Red king crab

**Bristol Bay**

**Fishery:** Bristol Bay, US Bristol Bay, United States, Ports

### IDENTIFICATION

**Scientific Name:**

- Paralithodes camtschaticus

**Species Name(s):**

- Red king crab, Краб камчатский

### STOCK IDENTIFICATION

Stock structure of red king crab is still unclear despite numerous studies conducted in the North Pacific. Seeb and Smith (2005) found that Bristol Bay, Port Moller and Pribilof Islands populations are genetically distinct from Aleutian Islands and Norton Sound what is coincided with the recent conclusion made by Pengilly et al. (2014) that consider that Adak and Norton Sound differ from the SE Bering Sea population. The existence of this latter population is also justified by Grant and Cheng (2012) that according to genetic studies distinguish three major groups: SE Alaska, W of Alaska and SE Bering Sea. Hinnow-Grant et al. (2017) detected weak genetic structure among Bering Sea, Central Gulf of Alaska and SE Alaska and strong distinction from the Adak Island sample from the remaining samples. Gene flow rates are moderate within the Gulf of Alaska/Western Alaska region and evidence of multiple and distinct populations is higher in SE Alaska making more appropriate a management at a finer-scale in this area (Vulstek et al., 2013).

In lack of a clear distribution and distinction of biological populations here we consider 5 assessment units identified under the 3 management registration areas by the North Pacific Fishery Management Council (Zheng and Siddeek, 2013; NPFMC, 2013):

- **Aleutian Islands – 1)** Adak and 2) Dutch Harbour;
- **Bristol Bay – 3) Bristol Bay**;
- **Bering Sea – 4) Pribilof Islands and 5) Norton Sound.**

### RELATED LINKS:

- Alaska Department of Fish and Game (ADF&G)
- North Pacific Fishery Management Council (NPFMC)
- Alaska Department of Fish and Game (ADF&G)

### ASSESSMENT

**Strengths**

- Abundance of mature male and female crab in 2007 is at highest level since 1982.
- Risk averse harvest strategy is used.
- Catches have closely tracked catch limits, reflecting strong in-season monitoring, enforcement and compliance.
- Population level has generally exceeded B_{msy} since the late 1990s.
- Stock assessments are conducted annually and are reviewed by experts.
- Potential trawl impacts to crab stocks and habitat are limited by extensive closures to groundfish bottom-trawl fishing and bycatch regulation.

**Weaknesses**

- Eastern Bering Sea crab stocks have shown vulnerability to unfavourable environmental conditions. Cumulative mortality from the Bristol Bay fishery’s own substantial bycatch of non-target king crab (females, undersize males) is not completely understood.
- A sharp decline in St. Matthew Island blue king crabs in the late 1990s remains unexplained.
- Habitat needs and effects of climate change on these stocks are not fully understood.

### SCORES

**Management Quality:**

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<thead>
<tr>
<th>Item</th>
<th>Current</th>
<th>Future</th>
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<tbody>
<tr>
<td>Management Strategy</td>
<td>8.3</td>
<td>10</td>
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<tr>
<td>Managers Compliance</td>
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<tr>
<td>Fishers Compliance</td>
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**Stock Health:**

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<tr>
<td>Health</td>
<td>7.9</td>
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**FIPS**

No related FIPs

**MSC**

No related MSC fisheries

### RECOMMENDATIONS

**CATCHERS & REGULATORS**

1. Start a fishery improvement project to address sustainability issues in this fishery. For advice on starting a FIP, see SFP’s Seafood Industry Guide to FIPs at [http://www.sustainablefish.org/publications/2014/04/30/the-seafood-industry-guide-to-fips](http://www.sustainablefish.org/publications/2014/04/30/the-seafood-industry-guide-to-fips).
2. Communicate to fishery managers that there are sustainability issues in this fishery that may be affecting the sale of products, and request that they comprehensively evaluate and address such issues.

**RETAILERS & SUPPLY CHAIN**

1. Encourage your supply chain to start a fishery improvement project for advice on starting a FIP see SFP’s Seafood Industry Guide to FIPs at [http://www.sustainablefish.org/publications/2014/04/30/the-seafood-industry-guide-to-fips](http://www.sustainablefish.org/publications/2014/04/30/the-seafood-industry-guide-to-fips).
2. Work with other suppliers and buyers on a pre-competitive basis to start a supply chain roundtable to review improvement needs in this and other similar fisheries, catalyze fishery improvement projects, and monitor progress in improvement efforts.