

Draft for North Pacific Fisheries Management Council review

1 **Fishing effort in predicted coral habitat in the eastern Bering Sea**
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3 **Council request**

4 At their October 2015 meeting, the Council requested the AFSC: 1) provide updated data on the
5 distribution, intensity, and depth of fishing effort in locations of both known and predicted coral
6 abundance; and 2) provide, in the Ecosystem Considerations chapter of the annual SAFE report,
7 a) changes in coral frequency, composition, and distribution in the trawl survey; and b) changes
8 in trawl and fixed gear effort in areas of model predicted coral abundance. Here we report the
9 distribution and intensity of pelagic trawl and non-pelagic trawl fishing in predicted coral habitat
10 in the eastern Bering Sea. The remaining information will be provided in the Ecosystem Chapter
11 of the next annual SAFE report (fall 2016).²

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13 We previously analyzed all existing data on the canyons and surrounding areas and input a
14 subset of these data into scientific models ([Sigler et al., 2015](#)). The models produced predictions
15 of where coral was likely to occur, both inside and outside eastern Bering Sea canyons. We
16 subsequently deployed underwater cameras from a research vessel to pinpoint areas of coral
17 concentration, placing our cameras into the water at 250 randomly selected locations along the
18 Bering Sea slope and canyons in late summer 2014 ([Rooper et al., 2015](#)). The camera survey
19 results validated our previous modelling and analysis work and confirmed that most coral habitat
20 (for the species that predominantly grow on hard, rocky bottom) occurs inside Pribilof Canyon
21 and along the Bering Sea slope to the west of Pribilof Canyon. In general, coral densities
22 throughout the camera survey area were low even where they occurred. This is not surprising as
23 the eastern Bering Sea seafloor contains little of the rocky habitat that is conducive to coral
24 growth.

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27 **Methods**

28 In this report, we present fishing events, fishing effort, and seafloor contact by year within
29 predicted coral habitat in the eastern Bering Sea. The analysis was conducted using the Fishing
30 Effects (FE) model which was developed to estimate disturbance from fishing activities in
31 Essential Fish Habitat (for FE model details see Section 11 in the [2016 EFH Review Document](#)).

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² Relative catch-per-unit-effort (CPUE) values currently are reported for sponges and sea whips for the eastern Bering Sea shelf survey, but not corals because corals are rarely encountered on the Bering Sea shelf (Zador 2015). For the eastern Bering Sea slope survey, relative CPUE values for corals, sponges, and sea whips have not been reported previously in the Ecosystem Chapter, but their reporting is planned for the 2016 SAFE report.

