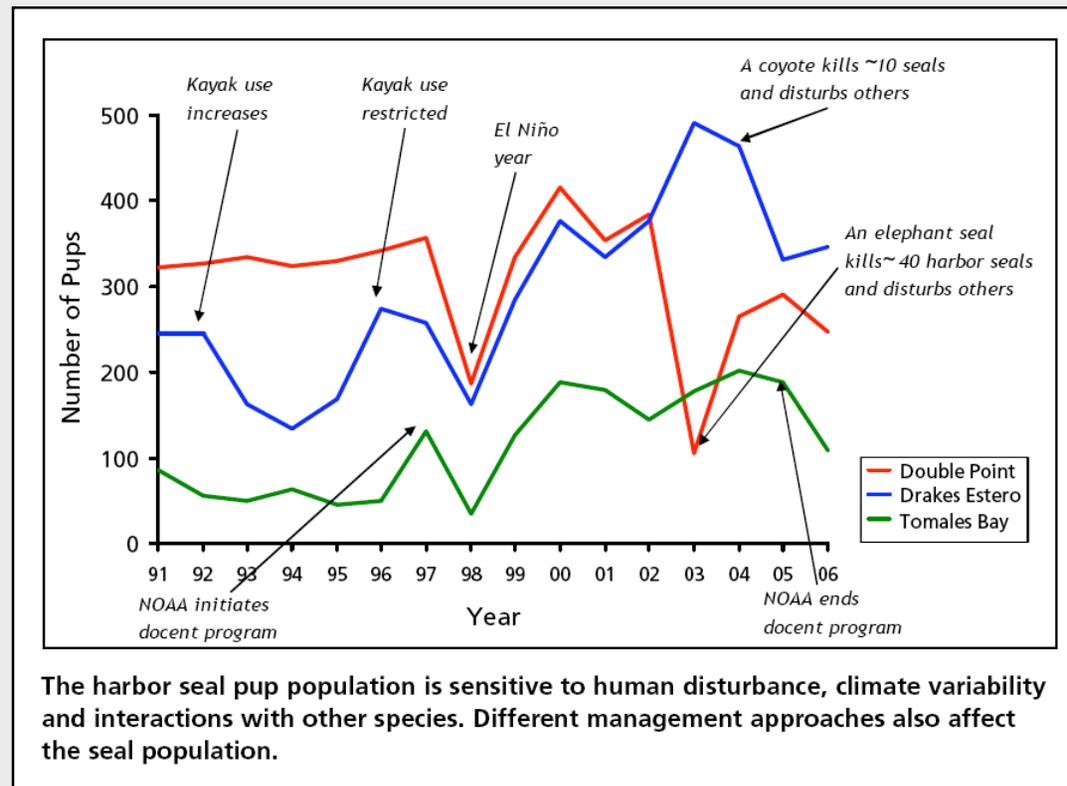
- **The number of harbor seals in DE is negatively impacted by the oyster farm: as number of oysters go up, number of seals go down**
 - **Data from NPS on harbor seals and CDFG on number and shucked weight of oysters shows no relationship between the number or weight of oysters and the number of harbor seals**
 - **NPS data on harbor seals show that the number of seals in Drakes Estero correlates with the number of seals at all locations along the coast of PRNS**
 - **NPS publications show that availability of food, climate, human disturbances, and predators control the number of seals in PRNS and Drakes Estero**
- Harbor seal pups in DE were down in 2007 due to the oyster farm
- Harbor seals at the middle sandbar were down 80% in spring 2007 due to disturbances from oyster bags and oyster workers



“Harbor Seal Monitoring at PRNS: Research Project Summary May 2007”

by Marcus Koenen and Sarah Allen
A National Park Service report, May 2007

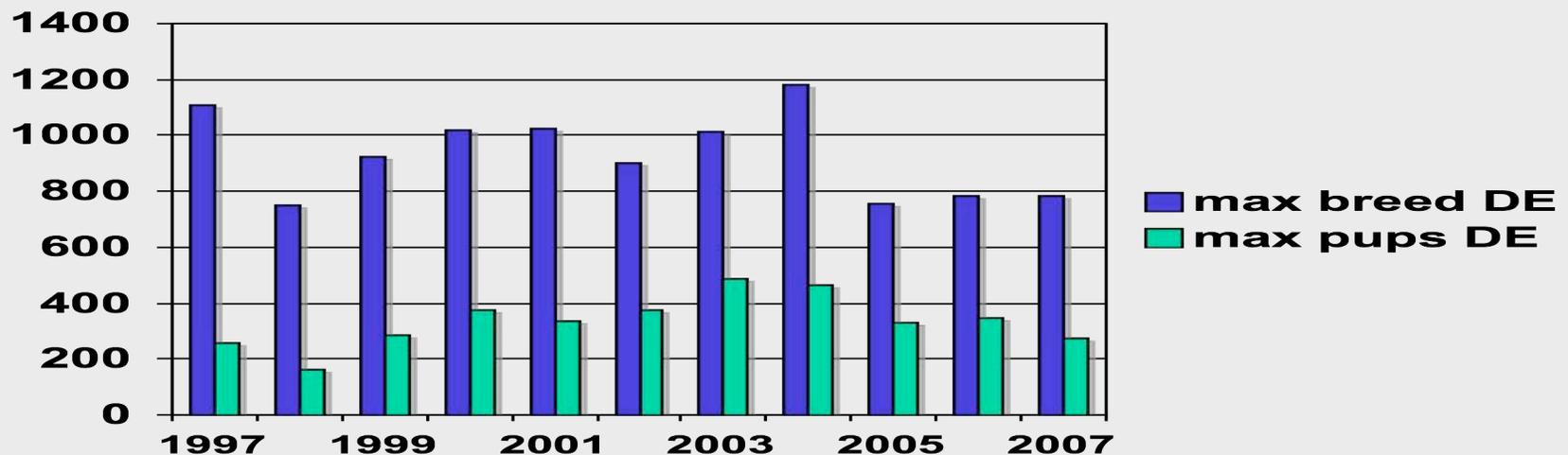
- PRNS harbor seal report for 1991-2006 showed year-to-year variations caused by human disturbances, climate, and predators (see figure from report below)
- May 2007 PRNS report made no mention of disturbances from oyster farm





Normal Fluctuation of seals and pups

NPS data is consistent with the NPS 2006 harbor seal monitoring report, and reaffirms that the number of seals & pups has fluctuated around norm from 1997 to 2007 with variations due to food, climate, human disturbances, and predation.

