

---

## PROJECT INFORMATION

---

### **Project Title**

Shelf Bitter Crab Syndrome in the North Pacific *Chionoecetes* spp.

### **Requestor Information**

Pam Jensen

Pam.jensen@noaa.gov

260-526-4122

AFSC - RACE

### **Survey**

Eastern Bering Sea Shelf

### **Description:**

Bitter crab syndrome (BCS) is a potentially fatal disease of commercially important *Chionoecetes* spp. in the eastern Bering Sea (EBS) and is emerging worldwide in other decapod hosts. Efforts to monitor disease incidences and distribution in *Chionoecetes* spp. over the last 25 years have generated data to track possible trends in the North Pacific and may provide insight as to how climate conditions influence disease patterns. Such trends are important from an industry perspective considering affected Tanner crabs possess a bitter flavor, rendering the meat unmarketable.

The primary goal of this project is to survey *Chionoecetes bairdi* and *C. opilio* for BCS at designated index sites within the Bering Sea. The index sites were chosen based on historical incidences of BCS. Any changes in intensity of disease within the index sites may provide information as to how the disease is affecting host populations or changing within EBS.

### **Data Types**

Biological specimen

---

## BIOLOGICAL SPECIMEN DETAILS

---

### **Fish, Crab or invertebrate?**

crab

### **Species To Be Collected**

*Chionoecetes bairdi*

*Chionoecetes opilio*

### **Detailed collection procedures**

At the pre-assigned index sites for *Chionoecetes bairdi* or *C. opilio*, Kodiak staff will randomly select 20 crabs. Crab morphometrics will be documented on a provided datasheet and each crab will be assigned a Pathobiology specimen number. For each crab, species, size, sex, shell condition, haul number and visual BCS status will be recorded. Using a clean syringe, 0.2mL of hemolymph will be extracted from each crab & transferred into a well in a 96-well collection plate of 100% ethanol. The plate will be inverted to mix, & sharps and biological waste disposed. If a crab is too small for successful hemolymph withdrawal (<30 mm carapace width), the entire crab will be placed singly in a plastic bag with a label and placed in the freeze instead of drawing hemolymph.

### **Place keywords**

Six specific index sites will be chosen (three for *C. bairdi* and three for *C. opilio*) throughout the Bering Sea and within established EBS Shelf survey stations. Sites will include: Bristol Bay, Pribilof Islands, St. Matthew Island and northeast stations.

### **Boundary**

**Northern Boundary:**

**Eastern Boundary:**

**Western Boundary:**

**Southern Boundary:**

### **Target Quantity**

1200

**If the requested amount or frequency of specimens is not achieved, will the request still be useful?**

yes

### **Estimated time**

Approximately 5 minutes per sample

**Sampling Design**

subsample random stratified

Six index sites will be chosen, three for *C. bairdi* and three for *C. opilio*. At the designated index site, either immature *C. bairdi* or *C. opilio* will be randomly selected for sampling, without regard to sex or shell condition. Maturity will be determined by size (carapace width).

**Specimen Type**

whole animal collection, hemolymph

**Do you require individual specimen-level data to be collected?**

no

**Do you need to be able to link your specimens to haul data?**

yes - please link my collection with haul data

-----  
**HAUL DATA DETAILS not applicable to this request**  
-----

**Detailed Collection Procedures**

**Estimated time**

**Place keywords**

**Boundary**

**Northern Boundary:**

**Southern Boundary:**

**Eastern Boundary:**

**Western Boundary:**

**Are you requesting copies of haul data?**

---

## **SUPPLIES & EQUIPMENT**

---

### **Supplies provided by the AFSC**

freezer boxes

### **Supplies provided by the requestor**

labels

plastic bags

calipers

syringes

prefilled ethanol plates

needle disposal container

datasheets

### **Chemical Hygiene**

Ethanol

### **Permits issued or pending:**

ADF&G Fish Resource Permit CF-10-038

### **24/7 Contact Information**

Christie Lang

206-554-1755

### **Detailed shipping instructions:**

Ship with RACE survey supplies

---

**SURVEY COORDINATOR NOTES**

---

**Which boat(s)?**

- Alaska Knight (EBS Shelf)
- Vesteraalen (EBS Shelf)
- Cape Flattery (EBS Slope)
- Alaska Provider (AI)
- Sea Storm (AI)

**Other notes:**