



Alaska Veterinary Pathology Services (AVPS)

Kathy Burek, D.V.M., M.S.
Diplomate, A.C.V.P.

23834 The Clearing Dr. / Eagle River, AK 99577
Cell 242-2566 / Fax (907) 696-3565 // Email: AVPS.KBH@gmail.com

NECROPSY

SPECIES: Harbor porpoise (*Phocoena phocoena*)

SEX: Male **AGE:** Subadult

ANIMAL ID/NAME: PP-04052011-AVPS

CONTACT:

VETERINARIAN: **Carrie Goertz, DVM**

CLINIC: NMFS - Juneau - AKR PRD

ADDRESS: P.O. Box 1329

Seward, AK 99664

Ph: (907) 224-6340

Fax: (907) 224-7901

Email: carrieg@alaskasealife.org

PERMIT INFO. 932-1905-00/MA-009526 **PERMIT HOLDER:** MMHSRP

Human Interaction Forms? NO; Chain of custody forms: NO Level A forms filled out YES

CASE NUMBER: pending

NECROPSY DATE: 4/6/2011

TRIM DATE:

DATE FINAL:

PATHOLOGIST: Kathy Burek

NUMBER OF BLOCKS:

PENDING:

GROSS DIAGNOSIS:

- 1.) Small traumatic wound on flukes
- 2.) Moderate parasitism
 - a. Blubber – Crassicauda
 - b. Upper GI – nematodes
 - c. Lower GI – acanthocephalans
 - d. Liver – flukes

BRIEF HISTORY: This harbor porpoise was live stranded in front of the Land's End Resort on the Homer Spit (lat 59.600744, long -151.409833). Observers noted it was lethargic and seemed ill. Several people on site tried to assist the animal by keeping it moving in the water but it died shortly before NOAA responders arrived. It was chilled and then shipped to Anchorage and was code 2- fresh when necropsied. It was initially reported by: Allen, Telephone number: 907-399-5805.

Date found: 4/5/2011;

Necropsy Date: 4/6/2011.

Prosectors included: Carrie Goertz as lead, assisted by: Katie Royer and Kristin Worman

MEASUREMENTS (cm unless indicated)

Tooth count: None of the teeth extended beyond the gum line.

| Basic Measurements | Value | Basic Measurements* | Value |
|---|-----------|--|-------|
| Total length (9) | 168 cm | # of throat grooves | N/A |
| Girth at axilla (17ax) | 91.5 | Fluke width (15) | 43.5 |
| Girth, Max (17mx) | 99.5 | Dorsal fin height | 12.5 |
| Girth, anus (17an) | 62.5 | Dorsal fin base L | 27 |
| Blubber thickness, dorsal behind dorsal fin (w/o skin) | 3.4 | Blubber thickness, ventral Axillary (w/o skin) | 3.1 |
| Blubber thickness, dorsal Axillary (w/o skin) | 3.7 | Blubber thickness, lateral Axillary, (w/o skin) | 2.7 |
| Blubber thickness, dorsal behind dorsal fin (w/ skin) | 3.7 | Blubber thickness, ventral Axillary (w/ skin) | 3.4 |
| Blubber thickness, dorsal Axillary (w/ skin) | 3.7 | Blubber thickness, lateral Axillary, (w/ skin) | 2.7 |

EXTERNAL EXAMINATION

| |
|--------------------------------|
| CARCASS CLASSIFICATION: |
| Code 2 - Fresh |

| |
|------------------------|
| BODY CONDITION: |
| Good body condition |

GROSS NECROPSY FINDINGS:

Physical Exam (general condition, lesions, deformities, appearance, and color):
 There was a small wound on the right side of the fluke. Teeth did not extended past the gum, perhaps not yet erupted, did not appear to be worn.





SQ: Blubber stores were adequate but not robust. The blubber was slightly concave in the dorsal cervical area but just barely noticeable. The blubber had a bi-layer appearance with the majority being denser, more structural external layer with a smaller amount of looser, movable layer at the blubber-muscle interface. A few parasites were encysted in the blubber in the ventral, abdominal area.