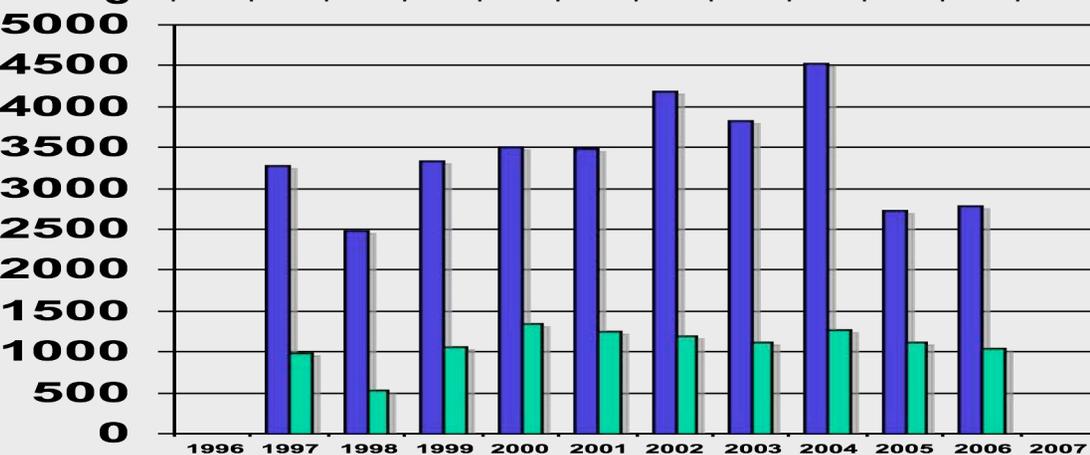
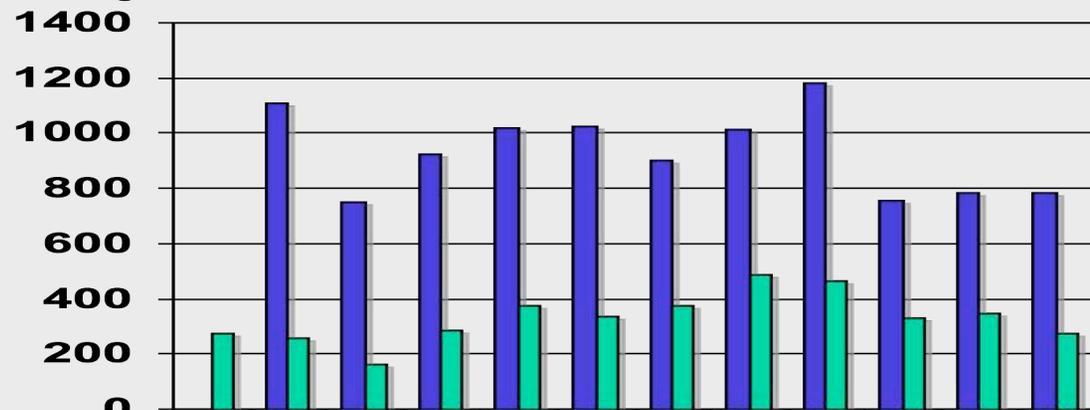
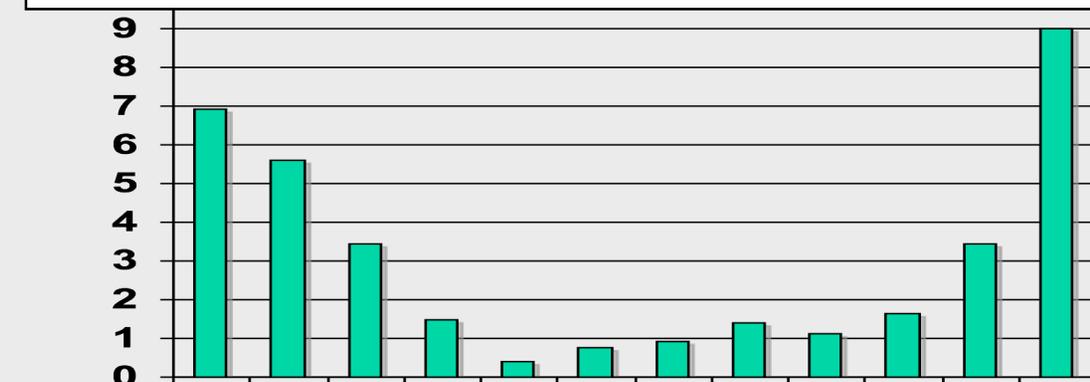


- *NPS Pinniped Long-Term Monitoring Program* states that 25% change in number of seals is the threshold for further analysis and possible action.
- The only data from '97 to '07 that falls outside the 25% threshold is the number of pups in '98, which the May '07 NPS report says is due to El Nino.
- There is no meaningful relationship between the number of oysters and the number of harbor seals (Pearson's correlation coefficient analysis).

NPS seal data vs. CDFG oyster data: no relationship between number of oysters and number of seals



oysters (m)



Harbor seals in Drakes Estero

max breed DE
max pups DE



Harbor seals in all of PRNS (PORE)

