ROCKFISHES

Pacific ocean perch (*Sebastes alutus*)

Pacific ocean perch was the second most abundant species caught in the 2007 survey, and was by far the most abundant and widely distributed rockfish species encountered in the survey (Table 2). They were caught throughout the survey area, in 42 of the 59 survey strata at all depths to 500 m, with the highest concentrations on the Shumagin and Chirikof slopes (Fig. 27, Table 38). The CPUEs were by far highest in the 201-300 m depth range in all INPFC areas except the Yakutat area where the densities were higher in the 301-500 m depth range (Table 37). Approximately 53% of the estimated population biomass was recorded in the 201-300 m depth range and over 99% in the 101-500 m range. Mean weight generally increased with depth. The proportion of fish smaller than 30 cm was extremely small at depths greater than 200 m in the Shumagin, Chirikof, and Kodiak INPC areas and at depths greater than 300 m in the Yakutat and Southeastern INPFC areas (Fig. 28, Table 37). The sex ratio of the Pacific ocean perch population in the survey area was very close to even with males comprising approximately 51% of the total estimated population.
Table 37. -- Number of survey hauls, number of hauls with Pacific ocean perch, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

<table>
<thead>
<tr>
<th>INPFC area</th>
<th>Depth (m)</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>Mean CPUE (kg/ha)</th>
<th>Estimated biomass (t)</th>
<th>Lower 95% biomass CI (t)</th>
<th>Upper 95% biomass CI (t)</th>
<th>Mean weight (kg)</th>
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<td>9,801</td>
<td>187,794</td>
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</table>

| All areas  | 1 - 100   | 334             | 47               | 0.313            | 4,036                 | 0                        | 8,604                  | 0.280           |
|            | 101 - 200 | 290             | 146              | 22.641           | 276,953               | 136,262                  | 417,644                | 0.605           |
|            | 201 - 300 | 107             | 90               | 101.408          | 365,541               | 184,637                  | 546,445                | 0.620           |
|            | 301 - 500 | 49              | 32               | 32.553           | 41,641                | 11,957                   | 71,325                 | 0.721           |
|            | 501 - 700 | 24              | 1                | 0.010            | 8                     | 0                        | 29                     | 0.577           |
|            | 701 - 1000| 16              | 0                | ---              | ---                   | ---                      | ---                    | ---             |
|            | All depths | 820             | 316              | 21.505           | 688,180               | 459,835                  | 916,524                | 0.615           |
Figure 27. -- Distribution and relative abundance of Pacific ocean perch from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.
Figure 27. -- Continued (Pacific ocean perch 2007).
Figure 28. -- Size composition of Pacific ocean perch from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.
Figure 28. -- (continued).
Table 38. -- Catch per unit of effort by stratum for Pacific ocean perch sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

<table>
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<tr>
<th>INPFC area</th>
<th>Depth range</th>
<th>Stratum name</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>CPUE (kg/ha)</th>
<th>Biomass (t)</th>
<th>Lower CI biomass</th>
<th>Upper CI biomass</th>
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<td>Kodiak Slope</td>
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<td>7</td>
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<td>Shumagin Slope</td>
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Northern rockfish (Sebastes polyspinis)

Northern rockfish was the eighth most abundant species overall and the second most abundant rockfish species caught in the 2007 survey (Table 2). Northern rockfish were found primarily in the western and central Gulf of Alaska with about 91% of the estimated biomass in the Shumagin and Chirikof INPFC areas and almost all of the remainder in the Kodiak area (Fig. 29, Table 39). They were primarily found shallower than 200 m, with less than 1% deeper than 200 m (Table 39). The highest CPUEs of northern rockfish were in the 101-200 m depth range on the Shelikof Edge and the Shumagin Outer Shelf (Table 40). The length distribution of northern rockfish caught during the survey was confined to a relatively narrow range between approximately 30 and 45 cm in all areas and depth ranges with a mode around 35 to 40 cm for both sexes in the three westernmost INPFC areas (Fig. 30). The sex ratio of the northern rockfish population in the survey area was relatively close to even with females comprising approximately 53% of the total estimated population.
Table 39. -- Number of survey hauls, number of hauls with northern rockfish, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

