An Atlas on the Distribution and Habitat of Common Fishes in Shallow Nearshore Waters of Southeastern Alaska

by
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Distribution and habitat use are presented on the 50 most abundant fish species captured in shallow nearshore waters (<20 m offshore and <5 m deep relative to mean lower low water (MLLW) of southeastern Alaska. Fish were captured with a beach seine at 41 locations from 1998 to 2004. At each location, habitats sampled included sand or gravel beaches with no attached vegetation, cobble beaches with understory kelps (e.g., *Laminaria saccharina*), soft bottom (sand, silt, or mud) beaches with eelgrass (*Zostera marina*), and steep bedrock outcrops. A total of 538 seine hauls yielded 448,166 fish. Based on total catch, the three most abundant species were walleye pollock (*Theragra chalcogramma*), Pacific sand lance (*Ammodytes hexapterus*), and Pacific herring (*Clupea pallasii*). Mean catch per seine haul was greatest in eelgrass for 30 of the 50 most abundant species. Juveniles dominated the catch of all species captured. For example, mean size of walleye pollock, Pacific sand lance, and Pacific herring was less than 100 mm fork length. Distribution patterns were evident for many fish species; some are widely distributed throughout southeastern Alaska (crescent gunnel, *Pholis laeta*), whereas others are confined to southern waters (kelp perch, *Brachyistius frenatus*) or more outside coastal waters (black rockfish, *Sebastes melanops*). Shallow nearshore waters support a diverse and abundant community of fishes, many of commercial importance. Information on distribution and habitat of nearshore fish assemblages will help resource managers identify and protect coastal areas at risk to human disturbance.
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INTRODUCTION

The Magnuson-Stevens Fishery Conservation and Management Act of 1996 requires the identification of essential fish habitat (EFH) for species included in federal fishery management plans (FMPs) (Minello 1999). Identifying EFH requires basic information on fish distribution and habitat use. In southeastern Alaska, some information exists upon which to infer general distribution for species included in the Gulf of Alaska FMP (North Pacific Fishery Management Council 2002). For many FMP species in Alaska, however, such information is limited, especially for early life stages. In particular, resource managers need information on fish use of shallow nearshore (< 20 m offshore and < 5 m deep) habitats to protect areas critical to fisheries.

Southeastern Alaska has about 33,600 km of tidal shoreline (Department of Interior 1994) and a wide diversity of estuarine and marine habitats including fiords, bays, channels, and straits. Nearshore areas of intertidal and subtidal vegetation are considered habitat areas of particular concern because of their high value as fish habitat and vulnerability to human disturbance (North Pacific Fishery Management Council 2002). Two types of submerged vegetation, eelgrass (Zostera marina) and kelps (e.g., Laminaria saccharina) are widely distributed in lower intertidal and shallow subtidal areas along the coast of Alaska (McRoy 1968, Phillips and Watson 1984, O’Clair and Lindstrom 2000, Wyllie-Echeverria and Ackerman 2003). Other common habitat types in Alaska include non-vegetated substrates of sand or gravel and steep bedrock outcrops. Little information is available on fish use of these habitat types.

Nearshore habitats with and without submerged vegetation provide food resources, cover, and nursery habitat for many marine species important in sport and commercial fisheries (Gotceitas et al. 1997, Norcross et al. 1999, Dean et al. 2000, Spalding et al. 2003). Of the few
studies done in Alaska, important commercial species found in eelgrass or kelp have included Pacific herring (Clupea pallasii), juvenile Pacific cod (Gadus macrocephalus), juvenile rockfish (Sebastes spp.), and juvenile salmon (Oncorhynchus spp.) (Laur and Haldorson 1996, Dean et al. 2000, Murphy et al. 2000, Byerly 2001, Johnson et al. 2003).

This atlas describes the distribution and habitat use of the 50 most abundant fishes captured in shallow nearshore waters of southeastern Alaska from 1998 to 2004. Fish were sampled with a beach seine at 41 locations; a variety of habitat types (e.g., kelp, eelgrass) were sampled at each location. Many of the species captured are included in an FMP for Alaska, whereas others are important from an ecosystem perspective (e.g., food source for marine mammals, sea birds, and other fishes). Information on distribution and habitat of nearshore fish assemblages will help resource managers identify important fisheries habitat and protect it from human disturbance.

MATERIALS AND METHODS

Although catch data were compiled from a suite of studies with different objectives in southeastern Alaska (Murphy et al. 2000, Johnson et al. 2003, Harris et al. In prep., Johnson and Thedinga In prep., Thedinga et al. In prep.), methods of fish capture were similar. Fish assemblages were sampled at 41 general locations from 1998 to 2004 (Fig. 1). At each location, between 1 and 22 sites were sampled with a beach seine and at least one seine haul was made at each site (Table 1); a total of 279 unique sites were sampled. Sites were selected based on habitat type determined by visual observation of the dominant substrate present and the presence or absence of attached vegetation. Sites also had to be approachable by skiff and free of obstructions
At some locations (e.g., Benjamin Island, Eagle Beach, Ushk Bay, The Brothers Islands, and Klawock Inlet), the same sites were sampled more than once in the same year or in different years (Table 1). All sampling occurred within 2 hours of low tide (range +1.0 to −1.5 m below mean lower low water, MLLW). A complete description of the beach seine and the methods of setting it are provided in Johnson et al. (2003). A geographic position was obtained in the middle of each seine site with a hand-held global positioning system (GPS). Most (>62%) sampling effort was in June, July, and August (Fig. 2).

Habitats sampled included sand or gravel beaches with no attached vegetation (bare), cobble beaches with understory kelps, soft bottoms with eelgrass, and steep bedrock outcrops (Table 1). Sand or gravel beaches with no attached vegetation were generally “pocket beaches” found inside protected bays. Most kelp sites were more oceanic and located in exposed locations at the mouths of bays. Understory kelp occupies subtidal areas to depths of about −30 m. Understory kelps often grow as dense, low-lying mats on rocky substrates. Kelp habitats sampled were dominated by *L. saccharina*, a brown kelp that has a smooth blade up to 3.5 m long and 18 cm wide (O’Clair and Lindstrom 2000). Other kelps commonly found with *L. saccharina* were *Cymathere triplicata* and two or more species of *Alaria*. Most eelgrass sites were located inside protected bays and inlets with freshwater influence. Relative to MLLW, eelgrass occupies areas of the lower intertidal and subtidal zones from +1 m to −6 m. Eelgrass usually grows in soft substrates of sand, silt, or mud. Bedrock outcrops were usually steep and located in exposed locations on the outside of bays; *Laminaria* and *Alaria* were usually attached to bedrock faces. Of the 279 unique sites sampled, 35 were bare, 67 were kelp, 92 were eelgrass, and 85 were bedrock (Table 1).
Captured fish were identified to species and enumerated. The number of fish in large catches was estimated gravimetrically. To achieve this, a presumably random subsample of approximately 500 fish was removed from the total catch and the remainder of fish were collectively weighed to the nearest 0.1 kg. Fish in the subsample were weighed to the nearest gram and counted by species. A mean weight of fish determined from the subsample was used to estimate the number of fish in the total catch. The proportion of each species in the subsample was also used to determine the species composition of the total catch. Fork length (FL) was measured to the nearest millimeter for up to 50 individuals of most species. Fish were anesthetized in a mixture of 1 part carbonated water to 2 parts seawater for identification and measurement.

DATA ANALYSIS

A distribution map is presented for each of the 50 most abundant species captured. On each map, a summary is included on total catch, overall occurrence (number of seine hauls each species was captured divided by the total number of seine hauls (all years, n = 538), mean fork length ± 1 standard deviation and the total number measured, life stage (i.e., juveniles, adults), and whether the species is included in an FMP. Additionally, a graph is presented on each map displaying mean catch per seine haul and percent occurrence by habitat type. Catch data was standardized to mean catch per seine haul by dividing the total catch of each species in each habitat type by the respective number of seine hauls in each habitat type—scale on the ordinate varies depending on catch totals. Percent occurrence by habitat type was determined by dividing
the number of seine hauls in each habitat type that each species was captured by the total number of seine hauls (all habitat types) in which that species was captured.

RESULTS

Total Catch

A total of 538 seine hauls yielded 448,164 fish (Table 1) comprising 79 species. The 50 most abundant species captured are listed in Table 2; these 50 species comprised 99% of the total catch. Twenty-one of the 50 most abundant species are included in an FMP for Alaska (Table 2).

Most Abundant Species

Based on total catch, the 10 most abundant species were walleye pollock (*Theragra chalcogramma*), Pacific sand lance (*Ammodytes hexapterus*), Pacific herring, chum salmon (*O. keta*), pink salmon (*O. gorbuscha*), shiner perch (*Cymatogaster aggregata*), Pacific sandfish (*Trichodon trichodon*), threespine stickleback (*Gasterosteus aculeatus*), crescent gunnel (*Pholis laeta*), and Pacific cod. Of the 10 most abundant species, some were captured infrequently but often in large numbers (e.g., walleye pollock; 14% of all seine hauls, 122,792 total fish), whereas others were captured frequently but usually in small numbers (e.g., crescent gunnel; 61% of all seine hauls, 6,975 total fish).
Habitat Use

Of the 50 most abundant species, mean catch per seine haul was greatest in eelgrass sites for 30 species, at bare sites for 9 species, at kelp sites for 7 species, and at bedrock sites for 4 species (Fig. 3). Most species were captured in more than one habitat type. For example, of the 143 seine hauls where pink salmon were captured, 38% were in eelgrass, 22% in bedrock, 21% in kelp, and 19% at sites with no vegetation. Total catch by habitat type for the 50 most abundant species was 176,336 fish in eelgrass, 127,007 fish in kelp, 118,114 fish in bedrock outcrops, and 22,622 fish at sites with no vegetation. Some of the most abundant species in eelgrass were Pacific sand lance and chum salmon, whereas some of the most abundant species at sites with no vegetation or with kelp or bedrock were walleye pollock and Pacific herring.

Life Stage

Juveniles dominated the catch of all species captured. For example, mean size of walleye pollock, Pacific herring, Pacific sand lance, Pacific cod, Pacific sandfish, chum salmon, pink salmon, and coho salmon (O. kisutch) was less than 100 mm FL. Species for which both juveniles and adults were captured included shiner perch, crescent gunnel, and snake prickleback (Lumpenus sagitta). The largest (mean FL > 200 mm) species captured were Pacific staghorn sculpin (Leptocottus armatus), whitespotted greenling (Hexagrammos stelleri), starry flounder (Platichthys stellatus), painted greenling (Oxylebius pictus), and cutthroat trout (Oncorhynchus clarkii).
Distribution

Distribution patterns were evident for many fish species. The two most ubiquitous species were crescent gunnel and northern sculpin (*Icelinus borealis*); each of these species was captured at 38 of 41 locations. The least abundant (50th rank) species captured was the tadpole sculpin (*Psychrolutes paradoxus*) occurring at only 2 of 41 locations. Species captured predominately in northern southeastern Alaska were yellowfin sole (*Limanda aspera*) and capelin (*Mallotus villosus*), whereas species captured predominately in southern southeastern Alaska were kelp perch (*Brachyistius frenatus*) and brown rockfish (*S. auriculatus*). Similarly, most rockfish (*Sebastes* spp.) were captured in more exposed outside waters, and armorhead sculpin (*Gymnocanthus galeatus*) in more sheltered inside waters.