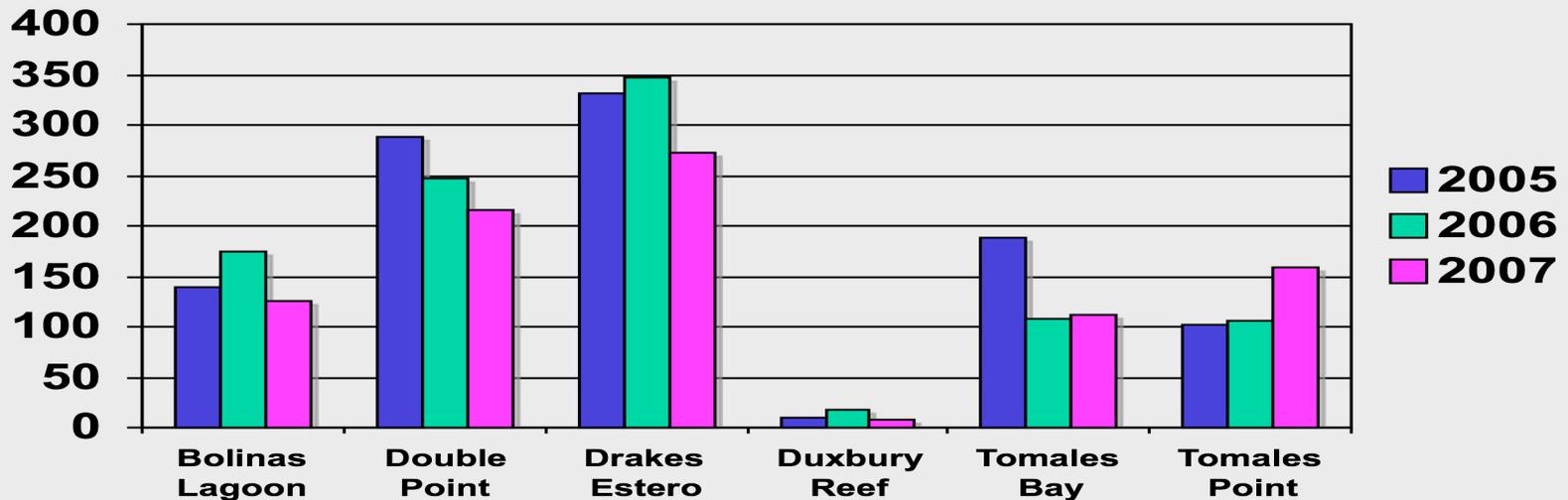
max breed PORE
max pups PORE

Summary of NPS Claims vs. NPS data

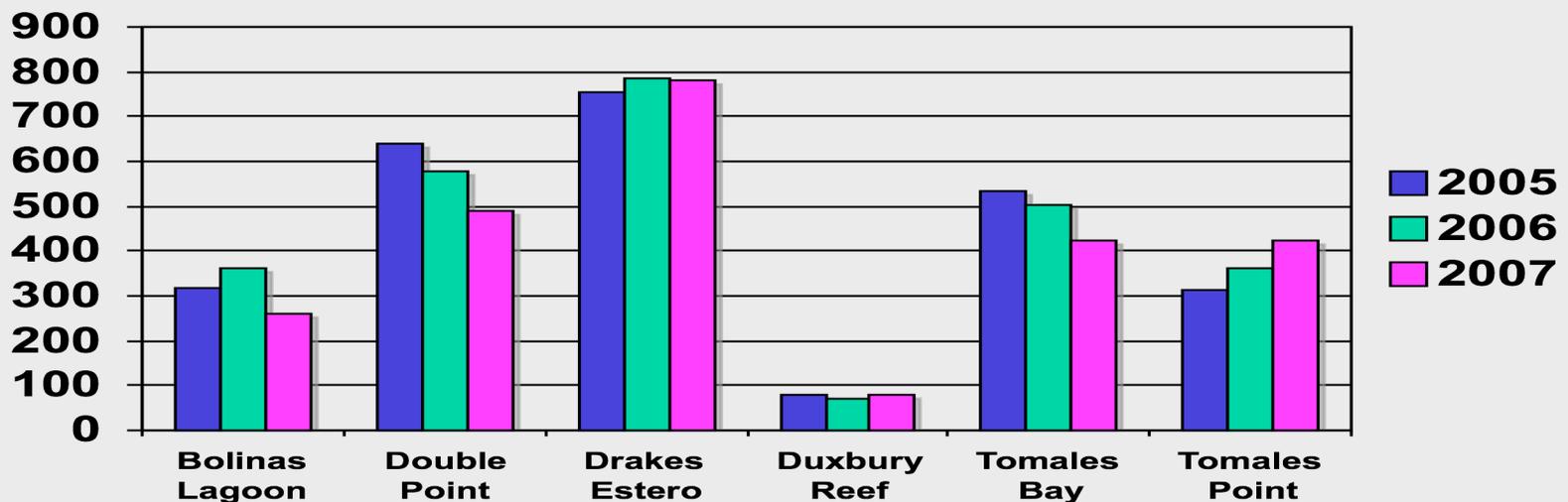
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- **Harbor seal pups in DE were down in 2007 due to the oyster farm**
 - **NPS data show that the number of seals and pups in Drakes Estero was normal in 2007 and well below the NPS monitoring program threshold for concern**
- Harbor seals at the middle sandbar were down 80% in spring 2007 due to disturbances from oyster bags and oyster workers

NPS harbor seal data for 6 colonies from 2005-2007: Adults and pups at Drakes Estero followed overall pattern in 2007

Maximum Pup Counts by Colony 2005-2007



Maximum Adult Counts By Colony 2005-2007



NPS harbor seal data combined from 6 colonies from 2005-2007: Adults and pups at Drakes Estero followed overall pattern