<table>
<thead>
<tr>
<th>INPFC area</th>
<th>Depth (m)</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>Mean CPUE (kg/ha)</th>
<th>Estimated biomass (t)</th>
<th>Lower 95% biomass CI (t)</th>
<th>Upper 95% biomass CI (t)</th>
<th>Mean weight (kg)</th>
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Figure 29. -- Distribution and relative abundance of northern rockfish from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.
Figure 29. -- Continued (northern rockfish 2007).
Figure 30. -- Size composition of northern rockfish from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.
Figure 30. -- (continued).
Table 40. -- Catch per unit of effort by stratum for northern rockfish sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

<table>
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<tr>
<th>INPFC area</th>
<th>Depth range</th>
<th>Stratum name</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>CPUE (kg/ha)</th>
<th>Biomass (t)</th>
<th>Lower CI biomass</th>
<th>Upper CI biomass</th>
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Rougheye rockfish (*Sebastes aleutianus*)

Rougheye rockfish were found throughout the survey area primarily on the upper continental slope and in the deeper gullies in the 201-500 m depth range, where approximately 74% of its biomass was estimated to be (Fig. 31, Tables 41-42). The highest CPUEs were generally recorded in the 301-500 m range where rougheye rockfish were caught in approximately 78% of the tows (Table 41). Fish size generally increased with depth (Fig. 32, Table 41). The length mode for fish captured between 101 and 200 m was approximately 22 cm FL, while the mode for fish captured between 301 and 500 m was approximately 48 cm. The sex ratio of the rougheye rockfish population in the survey area was relatively close to even with females comprising approximately 52% of the total estimated population.
Table 41. -- Number of survey hauls, number of hauls with roughey rockfish, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

<table>
<thead>
<tr>
<th>INPFC area</th>
<th>Depth (m)</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>Mean CPUE (kg/ha)</th>
<th>Estimated biomass (t)</th>
<th>Lower 95% biomass CI (t)</th>
<th>Upper 95% biomass CI (t)</th>
<th>Mean weight (kg)</th>
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Figure 31. -- Distribution and relative abundance of rougheye rockfish from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.
Figure 31. -- Continued (rougheye rockfish 2007).
Figure 32. -- Size composition of rougheye rockfish from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.
Figure 32. -- (continued).
Table 42. -- Catch per unit of effort by stratum for rougheye rockfish sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

<table>
<thead>
<tr>
<th>INPFC area</th>
<th>Depth range</th>
<th>Stratum name</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>CPUE (kg/ha)</th>
<th>Biomass (t)</th>
<th>Lower CI biomass</th>
<th>Upper CI biomass</th>
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Blackspotted rockfish (*Sebastes melanostictus*)

Blackspotted rockfish were found throughout the survey area primarily on the upper continental slope and in the deeper gullies in the 201-500 m depth range, where approximately 97% of its biomass was estimated to be (Fig. 33, Tables 43-44). The highest CPUEs were recorded in the 301-500 m range in all INPFC areas where blackspotted rockfish were caught in approximately 82% of the tows (Table 43). Fish size increased with depth (Fig. 34, Table 43). The length mode for fish captured between 301 and 500 m was approximately 44 cm FL, whereas the length modes for fish captured at other depths was difficult to discern due to small sample sizes. The sex ratio of the rougheye rockfish population in the survey area was relatively close to even with females comprising approximately 52% of the total estimated population.
Table 43. -- Number of survey hauls, number of hauls with blackspotted rockfish, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

<table>
<thead>
<tr>
<th>INPFC area</th>
<th>Depth (m)</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>Mean CPUE (kg/ha)</th>
<th>Estimated biomass (t)</th>
<th>Lower 95% biomass CI (t)</th>
<th>Upper 95% biomass CI (t)</th>
<th>Mean weight (kg)</th>
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Figure 33. -- Distribution and relative abundance of blackspotted rockfish from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.
Figure 33. -- Continued (blackspotted rockfish 2007).
Figure 34. -- Size composition of blackspotted rockfish from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.
Figure 34. -- (continued).
Table 44. -- Catch per unit of effort by stratum for blackspotted rockfish sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