On the following pages, a distribution map is presented for each of the 50 most abundant species captured in decreasing order of abundance based on total catch. An example interpretation for a distribution map is as follows for walleye pollock: pollock were captured at 17 of 41 locations (blue squares); a total of 122,792 pollock were captured in 14.1% of all seine hauls; 1,769 fish were measured at a mean size of 55.2 mm FL; exclusively juveniles were captured; and walleye pollock are included in an FMP for Alaska. The graph shows that mean catch per seine haul for pollock was greatest in kelp at about 600 fish, and of the 76 seine hauls where pollock were captured, 47% were in kelp. Habitat types, geographic locations, dates sampled, number of seine hauls, and total catch by location are listed in Table 1.
Total catch: 122,792 fish
Occurrence: 76 of 538 seine hauls = 14.1%
Mean fork length: 55.2 mm ± 21.5 (SD); n = 1,769
Life stage: juveniles
FMP species: yes

Catch
Occurrence
n = Seine hauls

Mean catch per seine haul

Occurrence by habitat type (%)
n = 76 seine hauls

Catch
Occurrence
n = Seine hauls

Habitat type

Gulf of Alaska

Alaska

Canada

Juneau

Ketchikan

Walleye pollock

Theragra chalcogramma

Gadidae

Gadidae

Capture Locations

Sample Locations

1. Berners Bay 22. Kelp Bay
2. Echo Cove 23. St. John Baptiste Bay
4. Benjamin Island 25. Katlian Bay
5. St. James Bay 26. Middle Island
6. Eagle Beach 27. Silver Bay
8. Funter Bay 29. Biorka Island
10. Port Althorp 31. Kah Sheets Bay
11. Yakobi Island 32. Anita Bay
12. Tenakee Springs 33. Steamer Bay
13. Crab Bay 34. Exchange Cove
14. Hoonah Sound 35. Shakan Bay
15. Ushk Bay 36. Port Conclusion
16. Sitkoh Bay 37. Warm Chuck Inlet
17. Chilk Bay 38. San Antonio Bay
19. The Brothers Islands 40. Twelve Mile Arm
20. Hobart Bay 41. Bostwick Inlet
21. Farragut Bay

Recent Locations

1. Baranof Island
2. Chichagof Island
3. Admiralty Island

Walleye pollock
Theragra chalcogramma

Total catch: 122,792 fish
Occurrence: 76 of 538 seine hauls = 14.1%
Mean fork length: 55.2 mm ± 21.5 (SD); n = 1,769
Life stage: juveniles
FMP species: yes
Sample Locations
Capture Locations

1. Berners Bay 22. Kelp Bay
2. Echo Cove 23. St. John Baptist Bay
4. Benjamin Island 25. Katlian Bay
5. St. James Bay 26. Middle Island
6. Eagle Beach 27. Silver Bay
8. Funter Bay 29. Biorka Island
10. Port Althorp 31. Kah Sheets Bay
11. Yakobi Island 32. Anita Bay
12. Tenakee Springs 33. Steamer Bay
13. Crab Bay 34. Exchange Cove
14. Hoonah Sound 35. Shakan Bay
15. Ushk Bay 36. Port Conclusion
16. Sitkoh Bay 37. Warm Chuck Inlet
17. Chaik Bay 38. San Antonio Bay
19. The Brothers Islands 40. Twelve Mile Arm
20. Hobart Bay 41. Bostwick Inlet
21. Farragut Bay

Ammodytidae
Pacific sand lance
Ammodytes hexapterus

Total catch: 81,667 fish
Occurrence: 90 of 538 seine hauls = 16.7%
Mean fork length: 82.8 mm ± 29.2 (SD); n = 1,129
Life stage: juveniles and adults
FMP species: yes

Catch
Occurrence
n = Seine hauls

Mean catch per seine haul

Occurrence by habitat type (%)
n = 90 seine hauls

Habitat type

Gulf of Alaska
Canada
Alaska
Ketchikan
Juneau

- Total catch: 67,244 fish
- Occurrence: 94 of 538 seine hauls = 17.5%
- Mean fork length: 64 mm ± 30.3 (SD); n = 888
- Life stage: juveniles
- FMP species: no (state managed)
**Chum salmon**
*Oncorhynchus keta*

**Sample Locations**
1. Berners Bay  
2. Echo Cove  
3. Bridget Cove  
4. Benjamin Island  
5. St. James Bay  
6. Eagle Beach  
7. Auke Bay  
8. Funter Bay  
9. Neka Bay  
10. Port Althorp  
11. Yakobi Island  
12. Tenakee Springs  
13. Crab Bay  
14. Hoonah Sound  
15. Ushk Bay  
16. Sitkoh Bay  
17. Chaik Bay  
18. Pybus Bay  
19. The Brothers Islands  
20. Hobart Bay  
21. Farragut Bay  
22. Kelp Bay  
23. St. John Baptist Bay  
24. Nakwasina Sound  
25. Katlian Bay  
26. Middle Island  
27. Silver Bay  
28. Eastern Channel  
29. Biorka Island  
30. Port Camden  
31. Kah Sheets Bay  
32. Anita Bay  
33. Steamer Bay  
34. Exchange Cove  
35. Shakan Bay  
36. Port Conclusion  
37. Warm Chuck Inlet  
38. San Antonio Bay  
39. Klawock Inlet  
40. Twelve Mile Arm  
41. Bostwick Inlet

**Capture Locations**
- Gulf of Alaska
- Admiralty Island
- Chichagof Island
- Baranof Island
- Prince of Wales Island
- Juneau
- Ketchikan

**Summary (1998-2004)**
- Total catch: 65,231 fish
- Occurrence: 162 of 538 seine hauls = 30.1%
- Mean fork length: 64.4 mm ± 18.5 (SD); n = 2,091
- Life stage: juveniles
- FMP species: yes

**Habitat type occurrence by habitat type (%)**
- BARE
- KELP
- EELGRASS
- BEDROCK

**Mean catch per seine haul**
- Total catch: 65,231 fish
- Occurrence: 162 of 538 seine hauls = 30.1%
- Mean fork length: 64.4 mm ± 18.5 (SD); n = 2,091
- Life stage: juveniles
- FMP species: yes
Sample Locations
Capture Locations

1. Berners Bay 22. Kelp Bay
2. Echo Cove 23. St. John Baptist Bay
4. Benjamin Island 25. Katlian Bay
5. St. James Bay 26. Middle Island
6. Eagle Beach 27. Silver Bay
8. Funter Bay 29. Biorka Island
10. Port Althorp 31. Kah Sheets Bay
11. Yakobi Island 32. Anita Bay
12. Tenakee Springs 33. Steamer Bay
13. Crab Bay 34. Exchange Cove
14. Hoonah Sound 35. Shakan Bay
15. Ushk Bay 36. Port Conclusion
16. Silko Bay 37. Warm Chuck Inlet
17. Chalk Bay 38. San Antonio Bay
19. The Brothers Islands 40. Twelve Mile Arm
20. Hobart Bay 41. Bostwick Inlet
21. Farragut Bay

**Pink salmon**
*Oncorhynchus gorbuscha*

**Summary (1998-2004)**
- Total catch: 33,461
- Occurrence: 143 of 538 seine hauls = 26.6%
- Mean fork length: 43.2 mm ± 11.2 (SD); n = 916
- Life stage: juveniles
- FMP species: yes

**Habitat type**
- Bare
- Kelp
- Eelgrass
- Bedrock

**Mean catch per seine haul**
- n = 33
- n = 143
- n = 174
- n = 128

**Occurrence by habitat type (%):**
- n = 143 seine hauls

**Mean catch per seine haul**
- n = 93
- n = 143

**Gulf of Alaska**
- Canada
- Alaska
- Juneau
- Ketchikan
- Skagway
- Haines
- Wrangell
- Sitka
- Petersburg
- Kodiak
- Chichagof Island
- Baranof Island
- Prince of Wales Island
- Juneau
- Ketchikan
- Skagway
- Haines
- Wrangell
- Sitka
- Petersburg
- Kodiak

**Pink salmon**
**Shiner perch**

_Cymatogaster aggregata_

- **Capture Locations**
  - Gulf of Alaska
  - Admiralty Island
  - Chichagof Island
  - Baranof Island
  - Prince of Wales Island
  - Juneau
  - Ketchikan

- **Sample Locations**
  - Canada
  - Alaska

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**Summary (1998-2004)**

- **Embiotocidae**
- **Shiner perch**

- **Catches and Occurrences**
  - Total catch: 19,828 fish
  - Occurrence: 142 of 538 seine hauls = 26.4%
  - Mean fork length: 78 mm ± 23.3 (SD); n = 642
  - Life stage: juveniles and adults
  - FMP species: no

- **Habitat Type**
  - BARE
  - KELP
  - EELGRASS
  - BEDROCK

- **Mean Catch per Seine Haul**

- **Occurrence by Habitat Type (%)**

---

**Data:**

- Total catch: 19,828 fish
- Occurrence by habitat type (%):
  - BARE
  - KELP
  - EELGRASS
  - BEDROCK

---

**Species:**

- **Shiner perch**
- **Cymatogaster aggregata**
Total catch: 10,661 fish
Occurrence: 28 of 538 seine hauls = 5.2%
Mean fork length: 70.2 mm ± 29.9 (SD); n = 414
Life stage: juveniles
FMP species: yes

Pacific sandfish
Trichodon trichodon

1. Berners Bay
2. Echo Cove
3. Bridget Cove
4. Benjamin Island
5. St. James Bay
6. Eagle Beach
7. Auke Bay
8. Funter Bay
9. Neka Bay
10. Port Althorp
11. Yakobi Island
12. Tenakee Springs
13. Crab Bay
14. Hoonah Sound
15. Ushk Bay
16. Sitkoh Bay
17. Chaik Bay
18. Pybus Bay
19. The Brothers Islands
20. Hobart Bay
21. Farragut Bay
22. Kelp Bay
23. St. John Baptist Bay
24. Nakwasina Sound
25. Katlian Bay
26. Middle Island
27. Silver Bay
28. Eastern Channel
29. Biorka Island
30. Port Camden
31. Kah Sheets Bay
32. Anita Bay
33. Steamer Bay
34. Exchange Cove
35. Shakan Bay
36. Port Conclusion
37. Warm Chud Inlet
38. San Antonio Bay
39. Klawock Inlet
40. Twelve Mile Arm
41. Bostwick Inlet

Habitat type

Mean catch per seine haul

Occurrence by habitat type (%)

Gulf of Alaska
Canada
Alaska
Ketchikan
**Sample Locations**

1. Berners Bay
2. Echo Cove
3. Bridget Cove
4. Benjamin Island
5. St. James Bay
6. Eagle Beach
7. Auke Bay
8. Funter Bay
9. Neka Bay
10. Port Althorp
11. Yakobi Island
12. Tenakee Springs
13. Crab Bay
14. Hoonah Sound
15. Ushk Bay
16. Sitkoh Bay
17. Chaik Bay
18. Pybus Bay
19. The Brothers Islands
20. Hobart Bay
21. Farragut Bay

**Capture Locations**

22. Kelp Bay
23. St. John Baptist Bay
24. Nakwasina Sound
25. Katlian Bay
26. Middle Island
27. Silver Bay
28. Eastern Channel
29. Biora Island
30. Port Camden
31. Kah Sheets Bay
32. Anita Bay
33. Steamer Bay
34. Exchange Cove
35. Shakan Bay
36. Port Conclusion
37. Warm Chuck Inlet
38. San Antonio Bay
39. Klawock Inlet
40. Twelve Mile Arm
41. Bostwick Inlet

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**Gasterosteidae**

**Threespine stickleback**

*Gasterosteus aculeatus*

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**Summary (1998-2004)**

- Total catch: 7,673 fish
- Occurrence: 123 of 538 seine hauls = 22.9%
- Mean fork length: not measured
- Life stage: juveniles and adults
- FMP species: no

**Habitat type**

- BARE
- KELP
- EELGRASS
- BEDROCK

---

**Mean catch per seine haul**

- **Catch**: n=174
- **Occurrence**: n=123 of seine hauls

**Occurrence by habitat type (%)**

- BARE: 0%
- KELP: 80%
- EELGRASS: 100%
- BEDROCK: 0%

---

**Gulf of Alaska**

**Canada**

**Alaska**

**Ketchikan**

**Juneau**
Pholidae
Crescent gunnel
Pholis laeta

Total catch: 6,975 fish
Occurrence: 329 of 538 seine hauls = 61.2%
Mean fork length: 121.2 mm ± 65.7 (SD); n = 6
Life stage: juveniles and adults
FMP species: yes

Mean catch per seine haul
n = Seine hauls

Habitat type
BARE KELP EELGRASS BEDROCK

Occurrence by habitat type (%) n = 329 seine hauls

Sample Locations
Capture Locations
1. Berners Bay 22. Kelp Bay
2. Echo Cove 23. St. John Baptst Bay
4. Benjamin Island 25. Katlian Bay
5. St. James Bay 26. Middle Island
6. Eagle Beach 27. Silver Bay
8. Funter Bay 29. Biorka Island
9. Hek Bay 30. Port Camden
10. Port Althorp 31. Kah Sheets Bay
11. Yakobi Island 32. Anita Bay
12. Tenakee Springs 33. Steamer Bay
13. Crab Bay 34. Exchange Cove
14. Hoonah Sound 35. Shakan Bay
15. Ushk Bay 36. Port Conclusion
16. Sitkoh Bay 37. Warm Chuck Inlet
17. Chaik Bay 38. San Antonio Bay
19. The Brothers Islands 40. Twelve Mile Arm
20. Hobart Bay 41. Bostwick Inlet
21. Farragut Bay
Sample Locations