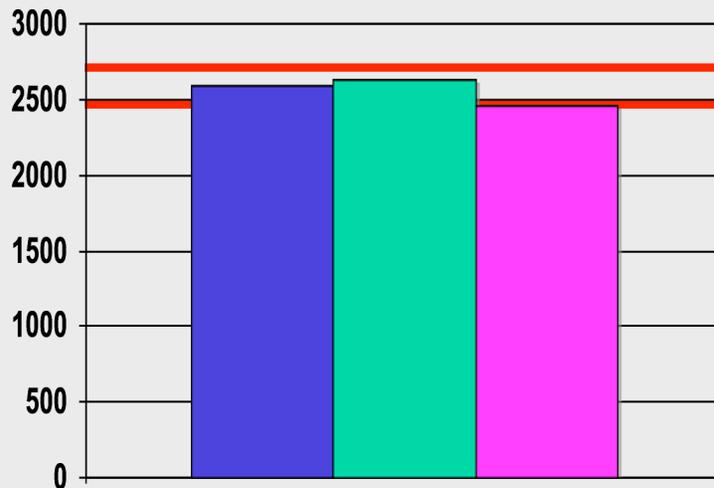
Maximum Pup Counts 6 Colonies 2005-2007



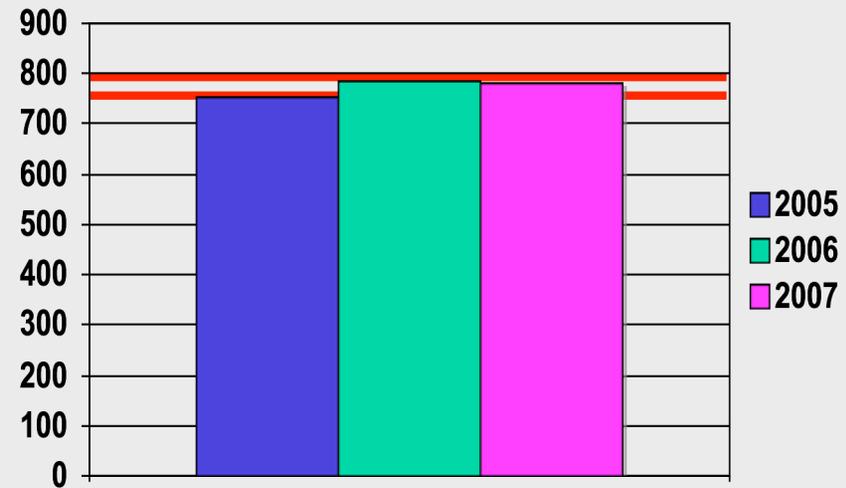
Maximum Pup Counts Drakes Estero 2005-2007



Maximum Adult Counts 6 Colonies 2005-2007



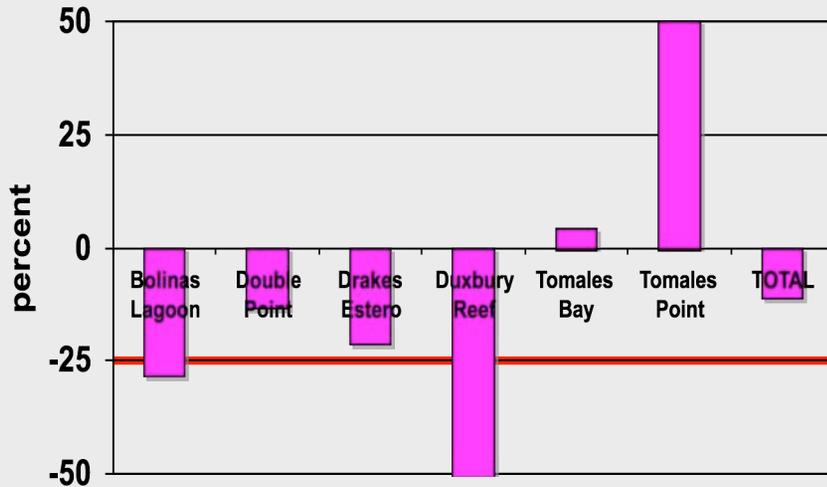
Max. Adult Counts Drakes Estero 2005-2007



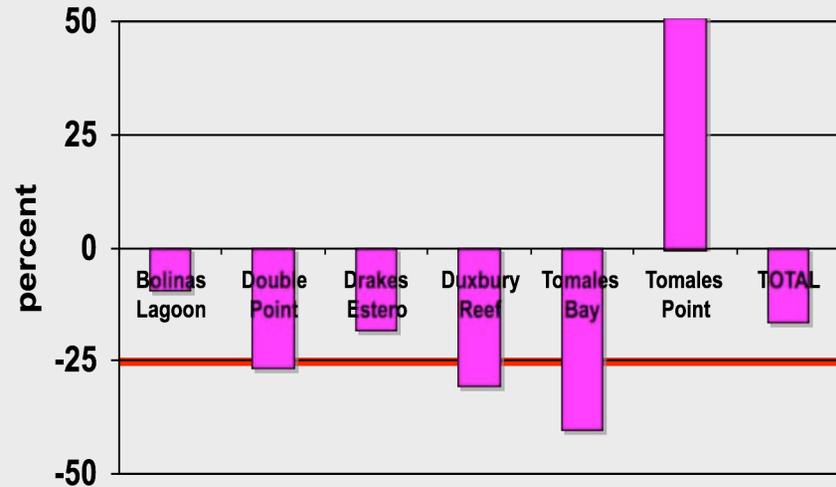
█ standard deviation

NPS harbor seal data for 6 colonies for 2007 vs. 2006 or vs. 2005: Percent change at Drakes Estero in 2007 was within 25% threshold