<table>
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<tr>
<th>INPFC area</th>
<th>Depth range</th>
<th>Stratum name</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>CPUE (kg/ha)</th>
<th>Biomass (t)</th>
<th>Lower CI biomass</th>
<th>Upper CI biomass</th>
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<td>101 - 200</td>
<td>Middleton Shelf</td>
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</table>
Dusky rockfish (*Sebastes variabilis*)

Dusky rockfish was the fourth most abundant rockfish species caught in the 2007 survey (Table 2). Dusky rockfish were found throughout the survey area, almost exclusively in water depths less than 300 m, with approximately 82% of its estimated biomass in the 101 to 200 m depth range (Fig. 35, Table 45). The highest CPUEs were recorded on the Shelikof Edge and the Portlock Flats which, combined, accounted for over 62% of the estimated biomass even though these two strata comprise less than 5% of the survey area (Table 46). There was no general trend in size with depth although fish smaller than about 40 cm FL were almost exclusively confined to depths less than 100 m (Fig. 36). The sex ratio of the dusky rockfish population in the survey area was relatively even with females comprising approximately 55% of the total estimated population.
Table 45. -- Number of survey hauls, number of hauls with dusky rockfish, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

<table>
<thead>
<tr>
<th>INPFC area</th>
<th>Depth (m)</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>Mean CPUE (kg/ha)</th>
<th>Estimated biomass (t)</th>
<th>Lower 95% biomass CI (t)</th>
<th>Upper 95% biomass CI (t)</th>
<th>Mean weight (kg)</th>
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</table>
Figure 35. -- Distribution and relative abundance of dusky rockfish from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.
Figure 35. -- Continued (dusky rockfish 2007).
Figure 36. -- Size composition of dusky rockfish from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.
Figure 36. -- (continued).
Table 46. -- Catch per unit of effort by stratum for dusky rockfish sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

<table>
<thead>
<tr>
<th>INPFC area</th>
<th>Depth range</th>
<th>Stratum name</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>CPUE (kg/ha)</th>
<th>Biomass (t)</th>
<th>Lower CI biomass</th>
<th>Upper CI biomass</th>
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<td>Portlock Flats</td>
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<td>Shumagin Outer Shelf</td>
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<td>Yakutat Flats</td>
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</table>
**Dark rockfish (Sebastes ciliatus)**

Dark rockfish were rarely caught over the course of the survey (Fig. 37, Table 47). Modest CPUEs were recorded along the Alaska Peninsula and near Kodiak Island at depths less than 200 m but no catches were recorded in the Yakutat and Southeastern INPFC areas. Eighty-eight percent of the estimated biomass was found in the Albatross Banks and Shumagin Bank strata, which combined comprise less than 9% of the survey area (Table 48). This estimate was based on only six hauls out of the 75 conducted in these two strata. The small amount of length data make it difficult to discern a clear mode in the length distribution.
Table 47. -- Number of survey hauls, number of hauls with dark rockfish, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

<table>
<thead>
<tr>
<th>INPFC area</th>
<th>Depth (m)</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>Mean CPUE (kg/ha)</th>
<th>Estimated biomass (t)</th>
<th>Lower 95% biomass CI (t)</th>
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<th>Mean weight (kg)</th>
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</table>
Figure 37. -- Distribution and relative abundance of dark rockfish from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.
Figure 37. -- Continued (dark rockfish 2007).
Table 48. -- Catch per unit of effort by stratum for dark rockfish sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

<table>
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<th>INPFC area</th>
<th>Depth range</th>
<th>Stratum name</th>
<th>Number of hauls</th>
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<th>CPUE (kg/ha)</th>
<th>Biomass (t)</th>
<th>Lower CI biomass</th>
<th>Upper CI biomass</th>
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<td>Albatross Banks</td>
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<td>Shumagin Bank</td>
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<td>189</td>
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<td>6</td>
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<td>18</td>
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</table>
Sharpchin rockfish (*Sebastes zacentrus*)