Capture Locations

1. Berners Bay 22. Kelp Bay
2. Echo Cove 23. St. John Baptist Bay
4. Benjamin Island 25. Kattian Bay
5. St. James Bay 26. Middle Island
6. Eagle Beach 27. Silver Bay
8. Funter Bay 29. Biorka Island
10. Port Althorp 31. Kah Sheets Bay
11. Yakobi Island 32. Anita Bay
12. Tenakee Springs 33. Steamer Bay
13. Crab Bay 34. Exchange Cove
14. Hoonah Sound 35. Shakan Bay
15. Ushk Bay 36. Port Conclusion
16. Sitkoh Bay 37. Warm Chuck Inlet
17. Chaik Bay 38. San Antonio Bay
19. The Brothers Islands 40. Twelve Mile Arm
20. Hobart Bay 41. Bostwick Inlet
21. Farragut Bay

Gadidae
Pacific cod
Gadus macrocephalus

Total catch: 6,101 fish
Occurrence: 92 of 538 seine hauls = 17.1%
Mean fork length: 69.2 mm ± 24.7 (SD); n = 1,209 juveniles
FMP species: yes

Mean catch per seine haul

Occurrence by habitat type (%)
n = 92 seine hauls

Mean catch per seine haul

n = 93
n = 143
n = 174
n = 128

Habitat type
BARE
KELP
EELGRASS
BEDROCK

Gulf of Alaska
Canada
Alaska
Ketchikan
Pacific cod
Bay pipefish
Syngnathus leptorhynchus

Total catch: 5,282 fish
Occurrence: 154 of 538 seine hauls = 28.6%
Mean fork length: not measured
Life stage: juveniles and adults
FMP species: no

Catch

Occurrence

n = Seine hauls

Mean catch per seine haul

Occurrence by habitat type (%)
n = 154 seine hauls

Habitat type

BARE
KELP
EELGRASS
BEDROCK
Sample Locations

Capture Locations

1. Berners Bay 22. Kelp Bay
2. Echo Cove 23. St. John Baptst Bay
4. Benjamin Island 25. Katlian Bay
5. St. James Bay 26. Middle Island
6. Eagle Beach 27. Silver Bay
8. Funter Bay 29. Biorka Island
10. Port Althorp 31. Kah Sheets Bay
11. Yakobi Island 32. Anita Bay
12. Tenakee Springs 33. Steamer Bay
13. Crab Bay 34. Exchange Cove
14. Hoonah Sound 35. Shakan Bay
15. Ushk Bay 36. Port Conclusion
16. Sitkoh Bay 37. Warm Chuck Inlet
17. Chaik Bay 38. San Antonio Bay
19. The Brothers Islands 40. Twelve Mile Arm
20. Hobart Bay 41. Bostwick Inlet
21. Farragut Bay


Total catch: 2,836 fish
Occurrence: 135 of 538 seine hauls = 25.1%
Mean fork length: 90.9 mm ± 58.3 (SD); n = 35
Life stage: juveniles and adults
FMP species: yes

<table>
<thead>
<tr>
<th>Habitat type</th>
<th>Mean catch per seine haul</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARE</td>
<td>n = 33</td>
</tr>
<tr>
<td>KELP</td>
<td>n = 143</td>
</tr>
<tr>
<td>EELGRASS</td>
<td>n = 174</td>
</tr>
<tr>
<td>BEDROCK</td>
<td></td>
</tr>
</tbody>
</table>

BARE KELP EELGRASS BEDROCK

Mean catch per seine haul

n = Seine hauls

Occurrence by habitat type (%)

n = 135 seine hauls

Gulf of Alaska

Snake prickleback

Lumpenus sagitta

Stichaeidae

Canada

Alaska

Juneau

Ketchikan

Snake prickleback

202

19
**Salmonidae**

**Coho salmon**

*Oncorhynchus kisutch*

---

**Summary (1998-2004)**

- **Total catch:** 2,469 fish
- **Occurrence:** 94 of 538 seine hauls = 17.5%
- **Mean fork length:** 95.6 mm ± 16.7 (SD); n = 582
- **Life stage:** juveniles
- **FMP species:** yes

---

**Mean catch per seine haul**

- BARE: 10
- KELP: 20
- EELGRASS: 30
- BEDROCK: 40

---

**Occurrence by habitat type (%)**

- **BARE:** 100%
- **KELP:** 80%
- **EELGRASS:** 60%
- **BEDROCK:** 40%

---

**Sample Locations**

1. Berners Bay
2. Echo Cove
3. Bridget Cove
4. Benjamin Island
5. St. James Bay
6. Eagle Beach
7. Auke Bay
8. Funter Bay
9. Neka Bay
10. Port Althorp
11. Yakobi Island
12. Tenakee Springs
13. Crab Bay
14. Hoonah Sound
15. Ushk Bay
16. Sitkoh Bay
17. Chaik Bay
18. Pybus Bay
19. The Brothers Islands
20. Hobart Bay
21. Farragut Bay
22. Kelp Bay
23. St. John Baptiste Bay
24. Nakwasina Sound
25. Katlian Bay
26. Middle Island
27. Silver Bay
28. Eastern Channel
29. Biorka Island
30. Port Camden
31. Kah Sheets Bay
32. Anita Bay
33. Steamer Bay
34. Exchange Cove
35. Shakan Bay
36. Port Conclusion
37. Warm Chund Inlet
38. San Antonio Bay
39. Klawock Inlet
40. Twelve Mile Arm
41. Bostwick Inlet

---

**Catch**

- **Occurrence**
- **n = Seine hauls**

---

**Habitat type**

- **BARE**
- **KELP**
- **EELGRASS**
- **BEDROCK**

---

**Bare Kelp Eelgrass Bedrock**

---

**Gulf of Alaska**
**Aulorhynchidae**  
**Tubesnout**  
*Aulorhynchus flavidus*

**Summary (1998-2004)**
- Total catch: 1,834 fish
- Occurrence: 101 of 538 seine hauls = 18.8%
- Mean fork length: 120.7 mm ± 23.5 (SD); n = 91
- Life stage: juveniles and adults
- FMP species: no

**Catch by Habitat Type (%)**
- BARE: 30
- KELP: 20
- EELGRASS: 90
- BEDROCK: 10

**Occurrence by Habitat Type (%)**
- n = 101 seine hauls

**Sample Locations**
1. Berners Bay  
2. Echo Cove  
3. Bridget Cove  
4. Benjamin Island  
5. St. James Bay  
6. Eagle Beach  
7. Auke Bay  
8. Funter Bay  
9. Neka Bay  
10. Port Althorp  
11. Yakobi Island  
12. Tenakee Springs  
13. Crab Bay  
14. Hoonah Sound  
15. Ushk Bay  
16. Sitkoh Bay  
17. Chaik Bay  
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22. Kelp Bay  
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24. Nakwasina Sound  
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27. Silver Bay  
28. Eastern Channel  
29. Biorka Island  
30. Port Camden  
31. Kah Sheets Bay  
32. Anita Bay  
33. Steamer Bay  
34. Exchange Cove  
35. Shakan Bay  
36. Port Conclusion  
37. Warm Chuck Inlet  
38. San Antonio Bay  
39. Klawock Inlet  
40. Twelve Mile Arm  
41. Bostwick Inlet
Northern sculpin  
Icelinus borealis

Total catch: 1,222 fish
Occurrence: 249 of 538 seine hauls = 46.3%
Mean fork length: 90.3 mm ± 30.9 (SD); n = 37
Life stage: juveniles and adults
FMP species: no

Mean catch per seine haul

Occurrence by habitat type (%)

Habitat type
BARE KELP EELGRASS BEDROCK

Catch Occurrence
n = Seine hauls
n = 93 n = 143 n = 174 n = 128

Gulf of Alaska
Canada
Alaska
Ketchikan
Juneau
Prince of Wales Island
Baranof Island
Admiralty Island
Gulf of Alaska

Sample Locations
Capture Locations
1. Berners Bay
2. Echo Cove
3. Bridget Cove
4. Benjamin Island
5. St. James Bay
6. Eagle Beach
7. Auke Bay
8. Funter Bay
9. Neka Bay
10. Port Althorp
11. Yakobi Island
12. Tenakee Springs
13. Crab Bay
14. Hoonah Sound
15. Ushk Bay
16. Sitkoh Bay
17. Chaik Bay
18. Pybus Bay
19. The Brothers Islands
20. Hobart Bay
21. Farragut Bay
22. Kelp Bay
23. St. John Baptiste Bay
24. Nakwasina Sound
25. Katlian Bay
26. Middle Island
27. Silver Bay
28. Eastern Channel
29. Biorka Island
30. Port Camden
31. Kah Sheets Bay
32. Anita Bay
33. Steamer Bay
34. Exchange Cove
35. Shakan Bay
36. Port Conclusion
37. Warm Chuck Inlet
38. San Antonio Bay
39. Klawock Inlet
40. Twelve Mile Arm
41. Bostwick Inlet

Capture locations
**Silverspotted sculpin**

*Blepsias cirrhosus*

**Habitat type**

- Bare
- Kelp
- Eelgrass
- Bedrock

**Mean catch per seine haul**

- Bare: 0
- Kelp: 2
- Eelgrass: 4
- Bedrock: 8

**Occurrence by habitat type (%)**

- Bare: 0%
- Kelp: 100%
- Eelgrass: 80%
- Bedrock: 0%

**Summary (1998-2004)**

- Total catch: 1,119 fish
- Occurrence: 169 of 538 seine hauls = 31.4%
- Mean fork length: 143.4 mm ± 20 (SD); n = 9
- Life stage: juveniles and adults
- FMP species: no

**Sample Locations**

- 1. Berners Bay
- 2. Echo Cove
- 3. Bridget Cove
- 4. Benjamin Island
- 5. St. James Bay
- 6. Eagle Beach
- 7. Auke Bay
- 8. Funter Bay
- 9. Neka Bay
- 10. Port Althorp
- 11. Yakobi Island
- 12. Tenakee Springs
- 13. Crab Bay
- 14. Hoonah Sound
- 15. Ushk Bay
- 16. Sitkoh Bay
- 17. Chaik Bay
- 18. Pybus Bay
- 19. The Brothers Islands
- 20. Hobart Bay
- 21. Farragut Bay
- 22. Kelp Bay
- 23. St. John Baptst Bay
- 24. Nakwasina Sound
- 25. Katlian Bay
- 26. Middle Island
- 27. Silver Bay
- 28. Eastern Channel
- 29. Biorka Island
- 30. Port Camden
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- 33. Steamer Bay
- 34. Exchange Cove
- 35. Shakan Bay
- 36. Port Conclusion
- 37. Warm Chuck Inlet
- 38. San Antonio Bay
- 39. Klawock Inlet
- 40. Twelve Mile Arm
- 41. Bostwick Inlet

**Sample Locations**

- 1. Berners Bay
- 2. Echo Cove
- 3. Bridget Cove
- 4. Benjamin Island
- 5. St. James Bay
- 6. Eagle Beach
- 7. Auke Bay
- 8. Funter Bay
- 9. Neka Bay
- 10. Port Althorp
- 11. Yakobi Island
- 12. Tenakee Springs
- 13. Crab Bay
- 14. Hoonah Sound
- 15. Ushk Bay
- 16. Sitkoh Bay
- 17. Chaik Bay
- 18. Pybus Bay
- 19. The Brothers Islands
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- 21. Farragut Bay
- 22. Kelp Bay
- 23. St. John Baptst Bay
- 24. Nakwasina Sound
- 25. Katlian Bay
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- 27. Silver Bay
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- 29. Biorka Island
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- 35. Shakan Bay
- 36. Port Conclusion
- 37. Warm Chuck Inlet
- 38. San Antonio Bay
- 39. Klawock Inlet
- 40. Twelve Mile Arm
- 41. Bostwick Inlet

**Capture Locations**

- Canada
- Alaska
- Juneau
- Ketchikan

**Sample Locations**

- 1. Berners Bay
- 2. Echo Cove
- 3. Bridget Cove
- 4. Benjamin Island
- 5. St. James Bay
- 6. Eagle Beach
- 7. Auke Bay
- 8. Funter Bay
- 9. Neka Bay
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- 23. St. John Baptst Bay
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- 27. Silver Bay
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- 29. Biorka Island
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- 31. Kah Sheets Bay
- 32. Anita Bay
- 33. Steamer Bay
- 34. Exchange Cove
- 35. Shakan Bay
- 36. Port Conclusion
- 37. Warm Chuck Inlet
- 38. San Antonio Bay
- 39. Klawock Inlet
- 40. Twelve Mile Arm
- 41. Bostwick Inlet
**Summary (1998-2004)**
- Total catch: 1,102 fish
- Occurrence: 73 of 538 seine hauls = 13.6%
- Mean fork length: 79.6 mm ± 29.5 (SD); n = 10
- Life stage: juveniles and adults
- FMP species: no