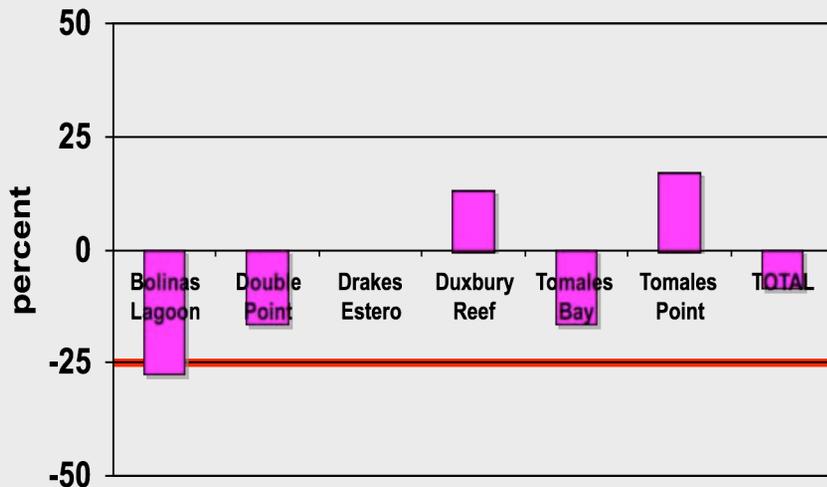
Maximum Pups 2007 vs. 2006



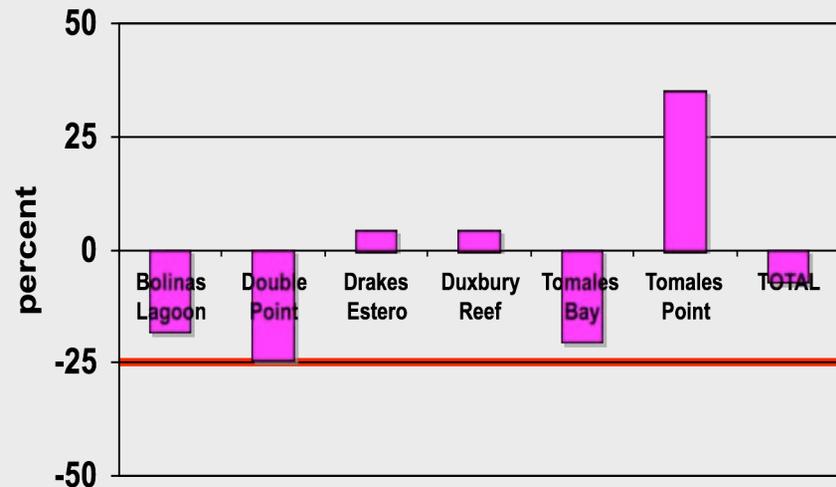
Maximum Pups 2007 vs. 2005



Maximum Adults 2007 vs. 2006



Maximum Adults 2007 vs. 2005



25% threshold

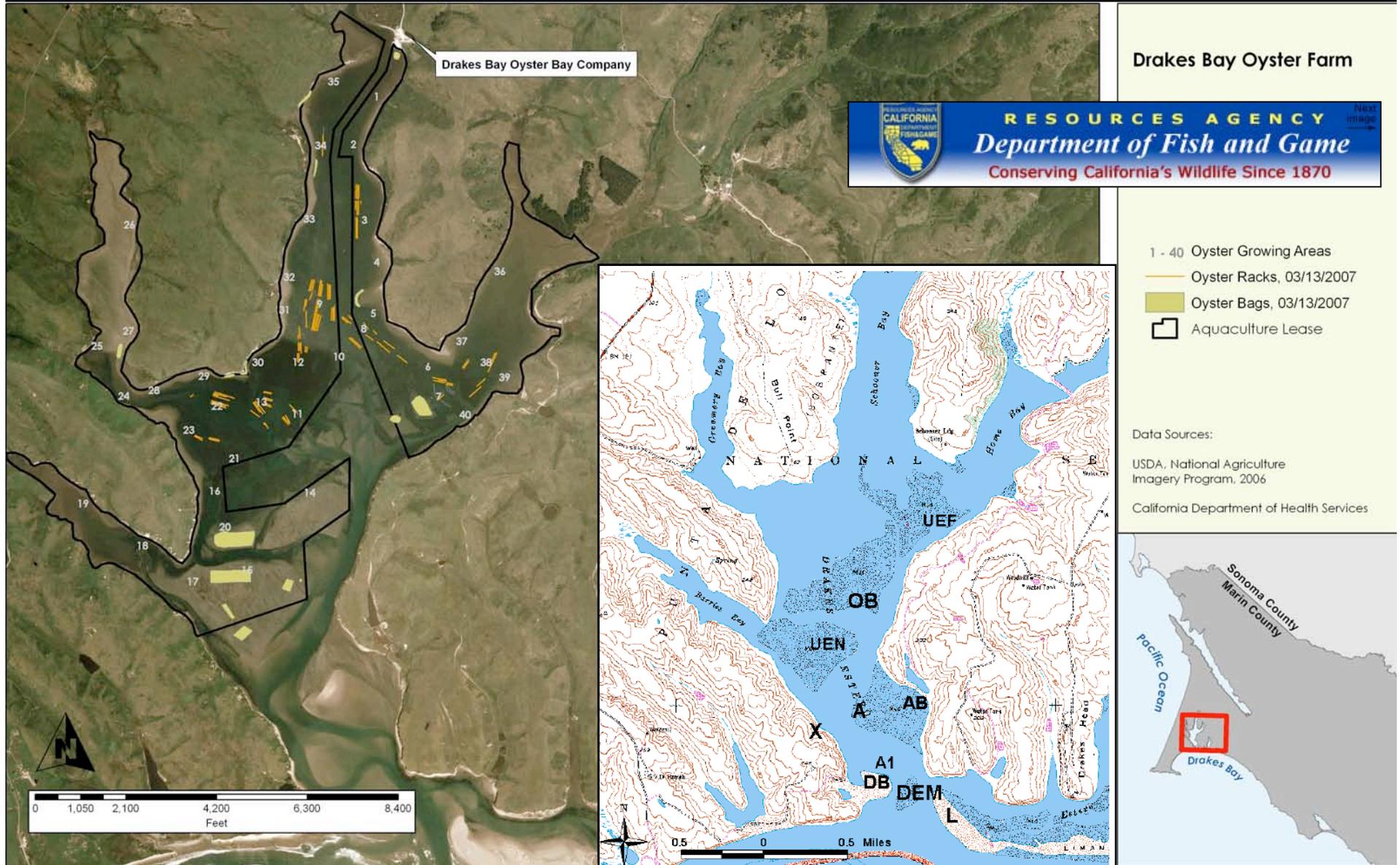
Was Superintendent Neubacher correct in his claim to the Marin County Supervisors that the seal pups were in serious trouble?

- On May 8, Superintendent Neubacher testified at a hearing by the Marin County Supervisors. He said:
“but it’s amazing how many pups we have probably lost this year. We have a serious problem right now.”
- NPS: 25% decrease is threshold for concern
- Did number of pups in ‘07 reach threshold? NO.
- Adult seals up 1% in ‘07 compared to mean ‘05-’07.
- Pups down 14% in ‘07 compared to mean ‘05-’07.
- Many other PRNS colonies were down in ‘07, some more than Drakes Estero.
- Conclusion: the number of adult seals and pups in 2007 was normal, well within the normal fluctuations, and within the 25% threshold for concern.
- Thus there was no factual basis for Superintendent Neubacher’s claim of a *“serious problem right now.”*

Summary of NPS Claims vs. NPS data

- The number of harbor seals in DE is negatively impacted by the oyster farm: as number of oysters go up, number of seals go down
 - Data from NPS on harbor seals and CDFG on number and shucked weight of oysters shows no relationship between the number or weight of oysters and the number of harbor seals
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- Harbor seal pups in DE were down in 2007 due to the oyster farm
 - NPS data show that the number of seals and pups in Drakes Estero was normal in 2007 and well below the NPS monitoring program threshold for concern
- **Harbor seals at the middle sandbar were down 80% in spring 2007 due to disturbances from oyster bags and oyster workers**
 - **NPS harbor seal data show that the number of seals at middle sandbar A was indeed down significantly in 2007**
 - **NPS data show the number of seals at island UEN was up significantly in 2007**
 - **CDFG data show that there are no oyster bags at sandbar A**
 - **CDFG data show that oyster bags are at island UEN**
 - **NPS data show that there have been no reported observations of disturbances by oyster workers at sandbar A**
 - **NPS data show that the disturbances at sandbar A come predominantly from Park visitors by land (e.g. hikers) and by sea (kayakers) and from predators**