Sharpchin rockfish were rarely captured west of Kodiak Island (Fig. 38). Over 99% of its biomass estimate occurred in the Kodiak, Yakutat, and Southeastern INPFC areas (Table 49). The highest CPUEs were recorded in the Kodiak Slope, Baranof-Chichagof Slope, and Prince of Wales Slopes/Gullies strata, which accounted for approximately 62% of the total biomass estimate even though they only comprise about 2% of the survey area (Table 50). Sharpchin rockfish were most abundant at depths between 201 and 300 m with approximately 73% of the estimated biomass in this depth range and most of the remainder between 101 and 200 m (Table 49). Overall, the size composition of female sharpchin rockfish was both broader and larger than that of males throughout the survey area (Fig. 39). The sex ratio of the sharpchin rockfish population in the survey area was even at 50:50.
Table 49. -- Number of survey hauls, number of hauls with sharpchin rockfish, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

<table>
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<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>Mean CPUE (kg/ha)</th>
<th>Estimated biomass (t)</th>
<th>Lower 95% biomass CI (t)</th>
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Figure 38. -- Distribution and relative abundance of sharpchin rockfish from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.
Figure 39. -- Size composition of sharpchin rockfish from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.
Figure 39. -- (continued).
Table 50. -- Catch per unit of effort by stratum for sharpchin rockfish sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

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<th>INPFC area</th>
<th>Depth range</th>
<th>Stratum name</th>
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<th>Hauls with catch</th>
<th>CPUE (kg/ha)</th>
<th>Biomass (t)</th>
<th>Lower CI biomass</th>
<th>Upper CI biomass</th>
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Shortraker rockfish (*Sebastes borealis*)

Shortraker rockfish were found throughout the survey area although almost exclusively on the continental slope in the 200 to 700 m depth range (Fig. 40, Table 51). The highest CPUEs were consistently recorded in the 301 and 500 m depth range, which accounted for approximately 62% of the total biomass (Table 51). In this depth range, shortraker rockfish were caught in about 88% of the tows. Shortraker rockfish were considerably more abundant in the central and eastern Gulf of Alaska than in the western Gulf of Alaska. Approximately 87% of the estimated biomass was found in the Kodiak, Yakutat, and Southeastern INPFC areas. The highest concentrations of shortraker rockfish were in the Southeastern Slope and Baranof-Chichagof Slope strata, which accounted for 35% of its survey biomass estimate, even though their combined area comprises less than 1% of the survey area (Table 52). Mean weight and length generally increased from west to east (Fig. 41, Table 51). The sex ratio of the shortraker rockfish population in the survey area was relatively even with females comprising approximately 53% of the total estimated population.
Table 51. -- Number of survey hauls, number of hauls with shortraker rockfish, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

<table>
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<th>INPFC area</th>
<th>Depth (m)</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>Mean CPUE (kg/ha)</th>
<th>Estimated biomass (t)</th>
<th>Lower 95% biomass CI (t)</th>
<th>Upper 95% biomass CI (t)</th>
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Figure 40. -- Distribution and relative abundance of shortraker rockfish from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.
Figure 40. -- Continued (shortraker rockfish 2007).
Figure 41. -- Size composition of shorthaker rockfish from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.
Figure 41. -- (continued).
Table 52. -- Catch per unit of effort by stratum for shortraker rockfish sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

<table>
<thead>
<tr>
<th>INPFC area</th>
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<th>Stratum name</th>
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<th>Hauls with catch</th>
<th>CPUE (kg/ha)</th>
<th>Biomass (t)</th>
<th>Lower CI biomass</th>
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Shortspine thornyhead (*Sebastolobus alascanus*)