**Mean catch per seine haul**

<table>
<thead>
<tr>
<th>Habitat type</th>
<th>n = Seine hauls</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARE</td>
<td>93</td>
</tr>
<tr>
<td>KELP</td>
<td>143</td>
</tr>
<tr>
<td>EELGRASS</td>
<td>174</td>
</tr>
<tr>
<td>BEDROCK</td>
<td>128</td>
</tr>
</tbody>
</table>

**Occurrence by habitat type (%)**

- **BARE**: 20%
- **KELP**: 60%
- **EELGRASS**: 20%
- **BEDROCK**: 10%

**Sample Locations**
- 1. Berners Bay
- 2. Kelp Bay
- 3. Echo Cove
- 4. Nakwasina Sound
- 5. Bridget Cove
- 6. St. John Baptist Bay
- 7. Benjamin Island
- 8. Middle Island
- 9. St. James Bay
- 10. Silver Bay
- 11. Eagle Beach
- 12. Katlian Bay
- 13. Auke Bay
- 14. St. John Baptist Bay
- 15. Funter Bay
- 16. St. John Baptist Bay
- 17. Nakwasina Sound
- 18. Funter Bay
- 19. Katlian Bay
- 20. Auke Bay
- 21. St. John Baptist Bay
- 22. Benham Island
- 23. Nakwasina Sound
- 24. Port Althorp
- 25. St. James Bay
- 26. Middle Island
- 27. Silver Bay
- 28. Bridget Cove
- 29. Funter Bay
- 30. St. John Baptist Bay
- 31. Port Althorp
- 32. Port Camden
- 33. Bridget Cove
- 34. Middle Island
- 35. St. John Baptist Bay
- 36. Silver Bay
- 37. Bridget Cove
- 38. Middle Island
- 39. Port Althorp
- 40. St. John Baptist Bay
- 41. Port Althorp

**Tubenose poacher (Agonidae)**

- **Tubenose poacher (Pallasina barbata)**

**Habitat type**
- **BARE**
- **KELP**
- **EELGRASS**
- **BEDROCK**

**Gulf of Alaska**

**Alaska**

**Canada**

**Ketchikan**

**Juneau**

**Prince of Wales Island**

**Admiralty Island**

**Chichagof Island**

**Habitat type occurrence**

- **Occurrence by habitat type (%)**
  - **BARE**: 20%
  - **KELP**: 60%
  - **EELGRASS**: 20%
  - **BEDROCK**: 10%

**Catch**
- **n = Seine hauls**
  - BARE: 93
  - KELP: 143
  - EELGRASS: 174
  - BEDROCK: 128

**Summary**
- Total catch: 1,102 fish
- Occurrence: 73 of 538 seine hauls = 13.6%
- Mean fork length: 79.6 mm ± 29.5 (SD); n = 10
- Life stage: juveniles and adults
- FMP species: no

**Mean catch per seine haul**
- **BARE**: 2.0
- **KELP**: 4.0
- **EELGRASS**: 8.0
- **BEDROCK**: 2.0

**Habitat type**
- **BARE**
- **KELP**
- **EELGRASS**
- **BEDROCK**

**Canada**

**Alaska**

**Ketchikan**

**Juneau**

**Prince of Wales Island**

**Admiralty Island**

**Chichagof Island**

**Habitat type occurrence**

- **Occurrence by habitat type (%)**
  - **BARE**: 20%
  - **KELP**: 60%
  - **EELGRASS**: 20%
  - **BEDROCK**: 10%

**Catch**
- **n = Seine hauls**
  - BARE: 93
  - KELP: 143
  - EELGRASS: 174
  - BEDROCK: 128

Total catch: 846 fish
Occurrence: 158 of 538 seine hauls = 29.4%
Mean fork length: 214.1 mm ± 45.5 (SD); n = 26
Life stage: juveniles and adults
FMP species: no

Cottidae
Pacific staghorn sculpin
Leptocottus armatus
### Sample Locations
- 1. Berners Bay
- 2. Echo Cove
- 3. Bridget Cove
- 4. Benjamin Island
- 5. St. James Bay
- 6. Eagle Beach
- 7. Auke Bay
- 8. Funter Bay
- 9. Neka Bay
- 10. Port Althorp
- 11. Yakobi Island
- 12. Tenakee Springs
- 13. Crab Bay
- 14. Hoonah Sound
- 15. Ushk Bay
- 16. Sitkoh Bay
- 17. Chaik Bay
- 18. Pybus Bay
- 19. The Brothers Islands
- 20. Hobart Bay
- 21. Farragut Bay
- 22. Kelp Bay
- 23. St. John Baptista Bay
- 24. Nakwasina Sound
- 25. Katlian Bay
- 26. Middle Island
- 27. Silver Bay
- 28. Eastern Channel
- 29. Biorka Island
- 30. Port Camden
- 31. Kah Sheets Bay
- 32. Anita Bay
- 33. Steamer Bay
- 34. Exchange Cove
- 35. Shakan Bay
- 36. Port Conclusion
- 37. Warm Chuck Inlet
- 38. San Antonio Bay
- 39. Klawock Inlet
- 40. Twelve Mile Arm
- 41. Bostwick Inlet

### Capture Locations
- Gulf of Alaska
- Admiralty Island
- Chichagof Island
- Baranof Island
- Prince of Wales Island
- Juneau
- Ketchikan

### Scorpaenidae Copper rockfish
- *Sebastes caurinus*

### Summary (1998-2004)
- **Total catch:** 767 fish
- **Occurrence:** 88 of 538 seine hauls = 16.4%
- **Mean fork length:** 70.2 mm ± 37.3 (SD); *n* = 171 juveniles
- **FMP species:** yes

<table>
<thead>
<tr>
<th>Habitat type</th>
<th>Mean catch per seine haul</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bare</td>
<td>n = 93</td>
</tr>
<tr>
<td>Kelp</td>
<td>n = 143</td>
</tr>
<tr>
<td>Eelgrass</td>
<td>n = 174</td>
</tr>
<tr>
<td>Bedrock</td>
<td>n = 128</td>
</tr>
</tbody>
</table>

### Mean catch per seine haul
- **Occurrence by habitat type (%):**
  - Bare: 0%
  - Kelp: 2%
  - Eelgrass: 40%
  - Bedrock: 80%

### Copper rockfish
- Life stage: juveniles
- *Scorpaenidae*
- *Sebastes caurinus*

#### Total catch: 767 fish
- **Occurrence:** 88 of 538 seine hauls = 16.4%
- **Mean fork length:** 70.2 mm ± 37.3 (SD); *n* = 171 juveniles
- **FMP species:** yes

#### Catch
- **Catch**
- **Occurrence**
- **Seine hauls**

#### Seine hauls
- **Mean catch per seine haul**
- **Occurrence by habitat type (%)**
  - Bare: 0%
  - Kelp: 2%
  - Eelgrass: 40%
  - Bedrock: 80%
### Sample Locations

1. Berners Bay  
2. Echo Cove  
3. Bridget Cove  
4. Benjamin Island  
5. St. James Bay  
6. Eagle Beach  
7. Auke Bay  
8. Funter Bay  
9. Neka Bay  
10. Port Althorp  
11. Yakobi Island  
12. Tenakee Springs  
13. Crab Bay  
14. Hoonah Sound  
15. Ushk Bay  
16. Sitkoh Bay  
17. Chaik Bay  
18. Pybus Bay  
19. The Brothers Islands  
20. Hobart Bay  
21. Farragut Bay  
22. Kelp Bay  
23. St. John Baptist Bay  
24. Nakwasina Sound  
25. Katlian Bay  
26. Middle Island  
27. Silver Bay  
28. Eastern Channel  
29. Biorka Island  
30. Port Camden  
31. Kah Sheets Bay  
32. Anita Bay  
33. Steamer Bay  
34. Exchange Cove  
35. Shakan Bay  
36. Port Conclusion  
37. Warm Chuck Inlet  
38. San Antonio Bay  
39. Klawock Inlet  
40. Twelve Mile Arm  
41. Bostwick Inlet  
42. Farragut Bay

### Capture Locations

- **Gulf of Alaska**
- **Admiralty Island**
- **Chichagof Island**
- **Baranof Island**
- **Prince of Wales Island**
- **Juneau**
- **Ketchikan**

### Summary (1998-2004)

- **Total catch:** 650 fish
- **Occurrence:** 8 of 538 seine hauls = 1.5%
- **Mean fork length:** 41.6 mm ± 11 (SD); n = 102
- **Life stage:** juveniles
- **FMP species:** yes

### Catch and Occurrence by Habitat Type (%)

<table>
<thead>
<tr>
<th>Habitat Type</th>
<th>Catch</th>
<th>Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bare</td>
<td>1.1%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Kelp</td>
<td>3.3%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Eelgrass</td>
<td>1.1%</td>
<td>1.1%</td>
</tr>
<tr>
<td>Bedrock</td>
<td>2.1%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

- **Mean catch per seine haul:**
  - **BARE:** n = 93
  - **KELP:** n = 143
  - **EELGRASS:** n = 174
  - **BEDROCK:** n = 128

### Mean Catch per Seine Haul

- **Gulf of Alaska**
- **Admiralty Island**
- **Chichagof Island**
- **Baranof Island**
- **Prince of Wales Island**
- **Juneau**
- **Ketchikan**

### Habitat Type

- **BARE**
- **KELP**
- **EELGRASS**
- **BEDROCK**

### Occurrence by Habitat Type (%)

- **Gulf of Alaska**
- **Admiralty Island**
- **Chichagof Island**
- **Baranof Island**
- **Prince of Wales Island**
- **Juneau**
- **Ketchikan**

### Mean Fork Length

- **41.6 mm ± 11 (SD); n = 102**

### Life Stage

- **Juveniles**

### FMP Species

- **Yes**
Great sculpin

Myxocephalus polyacanthocephalus

Total catch: 618 fish
Occurrence: 188 of 538 seine hauls = 34.9%
Mean fork length: 139.1 mm ± 61.5 (SD); n = 40
Life stage: juveniles
FMP species: yes
Osmeridae
Surf smelt
Hypomesus pretiosus

Sample Locations
Capture Locations

1. Berners Bay
2. Echo Cove
3. Bridget Cove
4. Benjamin Island
5. St. James Bay
6. Eagle Beach
7. Auke Bay
8. Funter Bay
9. Neka Bay
10. Port Althorp
11. Yakobi Island
12. Tenakee Springs
13. Crab Bay
14. Hoonah Sound
15. Ushk Bay
16. Sitkoh Bay
17. Chaik Bay
18. Pybus Bay
19. The Brothers Islands
20. Hobart Bay
21. Farragut Bay
22. Kelp Bay
23. St. John Baptst Bay
24. Nakwasina Sound
25. Katlian Bay
26. Middle Island
27. Silver Bay
28. Eastern Channel
29. Biorka Island
30. Port Camden
31. Kah Sheets Bay
32. Anita Bay
33. Steamer Bay
34. Exchange Cove
35. Shakan Bay
36. Port Conclusion
37. Warm Chuck Inlet
38. San Antonio Bay
39. Klawock Inlet
40. Twelve Mile Arm
41. Bostwick Inlet


Total catch: 522 fish
Occurrence: 10 of 538 seine hauls = 1.9%
Mean fork length: 61.3 mm ± 27.4 (SD); n = 62
Life stage: juveniles
FMP species: yes

Mean catch per seine haul

Occurrence by habitat type (%)

Habitat type

Gulf of Alaska

Catch
Occurrence
n = Seine hauls

0 2 4 6 8
0 20 40 60 80 100

n = 93
n = 143
n = 128

BARE
KELP
EELGRASS
BEDROCK

Surf smelt
Total catch: 511 fish
Occurrence: 91 of 538 seine hauls = 16.9%
Mean fork length: 92.8 mm ± 36.2 (SD); n = 251 juveniles
FMP species: yes

Catch
Occurrence
n = Seine hauls

Mean catch per seine haul

Occurrence by habitat type (%)

n = 91 seine hauls

Habitat type

Gulf of Alaska

Sample Locations
Capture Locations

1. Berners Bay
2. Echo Cove
3. Bridget Cove
4. Benjamin Island
5. St. James Bay
6. Eagle Beach
7. Auke Bay
8. Funter Bay
9. Neka Bay
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35. Shakan Bay
36. Port Conclusion
37. Warm Chuck Inlet
38. San Antonio Bay
39. Klawock Inlet
40. Twelve Mile Arm
41. Bostwick Inlet

Rock sole
Lepidopsetta spp.
**Salmonidae**  
**Dolly Varden**  
*Salvelinus malma*

