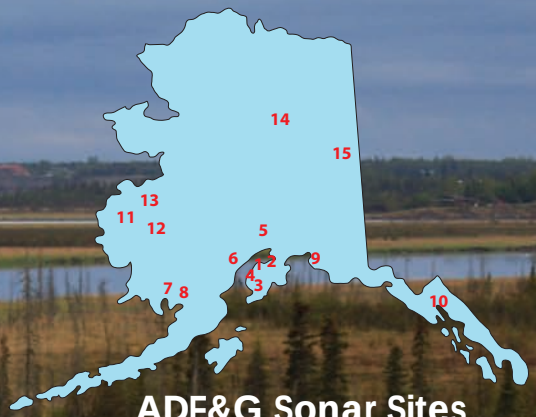
Sport Fish Catch

Using what is called a creel survey, ADF&G technicians count and interview anglers on the river throughout the sport-fishing season to determine king salmon sport fishery catch rates.

King estimates—why ADF&G reports only twice a week

In previous years, the king salmon sonar project tried to follow the standard set by less-complicated sonar projects by providing the public with a daily estimate. But the Kenai king salmon sonar project is unique in that the sonar data are analyzed along with other information to separate king salmon from sockeye salmon. The additional data processing and analyses requires extra time and attention.

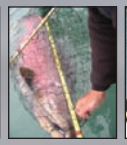
Compare, for example, the Kenai king salmon sonar site with the Kenai sockeye salmon sonar site at River Mile 19. The daily Kenai sockeye salmon estimate changes little, if at all, after it is reported. At the Kenai king sonar site, daily estimates are preliminary and may change as we receive additional data. By waiting three to four days between estimates we can produce numbers that are not subject to change.



ADF&G Sonar Sites

1. Kenai (RM 8.6)
2. Kenai (RM 19)
3. Anchor
4. Kasilof
5. Yentna
6. Crescent
7. Nushagak
8. Kvichak
9. Copper
10. Chilkat
11. Yukon (Pilot)
12. Aniak
13. Anvik
14. Sheenjek
15. Yukon (Eagle)

Kenai King Salmon Sonar



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For more information on the Kenai River king salmon sonar site and other Alaska Department of Fish and Game fisheries sonar sites visit:
www.AlaskaFisheriesSonar.org

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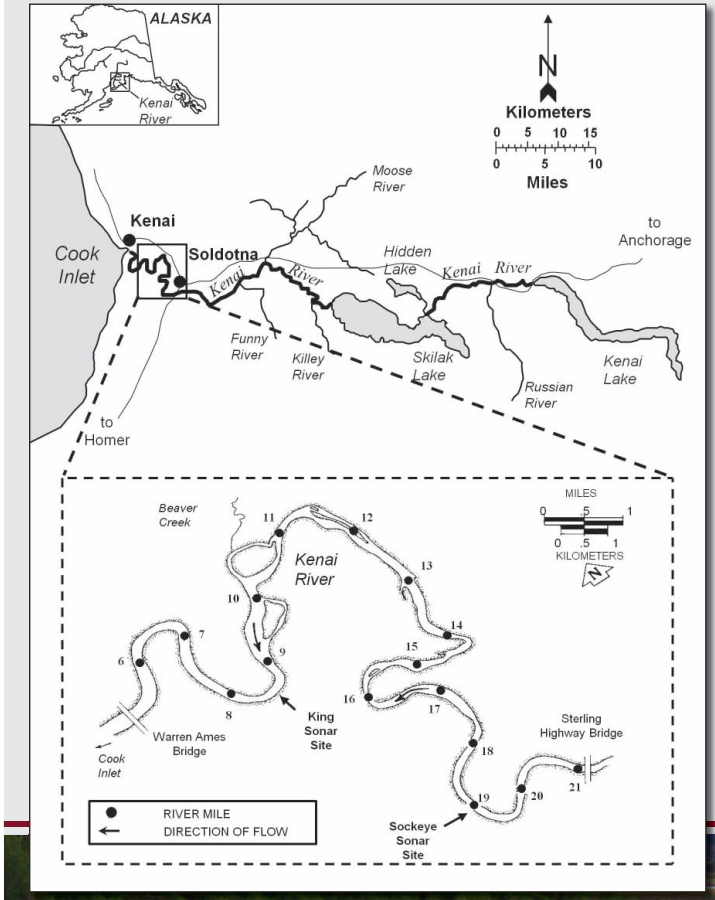
Alaska Fisheries Sonar

Kenai River King Salmon Sonar

How biologists use sonar to generate Kenai River king salmon estimates

It takes some special know-how to catch Kenai king salmon (Chinook)—and not just with a rod and reel, but with sonar too. Most salmon swim close to shore where Alaska Department of Fish and Game fisheries biologists can more easily detect them with sonar. But Kenai king salmon swim far from shore where only advanced sonar technology can detect fish. Detecting Kenai king salmon is further complicated by the need to separate them from sockeye salmon, which in July migrate into the Kenai alongside king salmon at a ratio of about 20-to-one.

Where the site is located—River Mile 8.6



Non-Sonar tools

Sonar is only one source of information used to gauge Kenai king salmon run strength. Fisheries biologists also use information from non-sonar sources including ADF&G inriver gillnets, sport fish catch rates and commercial harvest, as indicators of king salmon abundance.

Inriver Gillnets

In the lower river adjacent to the sonar site, sonar site crew drift gillnets six hours every day from mid-May to early August. To minimize injuring king salmon, they use undersized mesh nets and never remove captured king salmon from the water.

Examining the relative proportion of large kings, small kings and sockeye in the gillnet catches helps biologists determine how many small sonar-detected fish should be classified as kings rather than sockeye.

The king salmon sonar site is at Kenai River Mile 8.6 between Beaver Creek and the Warren Ames Bridge. While the Kenai king salmon sonar site is sometimes confused with the Kenai River Mile 19 sockeye salmon sonar site, these two sites employ very different sonar operations because sockeye salmon migrate near shore and present fewer problems with species identification.

King salmon site sonar operations

The king salmon site uses sophisticated sonar technology to estimate the number of king salmon traveling upriver. It is, for example, the only site where ADF&G uses sonar to distinguish fish by size. Distinguishing fish by size allows biologists to separate large king salmon from sockeye salmon. To separate small king salmon from sockeye salmon that are the same size, they rely on an important non-sonar tool—inriver gillnets.

Transitioning to newer technology—DIDSON

ADF&G hopes to soon transition the king site's operations from the split-beam sonar currently in use to a newer type of sonar technology known as DIDSON.

DIDSON produces ultra-sound-like video of fish and has many advantages over split-beam. DIDSON is better able to determine fish size and to distinguish between individual fish swimming close together. It also requires less staff training to operate than split-beam sonar.

Early models of DIDSON tested at the king site were not able to detect fish at sufficiently long ranges. But that has recently changed. The king site is testing a recently-developed lens that nearly doubles the DIDSON's range for high-resolution imaging and so far the results have been promising.