Shortspine thornyhead was the third most abundant rockfish species caught in the 2007 survey (Table 2). Shortspine thornyhead were found throughout the survey area at all depths, including all tows greater than 300 m (Fig. 42, Table 53). The highest CPUEs were generally recorded on the continental slope and deeper gullies in the 301 and 700 m depth range, which accounted for approximately 53% of its total biomass (Tables 53 and 54). Population length distributions were similar in all areas and at all depths, with both males and females exhibiting length modes between approximately 24 and 32 cm FL (Fig. 43). The sex ratio of the shortspine thornyhead population in the survey area was about even with males comprising approximately 51% of the total estimated population.
Table 53. -- Number of survey hauls, number of hauls with shortspine thornyhead, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

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<th>Estimated biomass (t)</th>
<th>Lower 95% biomass CI (t)</th>
<th>Upper 95% biomass CI (t)</th>
<th>Mean weight (kg)</th>
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NOAA-TM-AFSC-189
Figure 42. -- Distribution and relative abundance of shortspine thornyhead from the 2007 Gulf of Alaska bottom trawl survey. Relative abundance is categorized by no catch, sample CPUE less than the mean CPUE, between the mean CPUE and two standard deviations above the mean, between two and four standard deviations above the mean, and greater than four standard deviations above the mean.
Figure 42. -- Continued (shortspine thornyhead 2007).
Figure 43. -- Size composition of shortspine thornyhead from the 2007 Gulf of Alaska bottom trawl survey by International North Pacific Fisheries Commission statistical areas and depth intervals.
Figure 43. -- (continued).
Table 54. -- Catch per unit of effort by stratum for shortspine thornyhead sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

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<th>INPFC area</th>
<th>Depth range</th>
<th>Stratum name</th>
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<th>Hauls with catch</th>
<th>CPUE (kg/ha)</th>
<th>Biomass (t)</th>
<th>Lower CI biomass</th>
<th>Upper CI biomass</th>
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Other Rockfishes

Redstripe rockfish (*Sebastes proriger*)

Redstripe rockfish were rare outside the Southeastern INPFC area and were not captured in the Yakutat INPFC area (Table 55). Approximately 94% of the total survey area biomass was estimated to be in the Southeastern INPFC area with most of the remainder in the Kodiak INPFC area. Three tows in the 101 to 200 m depth range of the Prince of Wales Shelf stratum accounted for almost 82% of the total biomass estimate even though this stratum only comprises a little over 2% of the entire survey area (Table 56).

Silvergray rockfish (*Sebastes brevispinis*)

Silvergray rockfish were rare outside the Yakutat and Southeastern INPFC areas and were not captured in the Shumagin INPFC area (Table 57). Silvergray rockfish was the sixth most abundant groundfish species in the Southeastern INPFC area (Table 2). The highest mean CPUEs were recorded in the Prince of Wales Shelf and Prince of Wales Slope and Gullies strata, which accounted for 66% of the total survey biomass estimate (Table 58). These two strata comprise just over 3% of the total survey area. Silvergray rockfish were almost exclusively caught in the 101 to 300 m depth range, which accounted for over 99% of its total estimated biomass. No fish were caught deeper than 500 m. Mean fish size generally increased with depth.
**Harlequin rockfish** (*Sebastes variegatus*)

Harlequin rockfish were caught infrequently and in modest numbers throughout the survey area, primarily in the 101 to 200 m depth range, which accounted for approximately 93% of its total biomass estimate (Table 59). The highest mean CPUEs were recorded in the Chirikof Outer Shelf, Prince of Wales Shelf, and Shumagin Outer Shelf strata, which accounted for approximately 84% of the estimated biomass. The combined area of these strata comprises just over 6% of the total survey area (Table 60).

**Redbanded rockfish** (*Sebastes babcocki*)

Redbanded rockfish were caught infrequently and in modest numbers in the Shumagin, Chirikof, and the western part of the Kodiak INPFC areas (Table 61). Approximately 83% of the total estimated biomass was in the Yakutat and Southeastern INPFC areas, with the highest mean CPUEs recorded in the 201 to 300 m depth range, which accounted for approximately 64% of its total biomass. Most of the remaining biomass was estimated to be in the 101 to 200 m depth range. No redbanded rockfish were caught deeper than 500 m. The highest mean CPUEs were noted in the Prince of Wales Slope/Gullies and the Yakutat Gullies strata, which accounted for about 44% of the total biomass (Table 62).