**Summary (1998-2004)**

- **Total catch:** 364 fish  
- **Occurrence:** 59 of 538 seine hauls = 11.0%  
- **Mean fork length:** 196.8 mm ± 58.3 (SD); n = 198 juveniles  
- **FMP species:** no

---

**Catch**  
**Occurrence**  
*n* = Seine hauls

### Habitat type

- **BARE**  
  - Mean catch per seine haul: n = 93

- **KELP**  
  - Mean catch per seine haul: n = 143

- **EELGRASS**  
  - Mean catch per seine haul: n = 174

- **BEDROCK**  
  - Mean catch per seine haul: n = 128

---

**Habitat type**  
**Occurrence by habitat type (%)**  
*n* = 59 seine hauls

- **BARE**
  - Occurrence by habitat type (%): 0%  
  - Mean catch per seine haul: n = 93

- **KELP**
  - Occurrence by habitat type (%): 20%  
  - Mean catch per seine haul: n = 143

- **EELGRASS**
  - Occurrence by habitat type (%): 60%  
  - Mean catch per seine haul: n = 174

- **BEDROCK**
  - Occurrence by habitat type (%): 80%  
  - Mean catch per seine haul: n = 128

---

**Sample Locations**  
**Capture Locations**

1. Berners Bay  
2. Echo Cove  
3. Bridget Cove  
4. Benjamin Island  
5. St. James Bay  
6. Eagle Beach  
7. Auke Bay  
8. Funter Bay  
9. Neika Bay  
10. Port Althorp  
11. Yakobi Island  
12. Tenakee Springs  
13. Crab Bay  
14. Hoonah Sound  
15. Ushk Bay  
16. Sitkoh Bay  
17. Chaik Bay  
18. Pybus Bay  
19. The Brothers Islands  
20. Hobart Bay  
21. Farragut Bay  
22. Kelp Bay  
23. St. John Baptist Bay  
24. Nakwasina Sound  
25. Katlian Bay  
26. Middle Island  
27. Silver Bay  
28. Eastern Channel  
29. Biorka Island  
30. Port Camden  
31. Kah Sheets Bay  
32. Anita Bay  
33. Steamer Bay  
34. Exchange Cove  
35. Shakan Bay  
36. Port Conclusion  
37. Warm Chuck Inlet  
38. San Antonio Bay  
39. Klawock Inlet  
40. Twelve Mile Arm  
41. Bostwick Inlet
Buffalo sculpin
*Enophrys bison*

**Summary (1998-2004)**
- Total catch: 300 fish
- Occurrence: 102 of 538 seine hauls = 19.0%
- Life stage: juveniles
- FMP species: no

**Habitat type**

<table>
<thead>
<tr>
<th>Habitat</th>
<th>Mean catch per seine haul</th>
<th>Occurrence by habitat type (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARE</td>
<td>0.65</td>
<td>20</td>
</tr>
<tr>
<td>KELP</td>
<td>0.35</td>
<td>80</td>
</tr>
<tr>
<td>EELGRASS</td>
<td>0.85</td>
<td>40</td>
</tr>
<tr>
<td>BED ROCK</td>
<td>0.50</td>
<td>60</td>
</tr>
</tbody>
</table>

**Sample Locations**
- 1. Berners Bay
- 2. Echo Cove
- 3. Bridget Cove
- 4. Benjamin Island
- 5. St. James Bay
- 6. Eagle Beach
- 7. Auke Bay
- 8. Funter Bay
- 9. Neka Bay
- 10. Port Althorp
- 11. Yakobi Island
- 12. Tenakee Springs
- 13. Crab Bay
- 14. Hoonah Sound
- 15. Ushk Bay
- 16. Sitkoh Bay
- 17. Chaik Bay
- 18. Pybus Bay
- 19. The Brothers Islands
- 20. Hobart Bay
- 21. Farragut Bay
- 22. Kelp Bay
- 23. St. John Baptista Bay
- 24. Nakwasina Sound
- 25. Katlian Bay
- 26. Middle Island
- 27. Silver Bay
- 28. Eastern Channel
- 29. Biorka Island
- 30. Port Camden
- 31. Kah Sheets Bay
- 32. Anita Bay
- 33. Steamer Bay
- 34. Exchange Cove
- 35. Shakan Bay
- 36. Port Conclusion
- 37. Warm Chuck Inlet
- 38. San Antonio Bay
- 39. Klawock Inlet
- 40. Twelve Mile Arm
- 41. Bostwick Inlet

**Capture Locations**
- Juneau
- Ketchikan

**Cottage**

**Buffalo sculpin**

<table>
<thead>
<tr>
<th>Cottidae</th>
<th>Buffalo sculpin</th>
<th>Enophrys bison</th>
</tr>
</thead>
</table>

**Catch**

- Total catch: 300 fish
- Occurrence: 102 of 538 seine hauls = 19.0%
- Mean fork length: 88.6 mm ± 48.6 (SD); n = 26
- Life stage: juveniles
- FMP species: no

**Catch Occurrence**

- Seine hauls: 102
- BARE: 93
- KELP: 143
- EELGRASS: 174
- BED ROCK: 128

**Occurrence by habitat type (%)**

- BARE: 20%
- KELP: 80%
- EELGRASS: 40%
- BED ROCK: 60%

**Habitat type**

- BARE
- KELP
- EELGRASS
- BED ROCK

**Gulf of Alaska**

**Canada**

**Alaska**

**Ketchikan**

**Buffalo sculpin**
Total catch: 200 fish
Occurrence: 25 of 538 seine hauls = 4.6%
Mean fork length: 82.3 mm ± 16.1 (SD); n = 45
Life stage: juveniles
FMP species: no


Cottidae
Armoredhead sculpin
Gymnocanthus galeatus

Sample Locations
Capture Locations

Table:
<table>
<thead>
<tr>
<th>Habitat type</th>
<th>Catch</th>
<th>Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARE</td>
<td>n = 93</td>
<td></td>
</tr>
<tr>
<td>KELP</td>
<td>n = 143</td>
<td></td>
</tr>
<tr>
<td>EELGRASS</td>
<td>n = 174</td>
<td></td>
</tr>
<tr>
<td>BEDROCK</td>
<td>n = 128</td>
<td></td>
</tr>
</tbody>
</table>

Graph:
- Mean catch per seine haul
  - n = 93
  - n = 143
  - n = 174
  - n = 128

- Occurrence by habitat type (%)
  - n = 25 seine hauls

Admiralty Island
Chichagof Island
Baranof Island
Prince of Wales Island
Juneau
Ketchikan
Canada
Alaska
Gulf of Alaska
Red Irish lord
_Hemilepidotus hemilepidotus_

Summary (1998-2004):
- Total catch: 167 fish
- Occurrence: 65 of 538 seine hauls = 12.1%
- Mean fork length: 148.6 mm ± 40.6 (SD); n = 10
- Life stage: juveniles
- FMP species: yes

Mean catch per seine haul (n = 65 seine hauls):
- Bare: 0.00
- Kelp: 0.20
- Eelgrass: 0.40
- Bedrock: 0.80

Occurrence by habitat type (n = 65 seine hauls):
- Bare: 0
- Kelp: 0
- Eelgrass: 100
- Bedrock: 0

Habitat types:
- Bare
- Kelp
- Eelgrass
- Bedrock

Sample Locations
Capture Locations
1. Berners Bay 22. Kelp Bay
2. Echo Cove 23. St. John Baptista Bay
4. Benjamin Island 25. Katlian Bay
5. St. James Bay 26. Middle Island
6. Eagle Beach 27. Silver Bay
8. Funker Bay 29. Biorka Island
10. Port Althorp 31. Kah Sheets Bay
11. Yakobi Island 32. Anita Bay
12. Tenakee Springs 33. Steamer Bay
13. Crab Bay 34. Exchange Cove
14. Hoonah Sound 35. Shakan Bay
15. Ushk Bay 36. Port Conclusion
16. Sitkoh Bay 37. Warm Chuck Inlet
17. Chaik Bay 38. San Antonio Bay
19. The Brothers Islands 40. Twelve Mile Arm
20. Hobart Bay 41. Bostwick Inlet
21. Farragut Bay
Sample Locations
Capture Locations
1. Berners Bay  
2. Echo Cove  
3. Bridget Cove  
4. Benjamin Island  
5. St. James Bay  
6. Eagle Beach  
7. Auke Bay  
8. Funter Bay  
9. Neka Bay  
10. Port Althorp  
11. Yakobi Island  
12. Tenakee Springs  
13. Crab Bay  
14. Hoonah Sound  
15. Ushk Bay  
16. Sitkoh Bay  
17. Chaik Bay  
18. Pybus Bay  
19. The Brothers Islands  
20. Hobart Bay  
21. Farragut Bay  
22. Kelp Bay  
23. St. John Baptist Bay  
24. Nakwasina Sound  
25. Katlian Bay  
26. Middle Island  
27. Silver Bay  
28. Eastern Channel  
29. Biorka Island  
30. Port Camden  
31. Kah Sheets Bay  
32. Anita Bay  
33. Steamer Bay  
34. Exchange Cove  
35. Shakan Bay  
36. Port Conclusion  
37. Warm Chuck Inlet  
38. San Antonio Bay  
39. Klawock Inlet  
40. Twelve Mile Arm  
41. Bostwick Inlet  

Black rockfish
Sebastes melanops

Total catch: 167 fish
Occurrence: 28 of 538 seine hauls = 5.2%
Mean fork length: 119.6 mm ± 46.3 (SD); n = 46
Life stage: juveniles
FMP species: no

<table>
<thead>
<tr>
<th>Habitat type</th>
<th>Catch per seine haul</th>
<th>Occurrence by habitat type (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARE</td>
<td>n = 93</td>
<td>n = 174</td>
</tr>
<tr>
<td>KELP</td>
<td>n = 143</td>
<td>n = 174</td>
</tr>
<tr>
<td>EELGRASS</td>
<td>n = 128</td>
<td>n = 174</td>
</tr>
<tr>
<td>BEDROCK</td>
<td>n = 174</td>
<td>n = 174</td>
</tr>
</tbody>
</table>

Gulf of Alaska
Hexagrammidae
Kelp greenling
*Hexagrammos decagrammus*

**Summary (1998-2004):**
- Total catch: 166 fish
- Occurrence: 70 of 538 seine hauls = 13.0%
- Mean fork length: 135.2 mm ± 51.7 (SD); n = 25 juveniles
- FMP species: no

**Occurrence by habitat type (%):**
- BARE: n = 93
- KELP: n = 143
- EELGRASS: n = 174
- BED ROCK: n = 128

**Mean catch per seine haul:**
- BARE: 0.00
- KELP: 0.00
- EELGRASS: 0.00
- BED ROCK: 0.00

---

**Sample Locations**
- 1. Berners Bay
- 2. Echo Cove
- 3. Bridget Cove
- 4. Benjamin Island
- 5. St. James Bay
- 6. Eagle Beach
- 7. Auke Bay
- 8. Funter Bay
- 9. Neka Bay
- 10. Port Althorp
- 11. Yakobi Island
- 12. Tenakee Springs
- 13. Crab Bay
- 14. Hoonah Sound
- 15. Ushk Bay
- 16. Silkoh Bay
- 17. Chilk Bay
- 18. Pybus Bay
- 19. The Brothers Islands
- 20. Hobart Bay
- 21. Farragut Bay
- 22. Kelp Bay
- 23. St. John Baptis Bay
- 24. Nakwasina Sound
- 25. Katlian Bay
- 26. Middle Island
- 27. Silver Bay
- 28. Eastern Channel
- 29. Biora Island
- 30. Port Camden
- 31. Kah Sheets Bay
- 32. Anita Bay
- 33. Steamer Bay
- 34. Exchange Cove
- 35. Shakan Bay
- 36. Port Conclusion
- 37. Warm Chud Inlet
- 38. San Antonio Bay
- 39. Klawock Inlet
- 40. Twelve Mile Arm
- 41. Bostwick Inlet

---

**Capture Locations**
- Alaska
- Canada
- British Columbia
- Washington

---

**Hexagrammidae**

**Kelp greenling**

*Hexagrammos decagrammus*
### Summary (1998-2004)

- **Total catch:** 166 fish
- **Occurrence:** 72 of 538 seine hauls = 13.4%
- **Mean fork length:** 205 mm ± 64.8 (SD); n = 42
- **Life stage:** juveniles and adults
- **FMP species:** no

### Habitat Type

<table>
<thead>
<tr>
<th>Habitat Type</th>
<th>Catch</th>
<th>Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARE</td>
<td>n = 93</td>
<td></td>
</tr>
<tr>
<td>KELP</td>
<td>n = 143</td>
<td></td>
</tr>
<tr>
<td>EELGRASS</td>
<td>n = 174</td>
<td></td>
</tr>
<tr>
<td>BEDROCK</td>
<td>n = 128</td>
<td></td>
</tr>
</tbody>
</table>

