Domoic Acid Poisoning

An Overview for Huntington State Beach
Natural Preserve Monitors

By: Cheryl Egger
Domoic Acid (DA) – What is it?

- You may have seen news reports – pelicans falling from the sky, stranded, sick sea lions or closed fisheries due to Domoic Acid poisoning.
- DA is a naturally occurring neurotoxin.
- DA is known to be produced by two types of algae: (pseudo-nitzschia and p. australis).
- It is not known what triggers its production.
- DA works its way up the food chain and is concentrated in fish.
- It is also concentrated in clams and crabs.
- Toxicity of DA depends on concentration.
Domoic Acid Poisoning Food Chain

Some fisheries are closed by CA State Health Officers when DA is present, to protect humans.
What to look for...

- Bird with seizures
- Bird with head twisting back
- Bird with head moving side to side
- Disorientation
- Motor weakness
- Legs outstretched
- Toes curled
Brown Pelican with Advanced Symptoms of DA Poisoning

Least Terns and other marine fish-eating birds could show similar symptoms
What to do with affected birds

- Get the bird into care quickly

- If on the beach or outside the fence, please take to: The Wetlands & Wildlife Care Center, or call 714.374.5587
  - The center is located at PCH and Newland
  - There is no transfer of DA to humans by handling the animal

- Lifeguards will also help with pick up and transport

- If affected bird is seen inside the preserve, call the predator mgmt. phone number on your badge
How is it treated?

- Aggressive fluid therapy
- Supportive care
- Many birds do survive with treatment and are released if they get into care quickly
- However, the hippocampus area of the brain responsible for long term memory and spatial navigation is affected and the after-release success is unknown
Research

- All birds taken into care with symptoms of DA poisoning have blood samples taken to determine DA
- Researchers are very interested in finding out which species are affected by DA
- Due to the Endangered status of the Least Tern, researchers want to pay attention to anything that would affect their population
Water testing is being done from a boat along the LA and OC coastlines by Caron Labs and USC about once per week.

We will be notified if there is DA present in our local waters.

The presence of DA in the water does not always mean there will be an outbreak of DA poisoning.

We will notify you of a possible outbreak.
First Indications

of a possible outbreak in birds
(not always in this order)

- Water tests are positive for DA
  - Doesn’t always mean an outbreak
- DA poisoned seals and sea lions are found with symptoms
- Birds, especially Brown Pelicans are found with symptoms

You will be notified by email of any possible outbreak in our area
Slowly recovering after a grand mal seizure, this pregnant sea lion stranded in Manhattan Beach.

ALL SIGNS POINT TO DOMOIC ACID

Peter Wallerstein
Marine Animal Rescue Specialist
TODAY'S RESCUES
APRIL 15, 2008
Elephant seal, Hermosa/relocated
Elephant seal, Venice /relocated
Elephant seal, Redondo
Sea lion, Manhattan Beach DOMOIC

NOT A PRETTY PICTURE
POSSIBLE DOMOIC RESCUE
Manhattan Beach

Peter Wallerstein
Marine Animal Rescue Specialist
Sources:

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Harrington, Robert, Least Tern photos

Kam, Cyndie, Brown Pelican photo

Kaveggia, Susan, *Treating Domoic Acid Poisoning in Brown Pelicans*, and Personal Communications

Wallerstein, Peter, Marine Animal Rescue