Fecal sample from Cilantro: seen are 1-2 species of tapeworm ova, likely *Diphyllobothrium cordatum* (green arrow), ova from *Cryptocotyle lingua* (orange arrow), and a larva from *Otostrongylus circumlitus* (blue arrow), the thin larva from *Parafilarides* were present but not under this single field of view, three parasites were enough.
**Gray Seals : Sassafras**

NMLC 15-004 PHg

Released

female wt=36.1 kg, SL= 115 cm, BS=23/5

stranded 3/19/15 Cape Cod; admit: 3/19/15 (DOB= 12/1/15); released 4/18/15

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**Gray Seals : Wasabi**

NMLC 15-005 PHg

strangulation ligature to neck, swollen right hind flipper / abscess, and pulmonary infiltrate / pneumonia, high WBC

male wt=22 kg, SL= 98.5 cm, BS=2.53/5

stranded 3/18/15 Nantucket; admit: 3/20/15

PE: Mild swelling of the hind hind persists but radiograph and ultrasound of the leg show no lesions and the WBC continues to decrease and Wasabi continues to gain weight and body score points. We repeated the CBC today and if we continue to see progress we’ll apply for release. The neck is completely healed but has left quite a scar.
Gray Seals: Pepper NMLC 15-003 PHg

Otitis media LEFT, had lice, behavioral issues

Male wt=12 kg, SL= 80 cm, BS=2/5

Stranded 2/25/15 Cape Cod; admit: 2/25/15, died 4/18/15, necropsy pending
died during internal 10 day NMLC quarantine and the brain (head) was tested for Rabies and was NEGATIVE
last blood:2/26/15, 3-10-15 BG= 132 mg/ml (OK)
last fecal: NPS-CRW UA trace hematuria

Pepper died suddenly and unexpectedly on 4/18, the seal had bitten a handler the day previous and arrangements
with made with the state to have the brain tested for rabies, which was NEGATIVE. However, since the head must
be sent intact to the MA Rabies Lab, a necropsy of the head was precluded. The body was frozen and will be
necropsied after the results have been reported and now can be done when scheduled. The disease of this animal
involved the middle ear and possibility the brain. In other cases, the middle ear infection with extension via the 8th
cranial nerve to cause a per-acute fatal minengioencephalitis, if that was the case with Pepper we may never know.

Gray Seals: Cayanne NMLC 15-006 PHg

Bite wounds to face (right), right corneal ulcer, severe debilitation

Female wt=14.89 kg, SL= x cm, BS=2/5

Stranded 3/13/15 Cape Cod/ IFAW; admit: 3/13/15;
last blood:5/4/15 increased WBC, last rads: 3/14/15

Cayanne was euthanized after developing non responsive hypoglycemia and rapidly progressive deterioration.

Gross Necropsy:
Fresh dead female weanling gray seal. There is little to no blubber layer the body score is 1/5. The external lesions include bite wounds to the head and face, mostly on the right side, with a healing nasal fistula, wound to right lower jaw, and a ruptured right cornea with collapse of the globe. The cornea has two areas of devitalization. The hind flippers are swollen with edematous infiltrate more on the right, with a dermal out pouching adjacent to the anus. Oral and nasal, and aural exams are normal. The mandibular space has an abscess with suppuration, and dissecting purulent material was found in the neck dorsal to the esophagus, the head and neck lymph nodes are enlarged gelatinous, with marked effacement of normal appearance. The heart was WNL. The trachea at the bifurcation is occluded with a large number of large white nematodes consistent with Otostrongylus circumitus. The lungs contain nodules, intralobar emphysema, and multifocal abscesses. Gross detection of Parafilaroides like nematodes in the pulmonary prepyjery were not detected. The caudal esophagus and proximal stomach contains a moderate number of large nematodes consistent with Pseudoterranova. No attachments, ulcers, or obstruction was observed. The pancreas was normal, the external intestinal tract including the duodenum, jejunum, ilium, cecum, and colon were externally normal. The colon continued feces. In the mesentery and attached to the serosal surface was a moderate number of Corynosoma species acanthocephalans. An internal exam found a large number of white tape worms less then 1 cm in width, and at least two were collected with their scolex. Diffusely in the intestine were Corynosoma species attached to the mucosal surface but macroscopic lesions were not observed. The tapeworms could not be extracted without causing complication of the intestines and were removed while the bowl was “being run”. The liver and gall bladder were normal, the bile duct was patent. The spleen was normal. The adrenal and kidneys were normal, the right adrenal gland was smaller then the left. The reproductive tract was immature and WNL. The urinary bladder was surrounded by edematous material and filled with urine and otherwise WNL.
Provisional Diagnosis:

The seal was healing well from the wounds but the right eye was lost secondary to the trauma sustained. However after two weeks of care with fluid support, antibiotics, anti inflamatories, wound care, and pain control the seal appeared to suddenly decompensate with episodes of hypoglycemia that were poorly responsive to IV antibiotics, fluids and dextrose. Sepsis is strongly suspected and a pre-mortem blood sample was drawn for culture. Intracellular bacteria were not observed on a blood smear. Necropsy demonstrated the severe lungworm infection and extent to the reaction to the face wounds, and also a heavy tapeworm infection. The respiratory compromise is a significant contributor to the poor outcome in this case. Gastric nematodes and Corynosoma acanthocephans were typically present. The heavy generalized and multi-systemic parasitic burdens may have made this animal weak and a target for either intra or inter specific aggression. The source of the wounds is unknown but suspected to be either another seal, or a cytote. Culture, histopathology, along with parasitic identification confirmation are pending. The edema with a caudal distribution is possibly secondary to frequent use of the dorsal venous sinus, administration of enrofloxicin into the dorsal sinus, and/or caudal infarction with sepsis and a systemic inflammatory response.

Clinical Parasitology: 8 samples from necropsy lungs

- *Otostronglyus circumlitus*, heavy with tracheal obstruction, and pulmonary abscesses esophagus, stomach
- *Pseudoterranova*, moderate, without attachment or ulceration intestine and body cavity
- *Corynosoma falcatum*, mild
- *Diphyllobothrium cordatum*, heavy with areas of occlusion but not obstruction

**Gray Seals**: Cilantro NMLC 15-007 PHg

**bite wounds to face (right), right corneal ulcer, severe debilitation**

male wt=32 kg, SL= 114 cm, BS=2/5
stranded 5/3/15 Cape Cod/ IFAW; admit: 5/4/15
last blood:5/4/15; increased WBC, hyponatremia
last rads:5/4/12: dorsal pulmonary consolidation, pneumonia likely Lungworm
last fecal: 5/12/15: larva 2 morpho-types DX: lungworm (*Otostrongylus* and *Parafilirodes*); cestode ova (no hooks) *Diphyllobothrium* sp., *Cryptocotyle lingua*
PE:
An initial nasal discharge has resolved. The ears and eyes, oral, head and neck exams are normal. The heart and lungs osculated normally at his entrance exam, and his breathing (RR=10) has been fine since then. There is are large infected brand over the hips, and an abscess in the left hind flipper (2 cm), which was cultured and drained. The brand tissue was sampled with a 6mm punch biopsy for histopathology and tissue culture. The wound is cleaned with dilute beta dyne SID, and covered with SSD. This is a “hot” brand, and this is a dermal full thickness ulcerative burn.

Behaviorally Cilantro has been a bit of a problem, with regurgitation, jaw clenching, and weight loss.

We started low dose fenbendazole (10 mg/kg PO SID 3d, and will follow with 25 mg/kg PO SID, and then consider ivermectin for definitive lungworm treatment. He was switched from ceftiofur to cephalexin at admission for the dermal burn and abscess (post drainage). He is on meloxicam for pain and inflammation control.
**Gray Seals** : Paprika NMLC 15-008 PHg
bite wounds to face (right), right corneal ulcer, severe debilitation
male wt=22 kg, SL= 101 cm, BS=2/5
stranded 5/11/15 Cape Cod/ IFAW; admit: 5/11/15; died 5/12/15; necropsy IFAW pending
last blood: n/a
Paprika was observed ADR (ain’t doing right- and yes it is a medical term), and collected;
IFAW’s instincts were right on tract, poor Paprika died overnight before Rounds. The body was
collected by IFAW and a necropsy will be performed this week as part of a stranding pathology
training exercise.

**Under the Microscope** : Cutting the red tape, tape worms in grays

*Diaphylobothrium latum*  50-75 um x 40-50 um  with aboral knob

![image1](image1)

*Diaphylobothrium cordatum*  69-72 x 26-34 um; 66-79 x 40-43 um  not described

![image2](image2)

*Schistocephalus solidus*  49-77 x 34-46 um  with hooks

![image3](image3)

Sea Rogers Williams VMD
attending veterinarian and director of science

[STAFF: Kathy Zagzebski, Kate Shaffer, Margo Madden, and Ashley]
@Rounds: Drs. Andrew Voorhis, and Samara Parker with Trina Bellinger CVT