### Mean Catch per Seine Haul

- **Occurrence by habitat type (%)**

### Sample Locations

- Berners Bay
- Echo Cove
- Bridget Cove
- Benjamin Island
- St. James Bay
- Eagle Beach
- Auke Bay
- Funter Bay
- Neka Bay
- Port Althorp
- Yakobi Island
- Tenakee Springs
- Crab Bay
- Hoonah Sound
- Ushk Bay
- Sitkoh Bay
- Chaik Bay
- Pybus Bay
- The Brothers Islands
- Hobart Bay
- Farragut Bay
- Kelp Bay
- St. John Baptst Bay
- Nakwasina Sound
- Katlian Bay
- Middle Island
- Silver Bay
- Eastern Channel
- Biorka Island
- Port Camden
- Kah Sheets Bay
- Anita Bay
- Steamer Bay
- Exchange Cove
- Shakan Bay
- Port Conclusion
- Warm Chuds Inlet
- San Antonio Bay
- Klawock Inlet
- Twelve Mile Arm
- Bostwick Inlet

### Catch and Occurrence

- **Type:** Hexagrammidae
- **Species:** Whitespotted greenling (Hexagrammos stelleri)

### Map

- **Habitat Type:** BARE, KELP, EELGRASS, BEDROCK
- **Gulf of Alaska**
- **Canada**
- **Alaska**
- **Juneau**
- **Ketchikan**

---

The map shows sample locations and capture locations across different regions in Alaska, including major bodies of water and coastal areas.
Sample Locations
Capture Locations

Total catch: 163 fish
Occurrence: 20 of 538 seine hauls = 3.7%
Mean fork length: 85.6 mm ± 13.2 (SD); n = 5
Life stage: juveniles
FMP species: no

Mean catch per seine haul

Occurrence by habitat type (%)
n = 20 seine hauls

Habitat type:
- **BARE**
- **KELP**
- **EELGRASS**
- **BEDROCK**

- **Catch**
- **Occurrence**

n = Seine hauls

1. Berners Bay
2. Echo Cove
3. Bridget Cove
4. Benjamin Island
5. St. James Bay
6. Eagle Beach
7. Auke Bay
8. Funter Bay
9. Neka Bay
10. Port Althorp
11. Yakobi Island
12. Tenakee Springs
13. Crab Bay
14. Hoonah Sound
15. Ushk Bay
16. Sitkoh Bay
17. Chaik Bay
18. Pybus Bay
19. The Brothers Islands
20. Hobart Bay
21. Farragut Bay
22. Kelp Bay
23. St. John Baptists Bay
24. Nakwasina Sound
25. Katlian Bay
26. Middle Island
27. Silver Bay
28. Eastern Channel
29. Biorka Island
30. Port Camden
31. Kah Sheets Bay
32. Anita Bay
33. Steamer Bay
34. Exchange Cove
35. Shakan Bay
36. Port Conclusion
37. Warm Chuck Inlet
38. San Antonio Bay
39. Klawock Inlet
40. Twelve Mile Arm
41. Bostwick Inlet

Agonidae
Sturgeon poacher
*Podothecus accipenserinus*
**Blackeye goby**

*Rhinogobiops nicholsii*

**Sample Locations**

1. Berners Bay  
2. Echo Cove  
3. Bridget Cove  
4. Benjamin Island  
5. St. James Bay  
6. Eagle Beach  
7. Auke Bay  
8. Funter Bay  
9. Neka Bay  
10. Port Althorp  
11. Yakobi Island  
12. Tenakee Springs  
13. Crab Bay  
14. Hoonah Sound  
15. Ushk Bay  
16. Sitkoh Bay  
17. Chaik Bay  
18. Pybus Bay  
19. The Brothers Islands  
20. Hobart Bay  
21. Farragut Bay

**Capture Locations**

22. Kelp Bay  
23. St. John Baptism Bay  
24. Nakwasina Sound  
25. Katlian Bay  
26. Middle Island  
27. Silver Bay  
28. Eastern Channel  
29. Biorka Island  
30. Port Camden  
31. Kah Sheets Bay  
32. Anita Bay  
33. Steamer Bay  
34. Exchange Cove  
35. Shakan Bay  
36. Port Conclusion  
37. Warm Chuck Inlet  
38. San Antonio Bay  
39. Klawock Inlet  
40. Twelve Mile Arm  
41. Bostwick Inlet

**Summary (1998-2004)**

- Total catch: 88 fish
- Occurrence: 18 of 538 seine hauls = 3.3%
- Mean fork length: 55 mm ± 0 (SD); n = 1
- Life stage: juveniles
- FMP species: no

**Mean catch per seine haul**

- **BARE**
  - n = 93
- **KELP**
  - n = 143
- **EELGRASS**
  - n = 174
- **BEDROCK**
  - n = 128

**Occurrences by habitat type (%)**

- BARE: 27%
- KELP: 23%
- EELGRASS: 33%
- BEDROCK: 23%

**Habitat type**

- Canada
- Alaska
- Gulf of Alaska
- Canada
- Ketchikan

**Blackeye goby**

- Gobiidae
- *Rhinogobiops nicholsii*
Starry flounder
*Platichthys stellatus*

**Sample Locations**

**Capture Locations**

1. Berners Bay
2. Echo Cove
3. Bridget Cove
4. Benjamin Island
5. St. James Bay
6. Eagle Beach
7. Auke Bay
8. Funter Bay
9. Neka Bay
10. Port Althorp
11. Yakobi Island
12. Tenakee Springs
13. Crab Bay
14. Hoonah Sound
15. Ushk Bay
16. Sitkoh Bay
17. Chaik Bay
18. Pybus Bay
19. The Brothers Islands
20. Hobart Bay
21. Farragut Bay
22. Kelp Bay
23. St. John Baptist Bay
24. Nakwasina Sound
25. Katlian Bay
26. Middle Island
27. Silver Bay
28. Eastern Channel
29. Biorka Island
30. Port Camden
31. Kah Sheets Bay
32. Anita Bay
33. Steamer Bay
34. Exchange Cove
35. Shakan Bay
36. Port Conclusion
37. San Antonio Bay
38. Warm Chuck Inlet
39. Klawock Inlet
40. Twelve Mile Arm
41. Bostwick Inlet

**Summary (1998-2004)**

- Total catch: 86 fish
- Occurrence: 25 of 538 seine hauls = 4.6%
- Mean fork length: 231.4 mm ± 111.2 (SD); n = 23
- Life stage: juveniles and adults
- FMP species: yes

**Habitat type**

- BARE
- KELP
- EELGRASS
- BEDROCK

**Mean catch per seine haul**

- n = 93
- n = 143
- n = 174
- n = 128

**Occurrence by habitat type (%)**

- n = 25 seine hauls

**Gulf of Alaska**

**Canada**

**Alaska**

**Juneau**

**Ketchikan**
Sample Locations
Capture Locations

Paralichthyidae
Pacific sanddab
Citharichthys sordidus

Summary (1998-2004):
Total catch: 82 fish
Occurrence: 27 of 538 seine hauls = 5.0%
Mean fork length: 74.5 mm ± 29 (SD); n = 20
Life stage: juveniles
FMP species: no

Mean catch per seine haul

Occurrence by habitat type (%)

Habitat type

Gulf of Alaska

Canada
Alaska
Juneau
Ketchikan

1. Berners Bay 22. Kelp Bay
2. Echo Cove 23. St. John Baptista Bay
4. Benjamin Island 25. Katlian Bay
5. St. James Bay 26. Middle Island
6. Eagle Beach 27. Silver Bay
8. Funter Bay 29. Biorka Island
10. Port Althorp 31. Kah Sheets Bay
11. Yakobi Island 32. Anita Bay
12. Tenakee Springs 33. Steamer Bay
13. Crab Bay 34. Exchange Cove
14. Hoonah Sound 35. Shakan Bay
15. Ushk Bay 36. Port Conclusion
16. Sitkoh Bay 37. Warm Chuck Inlet
17. Chalck Bay 38. San Antonio Bay
19. The Brothers Islands 40. Twelve Mile Arm
20. Hobart Bay 41. Bostwick Inlet
21. Farragut Bay

Paralichthyidae
Pacific sanddab
Citharichthys sordidus

Canada
Alaska
Juneau
Ketchikan

Summary (1998-2004):
Total catch: 82 fish
Occurrence: 27 of 538 seine hauls = 5.0%
Mean fork length: 74.5 mm ± 29 (SD); n = 20
Life stage: juveniles
FMP species: no

Mean catch per seine haul

Occurrence by habitat type (%)

Habitat type

Gulf of Alaska

Canada
Alaska
Juneau
Ketchikan

Total catch: 76 fish
Occurrence: 25 of 538 seine hauls = 4.6%
Mean fork length: 105.2 mm ± 17.6 (SD); n = 36 juveniles
FMP species: no

---

Sample Locations
Capture Locations

1. Berners Bay
2. Echo Cove
3. Bridget Cove
4. Benjamin Island
5. St. James Bay
6. Eagle Beach
7. Auke Bay
8. Funter Bay
9. Neka Bay
10. Port Althorp
11. Yakobi Island
12. Tenakee Springs
13. Crab Bay
14. Hoonah Sound
15. Ushk Bay
16. Sitkoh Bay
17. Chaik Bay
18. Pybus Bay
19. The Brothers Islands
20. Hobart Bay
21. Farragut Bay
22. Kelp Bay
23. St. John Baptat Bay
24. Nakwasina Sound
25. Katlian Bay
26. Middle Island
27. Silver Bay
28. Eastern Channel
29. Biorka Island
30. Port Camden
31. Kah Sheets Bay
32. Anita Bay
33. Steamer Bay
34. Exchange Cove
35. Shakan Bay
36. Port Conclusion
37. Warm Chuck Inlet
38. San Antonio Bay
39. Klawock Inlet
40. Twelve Mile Arm
41. Bostwick Inlet

---

Habitat type

- BARE
- KELP
- EELGRASS
- BEDROCK

Mean catch per seine haul

- n = 93
- n = 143
- n = 174
- n = 128

Occurrences by habitat type (%)

- n = 25 seine hauls
- n = 93
- n = 143
- n = 174
- n = 128

---

Hexagrammidae
Lingcod
Ophiodon elongatus

---

Gulf of Alaska
Canada
Alaska
Ketchikan
Juneau
### Summary (1998-2004)

- **Total catch:** 53 fish
- **Occurrence:** 17 of 538 seine hauls = 3.2%
- **Mean fork length:** 102.3 mm ± 42.8 (SD); n = 15
- **Life stage:** juveniles
- **FMP species:** yes

#### Catch and Occurrence

- **Mean catch per seine haul:**
  - BARE: n = 93
  - KELP: n = 143
  - EELGRASS: n = 174
  - BEDROCK: n = 128

- **Occurrences by habitat type (%):**
  - BARE: n = 17 seine hauls
  - KELP: n = 174
  - EELGRASS: n = 174
  - BEDROCK: n = 128

---

### Locations

- **Sample Locations**
- **Capture Locations**

1. Berners Bay
2. Echo Cove
3. Bridget Cove
4. Benjamin Island
5. St. James Bay
6. Eagle Beach
7. Auke Bay
8. Funter Bay
9. Neka Bay
10. Port Althorp
11. Yakobi Island
12. Tenakee Springs
13. Crab Bay
14. Hoonah Sound
15. Ushk Bay
16. Sitkoh Bay
17. Chaik Bay
18. Pybus Bay
19. The Brothers Islands
20. Hobart Bay
21. Farragut Bay
22. Kelp Bay
23. St. John Baptiste Bay
24. Nakwasina Sound
25. Kaitlian Bay
26. Middle Island
27. Silver Bay
28. Eastern Channel
29. Biorka Island
30. Port Camden
31. Kah Sheets Bay
32. Anita Bay
33. Steamer Bay
34. Exchange Cove
35. Shakan Bay
36. Port Conclusion
37. Warm Chuck Inlet
38. Klawock Inlet
39. San Antonio Bay
40. Twelve Mile Arm
41. Bostwick Inlet

- Total catch: 51 fish
- Occurrence: 11 of 538 seine hauls = 2.0%
- Mean fork length: not measured
- Life stage: juveniles
- FMP species: no