Body cavities: The rete mirabilis were paler than expected. Otherwise, NSF.

Musculoskeletal: The muscles were normal.

Respiratory: The lungs were a little pale. There was foam present in both lungs, the main stem

bronchi, and trachea.

Cardiovascular: NSF

Lymphoid: NSF

Endocrine: NSF

Urinary: The calyces of the kidney were yellow.



Liver: The liver was pale on cut section and was friable. It was fibrotic along one edge, with two 1x2 cm areas which contained flukes.

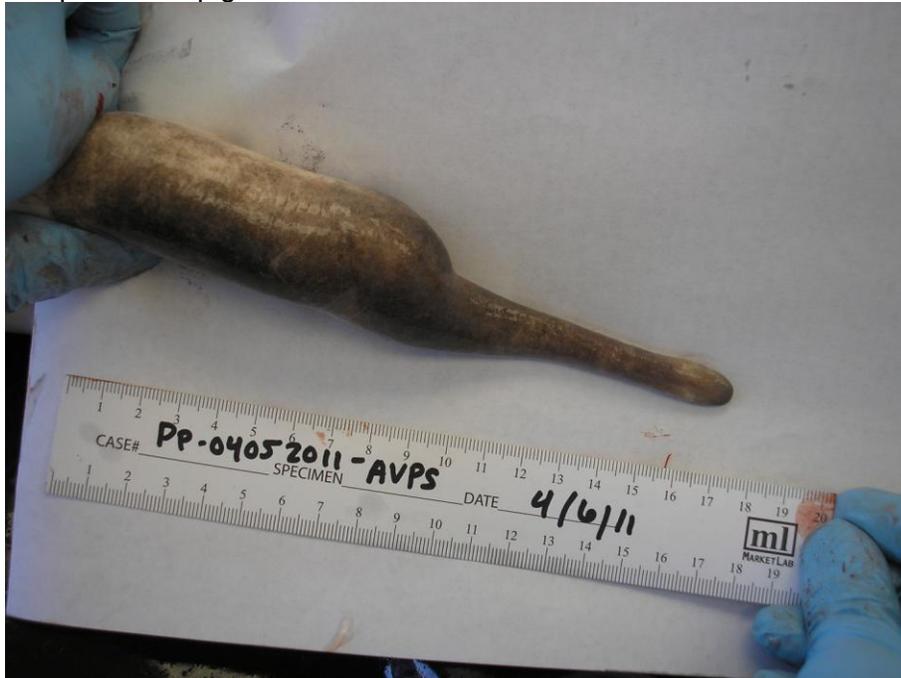


Digestive: Teeth did not extend past the gum, perhaps not yet erupted, did not appear to be worn. The GI tract was mostly empty. Nematodes were found in the trachea, stomach, and upper GI tract and acanthocephalons were found in the lower GI tract. A few of the gastric

parasites were partially adhered to the mucosa. No feces were present. There was bruising in the throat anterior to the larynx.



Reproductive: NSF, testes appeared smaller than would be found in a sexually mature animal. The penis was pigmented.



CARCASS DISPOSITION: Frozen until taken to landfill.

SAMPLES SUBMITTED IMMEDIATELY AND WHERE: None

Skin was collected for genetics;

skull, heart, liver, kidney, spleen, muscle for archiving at University of the North;

Tongue was collected for Trichinella (L. Dehn).

Blubber was collected in foil for POPs (NMFS);

Heart and muscle were collected for Chlorinated fatty acids (L. Rea).

Liver and kidney were collected for heavy metal analysis (T. O'Hara);

Urine was collected for HABs analysis (NMFS - E. Frame).