Relationship of oyster racks & bags to the 8 harbor seal haul-out sites in Drakes Estero: oyster bags are on the islands UEN, OB, and UEF but not on the middle sandbar A



Drakes Estero early May 2005 to 2007

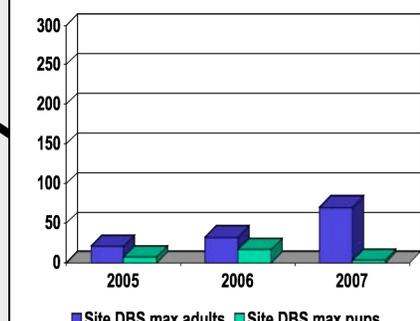
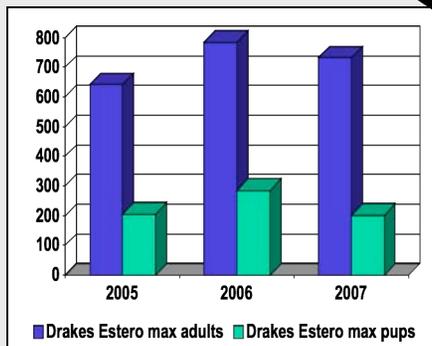
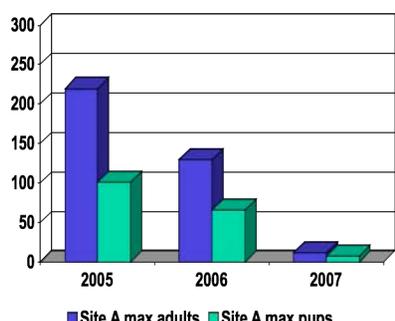
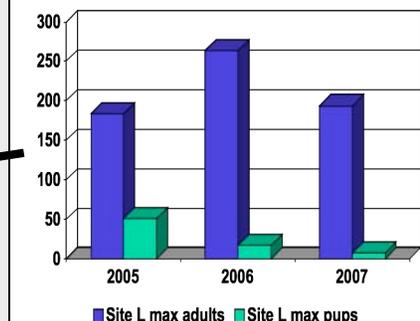
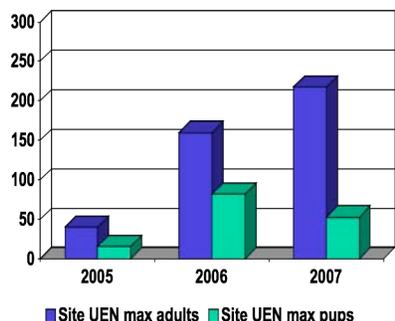
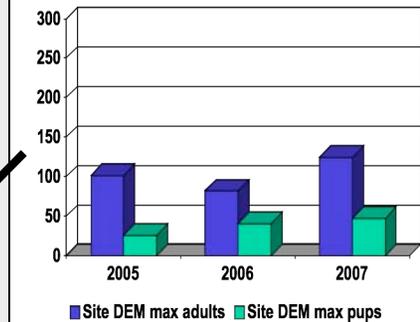
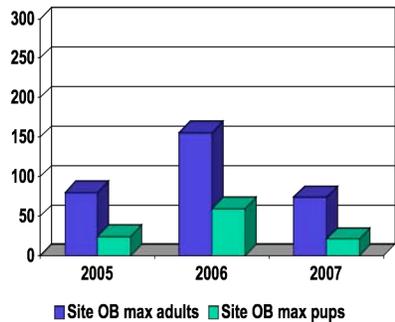
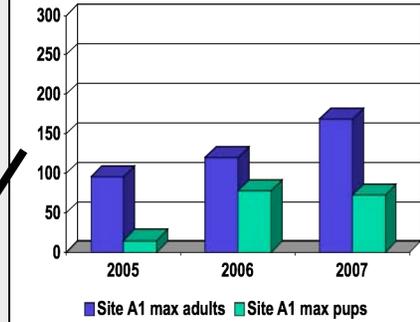
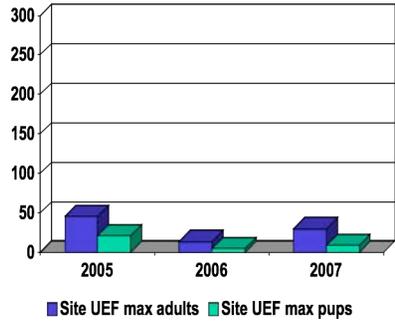
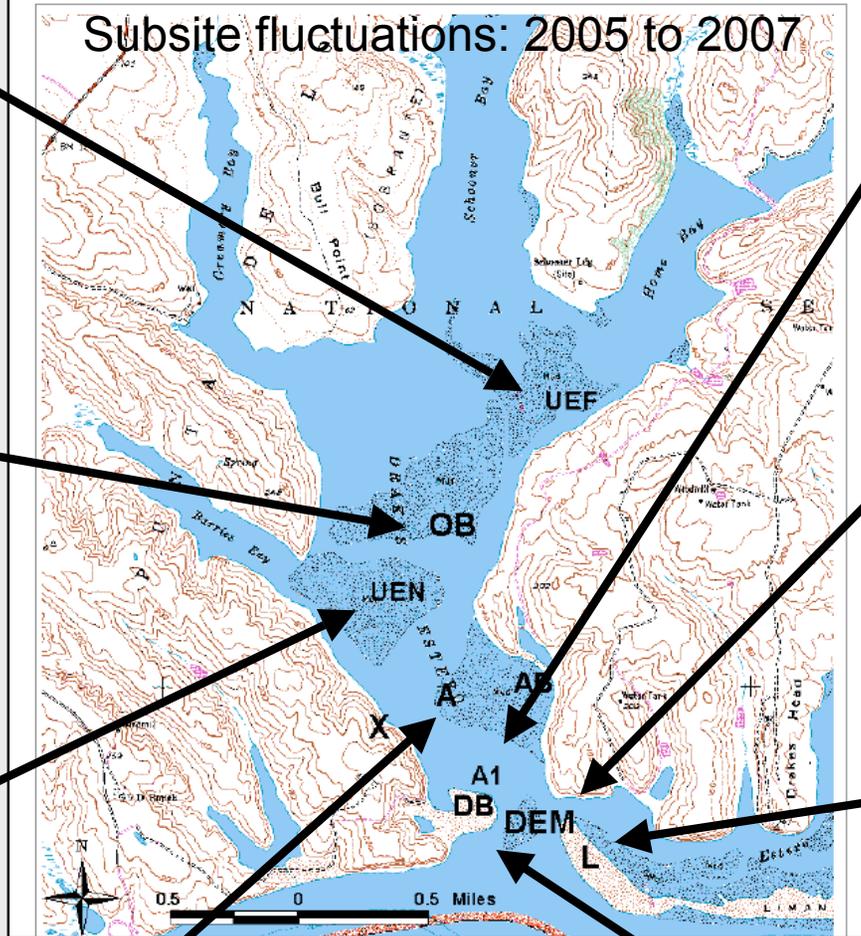
- Analysis is based on early May observation dates
 - Seal population reaches annual maximum in early May
 - Superintendent Neubacher & Staff Scientist Allen referred to early May data
- Number of harbor seals & pups was normal in 2007
- Mainland sandbar site A was down in 2007
- Other sites compensated and were up in 2007
 - One of the key sites that increased in number was inner island site UEN which contains many oyster bags

