Data collection

Data were recorded in the field using a combination of electronics and paper. Tow-level data (e.g. latitude, longitude, time, and depth) were recorded on a paper Fishing Log. Basket-level information, (i.e. counts and weights of baskets of sorted and unsorted catch) was recorded on a paper Catch Composition form. Biological data pertaining to individual organisms were recorded on rugged handheld computers coupled to digital calipers and an electronic fish measuring board. See Smith et al. (2016) for specific variables recorded. Dredge attitude was logged with a pitch sensor.

Tow lengths were calculated as the Euclidian distance between the start and end points of the tow, unless this calculated distance was > 10% different from the length recorded by vessel’s navigation system. If the difference between the calculated and skipper’s length was > 10%, the skipper’s distance was used, based on the assumption of either an error in the recorded start and end points of the tow, or a nonlinear tow path as was especially the case for many of the tows completed by the chartered vessel.

The method of estimating Tanner crab catch varied by cruise. At Kayak Island ostensibly all Tanner crab were sorted from the entire catch and recorded. In Shelikof all large Tanner crab (carapace width > 70mm) were sorted from the entire catch, while the catch of small Tanner crab was estimated from a ~ 2 kg subsample of the unsorted catch.

Individual scallop meats could not be precisely weighed on the survey grounds because of vessel motion. Instead during the Kayak and first Shelikof cruise, the meat-weight scallops were split into components (epibionts, viscera with shells, and meats), bagged and frozen, then weighed in port. During the second Shelikof cruise most of the meat-weight scallops were frozen whole, then shucked and weighed after the survey in a laboratory.

After the survey both the hardcopy originals and scanned copies of the field data sheets were archived in the Homer office. All survey data were stored in a relational database in Homer.