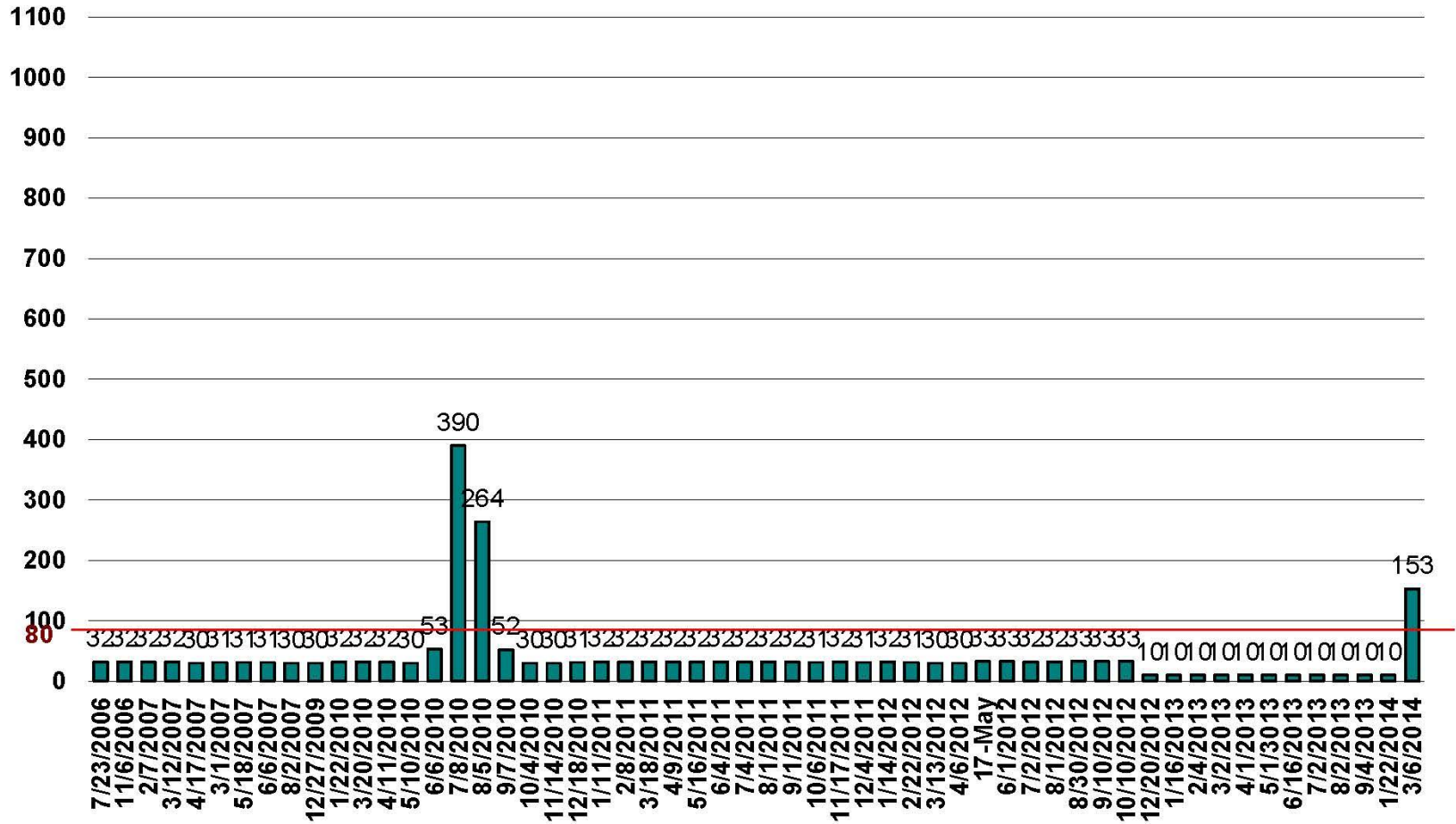


Akutan (Trident Church) Mussels PSP Results

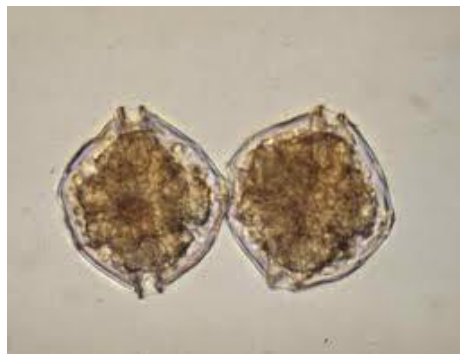




Dear Sand Lance Collectors:

Aleutian Pribilof Islands Association (APIA) scientists have been working with federal, private, state and university researchers since 2006 studying paralytic shellfish poisoning (PSP). The research may help us determine the cause of near extinctions in some of Gulf of Alaska locations of top predators, sea otters, sea lions and declines in other predator populations. Studies of food, predation and disease have not satisfactorily resolved these population declines, so we are investigating the theory that wide-spread PSP may be partially responsible.

Paralytic shellfish poisoning is caused by naturally occurring toxins produced by a small marine plant, or phytoplankton, called *Alexandrium*. Every year coastal Alaska has PSP blooms; some years are worse than others. PSP levels can sicken wildlife and people and both can die if the PSP levels are high enough. The most common manner people get sick from PSP is from eating PSP-contaminated shellfish, mussels, clams and scallops which filter the PSP-producing organism, *Alexandrium* sp., from the ocean. Small marine animals called zooplankton, which include the copepods, eat the *Alexandrium* and concentrate the PSP toxins.



Sand lance or sandlance are also known as "sand eels" or "needle fish" gets its name from its slender body and pointed snout. Sand lance primarily feed on copepods and may become toxic with PSP because the copepods are toxic from eating the organism that produces PSP.

Many of the marine predators in the North Pacific Ocean depend upon sand lance as an important food source. Sand lance are high in energy, mostly in lipids (fats), and sand lance they contain many important nutrients. Some of the predators that feed on sand lance are whales, sea

lions, seals, sea otters, marine birds, and fish including salmon and halibut. PSP affects the central nervous system so when sand lance become contaminated with PSP they may lose their ability to swim and they may not be able to avoid predators. In Alaska's Taiyasanka Harbor Dungeness crab became so contaminated from eating dead PSP-contaminated sand lance and mussels they were toxic enough to sicken people, and sea birds have been reported to have died on Kodiak Island and in the Aleutian Islands from eating contaminated sand lance.

Yukon king salmon also eat PSP-contaminated sand lance when rearing in coastal waters. Dead seabirds washed up on the beach may have been killed by eating PSP-contaminated sand lance. Check the bird's crop to see if the bird ate sand lance. These sand lance can be tested for PSP too.

We need your help! Contact APIA senior scientist if you find sick acting or dead sand lance on the beach or in shallow water. You can handle the sand lance without risk of getting sick, but don't eat any dead or sick sand lance. If you find dead or dying sand lance, collect 5, put in a Ziplock, label with your name, location collected and date, freeze and contact: Bruce Wright at 907-222-4260 or brucew@api.ai.org. More information at: <http://environmentalaska.us/psp-harmful-algal-blooms.html>.

(PLEASE POST) **WANTED: DEAD**



Sand Lance AKA Needle Fish AKA Sand Eels

Sand lance can become contaminated with paralytic shellfish poisoning (PSP) and become sick or die. Sea lions, seals, sea otters, marine birds and salmon that eat these toxic sandlance can die too.

If you find dead or dying sand lance: collect 5, put in a Ziplock, label with your name, location collected and date, freeze and contact: Bruce Wright at 907-222-4260 or brucew@apiai.org for shipping instructions.

Paralytic shellfish poisoning (PSP) can make clams and mussels toxic. Some of the symptoms are tingling, numbness and nausea. Have you or anyone you know experienced these symptoms after eating clams or mussels?

2. Animals such as sea otters, seals, sea lions, whales and seabirds can also become sick and die from PSP. Have you seen any of these animals acting strange, sick and found groups of dead mammals and/or birds on the beach?

3. PSP can also make small schooling fish toxic. Sand lance and herring (forage fish) can become toxic from PSP and die. Have you seen dead forage fish wash up on the beach or dead on the ocean floor?

Attached are some images you can show at the meeting.

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