Drakes Estero early May 2007 vs. 2005

- Sandbar A was down: 287 in '07 vs. '05
- Sites at mouth were up: 140 in '07 vs. '05
- Sites at islands were up: 197 in '07 vs. '05
 - 73% of the seals from sandbar A went to island UEN which has oyster bags
 - The decrease at A was largely countered by an increase at UEN
 - The seals did not move away from the oyster bags, but rather toward them

DRAKES ESTERO

Subsite fluctuations: 2005 to 2007



Disturbance to seals at middle sandbar site A

- Coyotes are the major land predators of the seals
- There were 10 recorded daytime disturbances by coyotes in DE from 2002 to 2007
 - 7 were at site A, 3 at sites at the mouth, and 0 at the inner islands
- From 2002 to 2007, Park visitors by land (hikers, clammers) or by sea (kayakers) were the major source of disturbances at site A
- From 2002 to 2007, oyster workers were never mentioned as a source of disturbance at site A
- Seals may have moved away from land-based sandbar A to the more isolated inner island UEN, presumably to avoid predators and Park visitors
- Thus there was no factual basis for PRNS claim that 80% decrease at a sub colony was due to oyster farm

Disturbance of seals from 2005 to 2007: the DBOC years

- Park visitors (hikers, clammers, kayakers) are the major source of disturbances to seals
- Oyster workers were never recorded as a source of disturbance in 2005 or 2006
- Oyster workers began getting listed as a source of disturbances in April of 2007 in the few weeks before the May 8 hearing
 - Oyster workers accounted for 14% of “observed” disturbances in 2007
 - Park visitors accounted for 58% each year
 - Of 12 disturbances by oyster farm in 2007, 4 were a single boat on Tuesday May 8 (the day of the Marin County hearing), a boat collecting water samples for CDHS as required by the State every Tuesday
 - None of oyster farm disturbances were at site A where PRNS claims the oyster farm led to 80% reduction in seals

NPS Drakes Estero data for seals in early May 2007 vs. May 2005: Several hundred seals moved from sandbar A to island UEN

Oyster bags are located on the west end of island UEN

Maximum for early May
2005 max.: 848 seals
2007 max.: 936 seals

There are no oyster bags on sandbar A

Island UEN seal disturbances:
2005 to 2007

| | | |
|-----------------------------|----|-----|
| Unknown | 6 | 43% |
| Park visitors land (hikers) | 2 | 14% |
| sea (kayaks) | 0 | 0% |
| Birds | 2 | 14% |
| Aircraft | 1 | 7% |
| Coyotes | 1 | 7% |
| Bobcat | 0 | 0% |
| Oyster workers | 0 | 0% |
| Total | 4* | 29% |
| | 14 | |

Sandbar A seal disturbances:
2005 to 2007

| | | |
|-----------------------------|----|-----|
| Unknown | 7 | 22% |
| Park visitors land (hikers) | 15 | 47% |
| sea (kayaks) | 5 | 16% |
| Birds | 10 | 31% |
| Aircraft | 5 | 16% |
| Coyotes | 3 | 9% |
| Bobcat | 1 | 3% |
| Oyster workers | 1 | 3% |
| Total | 0 | 0% |
| | 32 | |

* All in 2007
Apr 25 (1)
Apr 29 (2)
May 8 (1)

2005 max.: 56 seals
2007 max.: 271 seals
+ 215 seals

2005 max.: 321 seals
2007 max.: 20 seals
-301 seals

- Conclusion #1: total number of seals at DE was the same in 2007 vs. 2005
 Conclusion #2: there were more disturbances at sandbar A than island UEN in '05-'07
 Conclusion #3: harbor seals moved away from visitors and predators at sandbar A in '07
 Conclusion #4: harbor seals moved toward island (in spite of oyster bags) in '07

If PRNS considers the decrease of seals at sandbar A to be significant, then why aren't they focusing on Park visitors rather than DBOC?

- In 2007, seals avoided middle sandbar A. This had nothing to do with the oyster farm. It may have been caused by Park visitors or predators.
 - Middle sandbar A is attached to the mainland and close to hiking trails.
 - The major cause of disturbances at sandbar A was Park visitors.
 - Sandbar A also has the highest rate of disturbances from coyotes.
 - There are no oyster bags at sandbar A.
 - There is no record of disturbances by oyster workers at sandbar A.
 - The seals are in part moving onto island UEN which has oyster bags.
- NPS data suggests that disturbances by Park visitors and possibly by coyotes had a significant impact on harbor seals hauling out at sandbar A.
- Question 1: if the Superintendent considers this change at sandbar A to be a serious problem of “*national significance*”, then why isn't he focusing his efforts on preventing disturbances by Park visitors (hikers, clammers, kayakers)?
- Question 2: why is the Superintendent blaming the relocation from sandbar A to island UEN on the oyster farm (DBOC) when his own data show that the oyster farm has nothing to do with it?
- Question 3: why did the Superintendent and his staff misrepresent their own data at the May 8 hearing and in their May 11 official report?