Stomach and stomach contents were collected for prey analysis (L. Quakenbush)

COMMENTS (CAUSE OF DEATH, INTERPRETATIONS): There was no obvious cause of death and there were several findings that contradicted each other. The teeth did not extend past the gumline and presumably had not erupted suggesting a young animal, however the tongue did not have frills associated with a nursing cetacean. The gumline/ tips of teeth did not have the appearance of wearing associated with old age. Furthermore, the animal was large and had a moderate load of parasites suggesting the animal was not young when it died. The blubber layer was adequate suggesting that the animal was obtaining sufficient calories prior to death, however the GI tract was essentially devoid of digesta. There was only a small amount of pale cloudy fluid in the "sac" just prior to the start of duodenum; bile stained, watery fluid intermittently throughout the intestines; and no feces in the colon. The testes appeared sub-adult.

Though highly speculative, COD could be caused by capture myopathy and/or stress associated with the live stranding event as this species has a reputation for acute death with capture and handling.

HOW DID YOU TAKE YOUR TOXICOLOGY SAMPLES?:

Circle: Acetone-cleaned Foil / Rinsed tissues with: __ (Didn't) / Type of gloves : powder-free nitrile

SAMPLE DISPOSITION:

| Sample ID | Specific Sample | Container Type | Purpose | Sample Location | Freezer | Sample_Preservation | Shipped to |
|---------------|-----------------|----------------|---------|-----------------|----------|---------------------|------------|
| Adrenal Gland | | Whirl-pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Aqueous humor | | Cryovial 2 ml | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| BH dry Swab | | Cryovial 2 ml | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| BH dry Swab | | Cryovial 2 ml | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |

| | | | | | | | |
|----------------|-----|------------------------|--------------|------|-------------|-------------------|--|
| Blood | | RT tube | SEROLOG Y | AVPS | | chilled | |
| Blood | | RT tube | SEROLOG Y | AVPS | | chilled | |
| Blubber | | Whirl- pak 18 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Blubber | | Foil / Whirlpak | TOX | UAA | UAA - 80 | -80 C (Ultracold) | |
| Blubber | | Whirl- pak 18 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Blubber | | Teflon bag | AMMTAP | UAA | UAA - 80 | -80 C (Ultracold) | |
| Bone | rib | Whirl- pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| bone marrow | | Whirl- pak 7 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Cerebellu m | | Whirl- pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Cerebellu m | | Foil / Whirlpak | TOX | UAA | UAA - 80 | -80 C (Ultracold) | |
| Cerebrum | | Whirl- pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Cerebrum | | Foil / Whirlpak | TOX | UAA | UAA - 80 | -80 C (Ultracold) | |
| Colon | | Whirl- pak 18 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Eye | | Whirl- pak 7 oz | LIFE HX | UAA | UAA - 80 | -80 C (Ultracold) | |

| | | | | | | | |
|--------|-----------------|-----------------|---------|-----|----------|-------------------|-------------|
| Feces | Cary Blair swab | Tube | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Heart | | Foil / Whirlpak | TOX | UAA | UAA - 80 | -80 C (Ultracold) | |
| Heart | | Cryovial 2 ml | ARCHIVE | UAA | UAA - 80 | -80 C (Ultracold) | |
| Heart | | Whirlpak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Kidney | | cryovial 2ml | ARCHIVE | UAA | UAA - 80 | -80 C (Ultracold) | |
| Kidney | | Whirlpak 18 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Kidney | | Teflon bag | AMMTAP | UAA | UAA - 80 | -80 C (Ultracold) | |
| Kidney | | Foil / Whirlpak | TOX | UAA | UAA - 80 | -80 C (Ultracold) | |
| Kidney | | Whirlpak 18 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | TODD O'HARA |
| Liver | | Teflon bag | AMMTAP | UAA | UAA - 80 | -80 C (Ultracold) | |
| Liver | | Foil / Whirlpak | TOX | UAA | UAA - 80 | -80 C (Ultracold) | |
| Liver | | Cryovial 2 ml | ARCHIVE | UAA | UAA - 80 | -80 C (Ultracold) | |
| Liver | | Whirlpak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | TODD O'HARA |
| Liver | fluke parasites | Cryovial 2 ml | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |

| | | | | | | | |
|------------------|----------------------|-----------------|---------|-----|----------|-------------------|--------|
| LN Hilar | | Whirl-pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| LN Mesenteric | | Whirl-pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Lung | | Zip-loc | PARASIT | UAA | UAA - 80 | -80 C (Ultracold) | |
| Lung Peripheral | | Whirl-pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Lung Peripheral | | Whirl-pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Lung w/ Bronchus | | Whirl-pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Mandible | | Zip-loc | LIFE HX | UAA | UAA - 80 | -80 C (Ultracold) | UAM |
| Muscle Epaxial | | Cryovial 2 ml | ARCHIVE | UAA | UAA - 80 | -80 C (Ultracold) | |
| Muscle Epaxial | | Whirl-pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Muscle Epaxial | | Whirl-pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Muscle Epaxial | | Foil / Whirlpak | TOX | UAA | UAA - 80 | -80 C (Ultracold) | |
| Muscle Sterno | | Whirl-pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Muscle Sterno | | Whirl-pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Muscle Sterno | | Foil / Whirlpak | TOX | UAA | UAA - 80 | -80 C (Ultracold) | L. REA |
| OTHER | encysted parasites | Whirl-pak | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| OTHER | intestinal parasites | Whirl-pak | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| OTHER | vestigial hind limb | Zip-loc | | UAA | UAA - 80 | -80 C (Ultracold) | |

| | | | | | | | |
|---------------------|--------|------------------------|------------------|------|-------------|-------------------|----------------------|
| Rectal swab | | Cryovial 2 ml | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Rectal swab | | Cryovial 2 ml | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Serum | | Cryovial 2 ml | SEROLOG Y | AVPS | AVPS | -20 C | |
| Serum | | Cryovial 2 ml | SEROLOG Y | AVPS | AVPS | -20 C | |
| Skin | | Whirl- pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Skin | | Jar | GENETICS | UAA | | DMSO | |
| Skin | | Jar | GENETICS | UAA | | DMSO | SWFSC |
| SKULL / HEAD | | garbage bag | ARCHIVE | UAA | UAA - 80 | -80 C (Ultracold) | UAM |
| Small Intestine | | Whirl- pak 18 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Small Intestine | | Whirl- pak 18 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Spleen | | Whirl- pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Spleen | | Cryovial 2 ml | ARCHIVE | UAA | UAA - 80 | -80 C (Ultracold) | |
| spleen dry Swab | | Cryovial 2 ml | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| spleen dry Swab | | Cryovial 2 ml | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Stomach | entire | garbage bag | PREY ANALYSIS | UAA | UAA - 80 | -80 C (Ultracold) | L. QUAKENBUS H |
| Stomach Contents | | Cryovial 2 ml | PREY ANALYSIS | UAA | UAA - 80 | -80 C (Ultracold) | L. QUAKENBUS H |
| Stomach Contents | | Cryovial 2 ml | PREY ANALYSIS | UAA | UAA - 80 | -80 C (Ultracold) | L. QUAKENBUS H |
| Testes (ext) | | Whirl- pak 4 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |

| | | | | | | | |
|-----------------|--|-----------------|---------|-----|----------|-------------------|------------------|
| Thymus | | Whirl-pak 18 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Thymus | | Whirl-pak 18 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Thyroid | | Whirl-pak 18 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Tongue | | Whirl-pak 18 oz | PARASIT | UAA | UAA - 80 | -80 C (Ultracold) | L. DEHN |
| Tonsil | | Whirl-pak 18 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Tonsil dry swab | | Cryovial 2 ml | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Trachea | | Whirl-pak 18 oz | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Urine | | Cryovial 5 ml | DZ | UAA | UAA - 80 | -80 C (Ultracold) | |
| Urine | | Cryovial 5 ml | HABs | UAA | UAA - 80 | -80 C (Ultracold) | NWFSC - E. FRAME |