Sample Locations:
1. Berners Bay  22. Kelp Bay
2. Echo Cove    23. St. John Baptista Bay
4. Benjamin Island 25. Katlian Bay
5. St. James Bay 26. Middle Island
6. Eagle Beach 27. Silver Bay
8. Funter Bay   29. Biorka Island
10. Port Althorp 31. Kah Sheets Bay
11. Yakobi Island 32. Anita Bay
12. Tenakee Springs 33. Steamer Bay
13. Crab Bay    34. Exchange Cove
14. Hoonah Sound 35. Shakan Bay
15. Ushk Bay    36. Port Conclusion
16. Sitkoh Bay   37. Warm Chuck Inlet
17. Chaik Bay    38. San Antonio Bay
19. The Brothers Islands 40. Twelve Mile Arm
20. Hobart Bay 41. Bostwick Inlet
21. Farragut Bay
Hexagrammidae
Masked greenling
*Hexagrammos octogrammus*

**Summary (1998-2004)**
- Total catch: 42 fish
- Occurrence: 18 of 538 seine hauls = 3.3%
- Mean fork length: 197.1 mm ± 32.4 (SD); n = 16 juveniles and adults
- FMP species: no

**Catch by habitat type (%)**
- Bare: n = 93
- Kelp: n = 143
- Eelgrass: n = 174
- Bedrock: n = 128

**Occurrences by habitat type (%)**
- Bare: n = 18 seine hauls
- Kelp: n = 18 seine hauls
- Eelgrass: n = 18 seine hauls
- Bedrock: n = 18 seine hauls

**Sample Locations**
1. Berners Bay 22. Kelp Bay
2. Echo Cove 23. St. John Baptist Bay
4. Benjamin Island 25. Katlian Bay
5. St. James Bay 26. Middle Island
6. Eagle Beach 27. Silver Bay
8. Funter Bay 29. Biorka Island
9. Heka Bay 30. Port Camden
10. Port Althorp 31. Kah Sheets Bay
11. Yakobi Island 32. Anita Bay
12. Tenakee Springs 33. Steamer Bay
13. Crab Bay 34. Exchange Cove
14. Hoonah Sound 35. Shakan Bay
15. Ushk Bay 36. Port Conclusion
16. Sitkoh Bay 37. Warm Chuck Inlet
17. Chaik Bay 38. San Antonio Bay
19. The Brothers Islands 40. Twelve Mile Arm
20. Hobart Bay 41. Bostwick Inlet
21. Farragut Bay

**Capture Locations**
- Juneau
- Ketchikan
- Canada
- Alaska

**Hexagrammos octogrammus**
- Life stage: juveniles and adults
- Mean fork length: 197.1 mm ± 32.4 (SD); n = 16

**Catch**
- Occurrence: 18 of 538 seine hauls = 3.3%

**Fishing Methods**
- Seine hauls

**Habitat Types**
- Bare
- Kelp
- Eelgrass
- Bedrock

**Mean Catch per Seine Haul**

**FMP Species**
- No

**Data Representation**
- Total catch: 42 fish
- Occurrence: 18 of 538 seine hauls = 3.3%
- Mean fork length: 197.1 mm ± 32.4 (SD); n = 16 juveniles and adults
- Life stage: juveniles and adults

**Fishing Methods**
- Seine hauls

**Habitat Types**
- Bare
- Kelp
- Eelgrass
- Bedrock

**Mean Catch per Seine Haul**

**FMP Species**
- No
Hexagrammidae
Painted greenling
Oxylebius pictus

Total catch: 39 fish
Occurrence: 16 of 538 seine hauls = 3.0%
Mean fork length: 211 mm ± 0 (SD); n = 1
Life stage: juveniles and adults
FMP species: no

Mean catch per seine haul

Occurrences by habitat type (%)
n = 16 seine hauls

Habitat type
BARE KELP EELGRASS BEDROCK

Catch
Occurrence
n = Seine hauls

<table>
<thead>
<tr>
<th>Habitat type</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARE</td>
<td>n = 93</td>
<td>58%</td>
</tr>
<tr>
<td>KELP</td>
<td>n = 143</td>
<td>89%</td>
</tr>
<tr>
<td>EELGRASS</td>
<td>n = 174</td>
<td>100%</td>
</tr>
<tr>
<td>BEDROCK</td>
<td>n = 128</td>
<td>79%</td>
</tr>
</tbody>
</table>
Hexagrammidae
Rock greenling
Hexagrammos lagocephalus

Total catch: 38 fish
Occurrence: 17 of 538 seine hauls = 3.2%
Mean fork length: 190.8 mm ± 23.3 (SD); n = 12
Life stage: juveniles
FMP species: no

Mean catch per seine haul:
- BARE: n = 93
- KELP: n = 143
- EELGRASS: n = 174
- BEDROCK: n = 128

Occurrences by habitat type (%): 17 seine hauls
- BARE: 0.00%
- KELP: 0.00%
- EELGRASS: 100%
- BEDROCK: 0.00%
Sample Locations

Capture Locations

1. Berners Bay 22. Kelp Bay
4. Benjamin Island 25. Katlian Bay
5. St. James Bay 26. Middle Island
6. Eagle Beach 27. Silver Bay
8. Funter Bay 29. Biorka Island
10. Port Althorp 31. Kah Sheets Bay
11. Yakobi Island 32. Anita Bay
12. Tenakee Springs 33. Steamer Bay
13. Crab Bay 34. Exchange Cove
14. Hoonah Sound 35. Shakan Bay
15. Ushk Bay 36. Port Conclusion
16. Sitkoh Bay 37. Warm Chuck Inlet
17. Chaik Bay 38. San Antonio Bay
19. The Brothers Islands 40. Twelve Mile Arm
20. Hobart Bay 41. Bostwick Inlet
21. Farragut Bay

Cottidae
Leister sculpin
Enophrys lucasi


<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
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<tbody>
<tr>
<td>Total catch</td>
<td>32 fish</td>
</tr>
<tr>
<td>Occurrence</td>
<td>17 of 538 seine hauls = 3.2%</td>
</tr>
<tr>
<td>Mean fork length</td>
<td>140.2 mm ± 49.9 (SD); n = 13</td>
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<tr>
<td>Life stage</td>
<td>juveniles and adults</td>
</tr>
<tr>
<td>FMP species</td>
<td>no</td>
</tr>
</tbody>
</table>

Mean catch per seine haul

<table>
<thead>
<tr>
<th>Habitat type</th>
<th>Occurrences by habitat type (%)</th>
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</thead>
<tbody>
<tr>
<td>BARE</td>
<td>n = 93</td>
</tr>
<tr>
<td>KELP</td>
<td>n = 143</td>
</tr>
<tr>
<td>EELGRASS</td>
<td>n = 174</td>
</tr>
<tr>
<td>BEDROCK</td>
<td>n = 128</td>
</tr>
</tbody>
</table>

Cottidae
Leister sculpin
Enophrys lucasi

Gulf of Alaska

Juneau

Canada

Alaska

Ketchikan

Leister sculpin

Total catch: 32 fish
Occurrence: 17 of 538 seine hauls = 3.2%
Mean fork length: 140.2 mm ± 49.9 (SD); n = 13
Life stage: juveniles and adults
FMP species: no
Cutthroat trout
Oncorhynchus clarkii

Total catch: 27 fish
Occurrence: 13 of 538 seine hauls = 2.4%
Mean fork length: 217.8 mm ± 55.8 (SD); n = 12
Life stage: juveniles
FMP species: no

Catch
• Occurrence
n = Seine hauls

Occurrences by habitat type (%)
- Bare
- Kelp
- Eelgrass
- Bedrock

Mean catch per seine haul
n = 93
n = 143
n = 174
n = 128

- Gulf of Alaska
- Canada
- Alaska
- Ketchikan
- Juneau

Sample Locations
Capture Locations
1. Berners Bay 22. Kelp Bay
2. Echo Cove 23. St. John Baptist Bay
4. Benjamin Island 25. Katlian Bay
5. St. James Bay 26. Middle Island
6. Eagle Beach 27. Silver Bay
8. Funter Bay 29. Biorka Island
10. Port Althorp 31. Kah Sheets Bay
11. Yakobi Island 32. Anita Bay
12. Tenakee Springs 33. Steamer Bay
13. Crab Bay 34. Exchange Cove
14. Hoonah Sound 35. Shakan Bay
15. Ushk Bay 36. Port Conclusion
16. Sitkoh Bay 37. Warm Chuck Inlet
17. Silkoh Bay 38. San Antonio Bay
19. The Brothers Islands 40. Twelve Mile Arm
20. Hobart Bay 41. Bostwick Inlet
21. Farragut Bay
**Scorpaenidae**

**Dusky rockfish**

*Sebastes ciliatus*

---

**Summary (1998-2004)**

- **Total catch:** 24 fish
- **Occurrence:** 10 of 538 seine hauls = 1.9%
- **Mean fork length:** 105.7 mm ± 18.3 (SD); n = 11
- **Life stage:** juveniles
- **FMP species:** yes

---

**Sample Locations**

1. Berners Bay  
2. Echo Cove  
3. Bridget Cove  
4. Benjamin Island  
5. St. James Bay  
6. Eagle Beach  
7. Auke Bay  
8. Funter Bay  
9. Neka Bay  
10. Port Althorp  
11. Yakobi Island  
12. Tenakee Springs  
13. Crab Bay  
14. Hoonah Sound  
15. Ushk Bay  
16. Sitkoh Bay  
17. Chaik Bay  
18. Pybus Bay  
19. The Brothers Islands  
20. Hobart Bay  
21. Farragut Bay  
22. Kelp Bay  
23. St. John Baptis Bay  
24. Nakwasina Sound  
25. Katlian Bay  
26. Middle Island  
27. Silver Bay  
28. Eastern Channel  
29. Biorka Island  
30. Port Camden  
31. Kah Sheets Bay  
32. Anita Bay  
33. Steamer Bay  
34. Exchange Cove  
35. Shakan Bay  
36. Port Conclusion  
37. Warm Chuck Inlet  
38. San Antonio Bay  
39. Klawock Inlet  
40. Twelve Mile Arm  
41. Bostwick Inlet  

---

**Capture Locations**

Gulf of Alaska  
Admiralty Island  
Chichagof Island  
Baranof Island  
Prince of Wales Island  
Juneau  
Ketchikan  

---

**Occurrence by habitat type (%)**

<table>
<thead>
<tr>
<th>Habitat Type</th>
<th>Occurrences</th>
</tr>
</thead>
<tbody>
<tr>
<td>BARE</td>
<td>93</td>
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<tr>
<td>KELP</td>
<td>143</td>
</tr>
<tr>
<td>EELGRASS</td>
<td>174</td>
</tr>
<tr>
<td>BEDROCK</td>
<td>128</td>
</tr>
</tbody>
</table>

---

**Mean catch per seine haul**

- Occurrences: 100%  
- Seine hauls: n = 10

---

**Catch**  
**Occurrence**  
**n = Seine hauls**

---

**Habitat type**

- BARE  
- KELP  
- EELGRASS  
- BEDROCK  

---

**Gulf of Alaska**
Total catch: 20 fish
Occurrence: 14 of 538 seine hauls = 2.6%
Mean fork length: 152 mm ± 9.9 (SD); n = 2
Life stage: juveniles and adults
FMP species: no

Mean catch per seine haul
Occurrences by habitat type (%)

Habitat type
BARE KELP EELGRASS BEDROCK

0.00 0.20 0.40 0.60 0.80 1.00

n = 93 n = 143 n = 174 n = 128

Gulf of Alaska

Sample Locations
Capture Locations
1. Berners Bay 22. Kelp Bay
2. Echo Cove 23. St. John Baptiste Bay
4. Benjamin Island 25. Katlian Bay
5. St. James Bay 26. Middle Island
6. Eagle Beach 27. Silver Bay
8. Funter Bay 29. Biorka Island
10. Port Althorp 31. Kah Sheets Bay
11. Yakobi Island 32. Anita Bay
12. Tenakee Springs 33. Steamer Bay
13. Crab Bay 34. Exchange Cove
14. Hoonah Sound 35. Shakan Bay
15. Ushk Bay 36. Port Conclusion
16. Sitkoh Bay 37. Warm Chuck Inlet
17. Chaik Bay 38. San Antonio Bay
19. The Brothers Islands 40. Twelve Mile Arm
20. Hobart Bay 41. Bostwick Inlet
21. Farragut Bay