Summary of NPS Claims vs. NPS data

- **The number of harbor seals in DE is negatively impacted by the oyster farm: as number of oysters go up, number of seals go down**
 - **Data from NPS on harbor seals and CDFG on number and shucked weight of oysters shows no relationship between the number or weight of oysters and the number of harbor seals**
 - **NPS data on harbor seals show that the number of seals in Drakes Estero correlates with the number of seals at all locations along the coast of PRNS**
 - **NPS publications show that availability of food, climate, human disturbances, and predators control the number of seals in PRNS and Drakes Estero**
- **Harbor seal pups in DE were down in 2007 due to the oyster farm**
 - **NPS data show that the number of seals and pups in Drakes Estero was normal in 2007 and well below the NPS monitoring program threshold for concern**
- **Harbor seals at the middle sandbar were down 80% in spring 2007 due to disturbances from oyster bags and oyster workers**
 - **NPS harbor seal data show that the number of seals at middle sandbar A was indeed down significantly in 2007**
 - **NPS data show the number of seals at island UEN was up significantly in 2007**
 - **CDFG data show that there are no oyster bags at sandbar A**
 - **CDFG data show that oyster bags are at island UEN**
 - **NPS data show that there have been no reported observations of disturbances by oyster workers at sandbar A**
 - **NPS data show that the disturbances at sandbar A come predominantly from Park visitors by land (e.g. hikers) and by sea (kayakers) and from predators**

Summary of case for scientific misconduct

- The PRNS took one data point -- the 80% reduction of seals at sandbar A in 2007 -- and misrepresented this reduction as caused by the oyster farm, which it was not, and as being of national significance, which it was not.
- The PRNS failed to point out that the overall number of seals & pups in Drakes Estero was normal in 2007. The selective omissions by PRNS are as important as their misrepresentations.
- The PRNS Superintendent claimed that the number of pups was seriously down in 2007, which it was not, and that this decrease was due to the oyster farm, which it was not. NPS data show that the overall number of pups was normal in 2007. Thus, the Superintendent and his data are in conflict.
- In 2007, the seals moved away from sandbar A to island UEN. The disturbances at sandbar A were from Park visitors and predators, not oyster bags or oyster workers as reported by NPS.
- This is not simply an error of interpretation. Rather, it appears to be intentional misrepresentation of data which appears to rise to the level of scientific misconduct. It involves both fabrication and falsification of data by the PRNS. The Superintendent and his staff appear to have intentionally made claims of data in their May 8 testimony and May 11 official report that were not true, and made claims of cause and effect that were not true.
- By knowingly creating and distributing these false claims to public officials, state and federal agencies, and local community members, the PRNS appears to have violated Interior Department policy, National Park Service policy, Federal Ethics policy, and Federal scientific policy.
- The harbor seal claim is another example of how the PRNS contaminated public policy discussion surrounding the oyster farm in Drakes Estero.

PRNS claims since releasing the harbor seal data

- Since releasing the harbor seal data in mid-August, the PRNS has appeared to be more restrained in its claims about the impact of DBOC on the harbor seals, no longer claiming a national emergency, no longer claiming that hundreds of pups have been lost this year, and no longer claiming that the oyster farm is responsible for an 80% reduction in seals this year.
 - As seen on the following page in Sarah Allen's interview with the Marin Independent Journal, the PRNS now is claiming that the oyster boats have inadvertently caused the seals to flush into the water twice this year, a far cry from the claims they made at the May 8th hearing.
 - Given the hundreds of times over the past several years that the PRNS has observed hikers, clammers, and kayakers cause the seals to flush into the water, it hardly seems important that they have now seen the oyster boats cause this twice this year.
 - The harbor seals have voted with their flippers. As documented earlier in this report, they moved from mainland sandbar A, where they were getting disturbed by Park visitors, to island UEN, where the PRNS is claiming that two flushes by oyster workers have disturbed the seals.
- Question: if the claims made on May 8 and May 11 are true, then why didn't the PRNS make them in August to the Marin IJ? If they are not true, why did they make them in May?

“Farmers, Park Service face off in battle over oyster farm”

Article in the September 8, 2007 issue of the Marin Independent Journal by Rob Rogers

Marin Independent Journal

Farmers, Park Service face off in battle over oyster farm

Rob Rogers

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When Kevin Lunny looks out at the sparkling waters of Drakes Estero, he sees the cleanest, most ideal area in the state to grow oysters.



“This is the healthiest estuary on the Pacific Coast,” said Lunny, owner of Drakes Bay Family Farms, a 1,050-acre property that produces 80 percent of the county’s \$3.3 million in farmed shellfish - and more than half of all oysters grown in California. “Wildlife is abundant. It’s all that you could ask for in terms of habitat.”

Kevin Lunny stands among the mounds of oyster shells at Drakes Bay Oyster Company in Inverness. The oyster company wants to create a national marine reserve. (LJ)

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“The permit banned oyster farming in what Lunny calls the most fertile section of the estero, a sandbar accessible only by boat. Marine biologists say harbor seals come ashore to bear their pups at the bar each spring.

Park Service biologists said they observed workers from Drakes Bay Family Farms causing distress to seals in spring 2007. The incident was the first in 10 years of monitoring the oyster farm, biologists said.

We directly saw boat operations disturbing seals in the sub-site on at least two occasions,” said biologist Sarah Allen. “There was no malicious intent. They were just doing their job raising oysters. But doing that work requires regularly picking up and delivering oyster bags at the site, which requires regular boat use to the sandbar. In the process of doing that job, seals get flushed.”

Lunny said workers at the oyster farm know to avoid seals during the springtime pupping season.

I was not told and still have never been told about any environmental harm,” said Lunny, who added that year-round closure of the sandbar would “put us out of business.”

“This is a critical environment that we live in, and everyone I employ understands that,” Lunny said. “We have an agreement on managing our seals signed by the National Marine Fisheries Service, the National Park Service and the state Department of Fish and Game. We don’t come near the area during pupping season.”