**Yelloweye rockfish** (*Sebastes ruberrimus*)

Yelloweye rockfish were caught very infrequently and in very modest numbers throughout the survey area (Table 63). Approximately 47% of the total biomass estimate was attributed to two hauls in the Prince of Wales Shelf stratum whose area comprises just over 2% of the survey area.
area (Table 64). No yelloweye rockfish were caught deeper than 300 m. The highest mean CPUEs were consistently recorded in the 101 to 200 m depth range of all INPFC areas, which accounted for over 95% of its total biomass.

**Rosethorn rockfish (Sebastes helvomaculatus)**

Except for a single haul with an extremely low CPUE in the Shumagin INPFC area, rosethorn rockfish were caught only in the Yakutat and Southeastern INPFC areas (Table 65). Mean CPUEs were modest in all strata where rosethorn rockfish were caught, with the highest values recorded in the Prince of Wales Slope/Gullies, Yakutat Gullies, and Fairweather Shelf strata (Table 66). Rosethorn rockfish were almost exclusively captured in the 101 to 300 m depth range, which accounted for more than 99% of its estimated biomass.
Table 55. -- Number of survey hauls, number of hauls with redstripe rockfish, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

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<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>Mean CPUE (kg/ha)</th>
<th>Estimated biomass (t)</th>
<th>Lower 95% biomass CI (t)</th>
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Table 56. -- Catch per unit of effort by stratum for redstripe rockfish sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

<table>
<thead>
<tr>
<th>INPFC area</th>
<th>Depth range</th>
<th>Stratum name</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>CPUE (kg/ha)</th>
<th>Biomass (t)</th>
<th>Lower CI biomass</th>
<th>Upper CI biomass</th>
</tr>
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Table 57. -- Number of survey hauls, number of hauls with silvergray rockfish, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

<table>
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<th>INPFC area</th>
<th>Depth (m)</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>Mean CPUE (kg/ha)</th>
<th>Estimated biomass (t)</th>
<th>Lower 95% biomass CI (t)</th>
<th>Upper 95% biomass CI (t)</th>
<th>Mean weight (kg)</th>
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Table 58. -- Catch per unit of effort by stratum for silvergray rockfish sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

<table>
<thead>
<tr>
<th>INPFC area</th>
<th>Depth range</th>
<th>Stratum name</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>CPUE (kg/ha)</th>
<th>Biomass (t)</th>
<th>Lower CI biomass</th>
<th>Upper CI biomass</th>
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Table 59. -- Number of survey hauls, number of hauls with harlequin rockfish, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

<table>
<thead>
<tr>
<th>INPFC area</th>
<th>Depth (m)</th>
<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>Mean CPUE (kg/ha)</th>
<th>Estimated biomass (t)</th>
<th>Lower 95% biomass CI (t)</th>
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Table 60. -- Catch per unit of effort by stratum for harlequin rockfish sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

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<th>Biomass (t)</th>
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<td>Shumagin Outer Shelf</td>
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Table 61. -- Number of survey hauls, number of hauls with redbanded rockfish, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

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<th>Number of hauls</th>
<th>Hauls with catch</th>
<th>Mean CPUE (kg/ha)</th>
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<th>Lower 95% biomass CI (t)</th>
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Table 62. -- Catch per unit of effort by stratum for redbanded rockfish sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

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<th>CPUE (kg/ha)</th>
<th>Biomass (t)</th>
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Table 63. -- Number of survey hauls, number of hauls with yelloweye rockfish, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

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Table 64. -- Catch per unit of effort by stratum for yelloweye rockfish sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

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<th>Biomass (t)</th>
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Table 65. -- Number of survey hauls, number of hauls with rosethorn rockfish, mean CPUE, biomass, and mean weight based on the 2007 Gulf of Alaska biennial bottom trawl survey, by International North Pacific Fisheries Commission statistical areas and depth intervals.

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Table 66. -- Catch per unit of effort by stratum for rosethorn rockfish sorted by descending CPUE for the 2007 Gulf of Alaska bottom trawl survey.

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