Hemitripteridae
Crested sculpin
Blepsias bilobus
<table>
<thead>
<tr>
<th>Sample Locations</th>
<th>Capture Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Berners Bay</td>
<td>22. Kelp Bay</td>
</tr>
<tr>
<td>2. Echo Cove</td>
<td>23. St. John Baptist Bay</td>
</tr>
<tr>
<td>4. Benjamin Island</td>
<td>25. Katlian Bay</td>
</tr>
<tr>
<td>5. St. James Bay</td>
<td>26. Middle Island</td>
</tr>
<tr>
<td>6. Eagle Beach</td>
<td>27. Silver Bay</td>
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<tr>
<td>8. Funter Bay</td>
<td>29. Biorka Island</td>
</tr>
<tr>
<td>10. Port Althorp</td>
<td>31. Kah Sheets Bay</td>
</tr>
<tr>
<td>11. Yakobi Island</td>
<td>32. Anita Bay</td>
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<tr>
<td>12. Tenakee Springs</td>
<td>33. Steamer Bay</td>
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<tr>
<td>13. Crab Bay</td>
<td>34. Exchange Cove</td>
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<td>14. Hoonah Sound</td>
<td>35. Shakan Bay</td>
</tr>
<tr>
<td>15. Ushk Bay</td>
<td>36. Port Conclusion</td>
</tr>
<tr>
<td>16. Sitkoh Bay</td>
<td>37. Warm Chuck Inlet</td>
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<tr>
<td>17. Skokoh Bay</td>
<td>38. San Antonio Bay</td>
</tr>
<tr>
<td>19. The Brothers Islands</td>
<td>40. Twelve Mile Arm</td>
</tr>
<tr>
<td>20. Hobart Bay</td>
<td>41. Bostwick Inlet</td>
</tr>
<tr>
<td>21. Farragut Bay</td>
<td></td>
</tr>
</tbody>
</table>

### Summary (1998-2004)

- **Total catch:** 20 fish
- **Occurrence:** 14 of 538 seine hauls = 2.6%
- **Mean fork length:** 60 mm ± 0 (SD); n = 1
- **Life stage:** juveniles
- **FMP species:** yes

---

**English sole**

*Parophrys vetulus*

- **Family:** Pleuronectidae
- **Description:** English sole

---

**Graph:**

- **X-axis:** Mean catch per seine haul
- **Y-axis:** Occurrences by habitat type (%)
- **Legend:**
  - Catch
  - Occurrence
  - n = Seine hauls

- **Habitat types:**
  - BARE
  - KELP
  - EELGRASS
  - BEDROCK

- **Data points:**
  - n = 93
  - n = 143
  - n = 174
  - n = 128
Tadpole sculpin
*Psychrolutes paradoxus*

### Summary (1998-2004)
- **Total catch:** 19 fish
- **Occurrence:** 3 of 538 seine hauls = 0.6%
- **Mean fork length:** not measured
- **Life stage:** juveniles
- **FMP species:** no

---

**Catch**
- *n = 93*
- *n = 143*
- *n = 174*
- *n = 128*

**Occurrences by habitat type (%)**
- **n = 3 seine hauls**

---

**Habitat type**
- BARE
- KELP
- EELGRASS
- BEDROCK

---

**Sample Locations**

1. Berners Bay
2. Echov Cove
3. Bridget Cove
4. Benjamin Island
5. St. James Bay
6. Eagle Beach
7. Auke Bay
8. Funter Bay
9. Neka Bay
10. Port Althorp
11. Yakobi Island
12. Tenakee Springs
13. Crab Bay
14. Hoonah Sound
15. Ushk Bay
16. Sitkoh Bay
17. Chaik Bay
18. Pybus Bay
19. The Brothers Islands
20. Hobart Bay
21. Farragut Bay
22. Kelp Bay
23. St. John Baptist Bay
24. Nakwasina Sound
25. Katlian Bay
26. Middle Island
27. Silver Bay
28. Eastern Channel
29. Biorka Island
30. Port Camden
31. Kah Sheets Bay
32. Anita Bay
33. Steamer Bay
34. Exchange Cove
35. Shakan Bay
36. Port Conclusion
37. Warm Chuck Inlet
38. San Antonio Bay
39. Klawock Inlet
40. Twelve Mile Arm
41. Bostwick Inlet

---

**Capture Locations**

- **Gulf of Alaska**
- **Admiralty Island**
- **Chichagof Island**
- **Baranof Island**
- **Prince of Wales Island**
- **Juneau**
- **Ketchikan**

---

**Psychrolutidae**

- **Tadpole sculpin**
  - *Psychrolutes paradoxus*

- **Catch**
  - **Occurrences**

- **Seine hauls**
  - **Total catch:** 19 fish
  - **Occurrence:** 3 of 538 seine hauls = 0.6%
  - **Mean fork length:** not measured
  - **Life stage:** juveniles
  - **FMP species:** no
DISCUSSION

Seventy-nine fish species, many of commercial importance, use shallow nearshore habitats in southeastern Alaska. Commercially important species that we captured included walleye pollock, Pacific herring, chum salmon, and pink salmon. Most of these are target species in either a groundfish or salmon FMP in Alaska (North Pacific Fishery Management Council 1998, 2002). Because we captured mostly juveniles, it appears that nearshore habitats may be particularly important nursery and rearing areas for many species. Abundant non-commercial species in nearshore habitats included Pacific sand lance and Pacific sandfish; these species are important prey for sea birds, marine mammals, and other fishes (Paul et al. 1997, Robards et al. 1999). Similar fish assemblages in the habitat types that we sampled have been observed in other areas of Alaska (Bailey et al. 1983, Orsi and Ladingham 1985, Laur and Haldorson 1996, Dean et al. 2000).

For 30 of the 50 most abundant species, eelgrass was utilized more than any other habitat type based on catch. Eelgrass offers a complex three-dimensional environment that provides food and shelter for fish that is otherwise lacking on bare or sparsely covered bottoms (Heck and Orth 1980; Spalding et al. 2003). Higher abundance of fish in eelgrass than in other habitat types has been reported in many areas (Briggs and O’Connor 1971, Orth and Heck 1980, Orth et al. 1984, Lubbers et al. 1990, Sogard and Able 1991, Connolly 1994, Lazzari and Tupper 2002, Wyda et al. 2002). Some species, however, exhibited a preference for habitats other than eelgrass. For example, most flatfish were captured on bare substrates, walleye pollock in rocky areas with kelp, and Pacific sandfish near bedrock outcrops. Thus, shallow nearshore waters provide a
mosaic of habitat types, all of which are used by several species with different feeding and substrate preferences.

Differences in water temperature, salinity, proximity to spawning areas, and time of sampling likely account for some of the distribution and abundance patterns that we observed among species. Marine waters of southeastern Alaska are characterized by an inshore-offshore salinity gradient (Murphy and Orsi 1999) and a north-south temperature gradient (Quast 1968). Inside waters are more estuarine, more protected from wave action, and have more extreme seasonal temperature and salinity changes than outside waters (Csepp and Wing 1999). Thus, environmental differences likely limit the distribution of some species such as rockfish (*Sebastes* spp.) to mostly outside waters and armorhead sculpin to inside waters. Similarly, the range of blackeye goby (*Rhinogobiops nicholsii*) and kelp perch are limited to mostly outside waters of southeastern Alaska (Csepp and Wing 1999). On a smaller scale, differences in distribution and abundance of nearshore fish between inner and outer Kachemak Bay, Alaska, corresponded to differences in temperature and salinity (Abookire et al. 2000). As for time of sampling, juvenile chum and pink salmon were not captured at Neka Bay, Port Althorp, and Yakobi Island in July 1999 (Fig. 1, Table 1); chum and pink salmon fry live in the nearshore region of southeastern Alaska from about 1 April to 15 June (Orsi and Landingham 1985).

Most of the habitat types that we examined are common and are distributed throughout the rugged and complex coast of southeastern Alaska. Although eelgrass is distributed throughout southeastern Alaska, it is often absent or sparse in bays and inlets on or near the mainland. This is likely due to increased turbidity from glacial runoff from mainland rivers that inhibits eelgrass growth (McRoy 1968).
Distribution maps provided in this atlas identify fish species that may be encountered in potential shoreline development projects in southeastern Alaska. Additionally, geographic coordinates of all sampling sites identify the locations of sensitive habitat types (e.g., eelgrass meadows) that may need protection as EFH. Further studies are needed to identify the spatial coverage of eelgrass and other important habitat types in Alaska and the function of these habitats as EFH. Shallow nearshore waters support a diverse and abundant community of fishes, many of commercial importance, and should be protected from human disturbance.

ACKNOWLEDGMENTS

We thank Mike Byerly, David Csepp, Patricia Harris, and Mike Murphy for help with field work. We also thank the command and crew of the NOAA ship John N. Cobb for transporting scientists and gear to many of the study locations. This project was partially funded by the Essential Fish Habitat Task at the Auke Bay Laboratory.
CITATIONS


North Pacific Fishery Management Council. 2002. Fishery management plan for groundfish of the
Anchorage, AK, 333 p.


beach seines during spring 1981 and 1982 in some nearshore marine waters of southeastern

Orth, R. J., and K. L. Heck, Jr. 1980. Structural components of eelgrass (Zostera marina) meadows
in the lower Chesapeake Bay-Fishes. Estuaries 3:278-288.

review of the influence of plant structure and prey characteristics on predator-prey

sandfish (Trichodon trichodon) in the northern Gulf of Alaska, p. 87-94. In Forage fishes in
marine ecosystems. Alaska Sea Grant College Program Rep. No. 97-01, Univ. Alaska
Fairbanks.


Pac. Sci. 22:482-487.


Table 1.—Location, habitat type, position, dates sampled, total number of beach seine hauls, and total fish catch (all species) in nearshore waters of southeastern Alaska from 1998 to 2004. A position acquired from a portable global positioning system is given for each site (habitat type) sampled at each location. For habitat types, bare = sand or gravel bottoms with no attached vegetation; kelp = rocky bottoms with mostly *Laminaria saccharina*; eelgrass = *Zostera marina*; and bedrock = steep bedrock outcrops. Location numbers are in parentheses; see Figure 1 for locations.

<table>
<thead>
<tr>
<th>Location/habitat type</th>
<th>Position (decimal degrees)</th>
<th>Dates sampled</th>
<th>No. hauls</th>
<th>Catch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berners Bay (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bare</td>
<td>N 58.7778; W 135.0078</td>
<td>5/01</td>
<td>1</td>
<td>192</td>
</tr>
<tr>
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<td>1</td>
<td>2</td>
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<td>N 58.7781; W 134.9881</td>
<td>5/01</td>
<td>1</td>
<td>46</td>
</tr>
<tr>
<td>bare</td>
<td>N 58.7786; W 134.9367</td>
<td>5/01</td>
<td>1</td>
<td>1,098</td>
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<tr>
<td>Echo Cove (2)</td>
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<td></td>
<td></td>
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<td>N 58.6954; W 134.9356</td>
<td>6/04</td>
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<td>106</td>
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<td>255</td>
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<td>eelgrass</td>
<td>N 58.6686; W 134.9121</td>
<td>6/04</td>
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<td>438</td>
</tr>
<tr>
<td>Location/habitat sites</td>
<td>N latitude; W longitude</td>
<td>Dates sampled</td>
<td>No. hauls</td>
<td>Catch</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------</td>
<td>---------------</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td><strong>Bridget Cove (3)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>58.6419; 134.9581</td>
<td>6/04</td>
<td>1</td>
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<td>2,391</td>
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<td>eelgrass</td>
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<td>no position</td>
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<td>4</td>
<td>104</td>
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<tr>
<td><strong>Benjamin Island (4)</strong></td>
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<td></td>
<td></td>
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<tr>
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<tr>
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<td>4/01, 8/01, 3/02, 7/02, 3/03, 7/03, 3/04</td>
<td>7</td>
<td>271</td>
</tr>
<tr>
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**Neka Bay (9)**

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**Katlian Bay (25)**

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Table 2.—The 50 most abundant fish species captured in 538 beach seine hauls at 41 locations in southeastern Alaska from 1998 to 2004. Most sampling was done between June and August. Species are listed in decreasing order of abundance based on total catch. An asterisk indicates that the species is included in a fishery management plan in Alaska.

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Figure 1.—Study locations sampled for fish assemblages in southeastern Alaska from 1998 to 2004. Fish were sampled with a beach seine. Most sampling was from June to August.

See Table 1 for habitat types sampled at each location.
Figure 2.--Sampling effort by month for fish assemblages in southeastern Alaska from 1998 to 2004. Fish were sampled with a beach seine. See Figure 1 for all locations sampled.
Figure 3.—Number of species by habitat type where mean catch per seine haul was greatest. Data represents the 50 most abundant species captured with a beach seine at 41 locations in southeastern Alaska from 1998 to 2004. For habitat types, bare = sand or gravel bottoms with no attached vegetation; kelp = rocky bottoms with mostly *Laminaria saccharina*; eelgrass = *Zostera marina*; and bedrock = steep bedrock outcrops.
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