FISH 546 Final Writeup

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```
# Set up citations
library("knitcitations")
cleanbib()
options("citation_format" = "pandoc")
```

Background - *Hematodinium sp.* and *Chionoecetes bairdi.*

Before getting in to my project, I'll talk a bit about the system that I'm looking at! First, we'll start with the host - the Tanner crab, or *Chionoecetes bairdi.*

C. bairdi is a true crab native to the North Pacific. It is a widely harvested species, and has quite a substantial commercial, recreational, and subsistence value in Alaska. Within the state, it ranges from southeastern Alaska up to the mid-Bering Sea. Its populations are well-monitored, with annual trawl surveys and pot surveys throughout its Alaskan range. It also has a wide range of parasites, including leeches, chitin-eating bacteria, fungal infections, and the subject of this analysis - the parasitic dinoflagellate *Hematodinium sp.*, which causes the fatal disease known as Bitter Crab Syndrome (BCS)

Hematodinium sp. is a broad parasite of many crustaceans, including crabs, amphipods, lobsters, and shrimp. Widely distributed throughout waters north of the equator, it infects many valuable commercial species, including Alaskan snow and Tanner crab (*Chionoecetes spp.*). First observed in western Europe in the 1930s, *Hematodinium* was found in Tanner crab of southeast Alaska in 1985 (Meyers et al. 1987)

```
# write bibliography
write.bibtex(file = "references.bib")
```

```
## Writing 1 Bibtex entries ... OK
## Results written to file 'references.bib'
```

Meyers, T., T. Koeneman, C. Botelho, and S. Short. 1987. Bitter crab disease: A fatal dinoflagellate infection and marketing problem for alaskan tanner crabs chionoecetes bairdi. Diseases of Aquatic Organisms 3:195–216.