

Steps to Follow in Preparing Background Information and Options for Board of Fisheries and Board of Game “Amount Reasonably Necessary for Subsistence” (ANS) Findings (Implementing AS 16.05.258(b))

**Division of Subsistence
Alaska Department of Fish and Game
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Please note: These steps are a synopsis of a more detailed set of ANS development guidelines prepared by the Division of Subsistence, ADF&G, as part of its “Subsistence Research Handbook.” Consult the guidelines in the Handbook for more detail and for examples of ANS worksheets and recommendations. For more information, contact James Fall @ jim.fall@alaska.gov.

Preliminary Considerations

- A positive “customary and traditional use” (c&t) determination for the game population or fish stock must be in place before the boards proceed with an ANS finding (AS 16.05.258 (a) & (b)).
- An ANS determination is only made for stocks and populations for which a harvestable surplus exists.
- Be clear about data sources and data limitations.
- Note that two or more options can be established at each step. Spell out the differences between options.
- In all cases, final ANS determinations are made by the Board of Fisheries and the Board of Game. The boards may consider information in addition to that provided by the department in establishing the ANS ranges. The goal of the department is to provide a good administrative record of harvests and other considerations as background for ANS options.

1. Define the fish stock or game population.

- This should be done in consultation with the Division of Wildlife Conservation for game and the Divisions of Commercial Fisheries and Sport Fish for fish.
- Stocks and populations “are manageable as a unit” and have a uniform regulatory structure.

2. Compile harvest data

Organize a table with harvest data.

If a reliable time series is available from harvest tickets, permits, or household surveys:

- The table should include all years for which data are available.
- The table should break out harvests into 3 columns: harvests by local residents, harvests by other Alaskans, and total harvests by all Alaskans. Exclude non-resident harvests from the table.
- Identify years for which data limitations exist (that might result from poor sampling, for example); recommend years to exclude from further analysis.
- Identify any other data limitations, such as communities that are systematically missing from the harvest data; develop estimates for missing communities by using values for surrogate communities or by using other data sources (see below).
- Recommend a range of years upon which to base the ANS. This range of years should reflect recent demographic and socioeconomic conditions as well as the current harvestable surplus of the stock or population (or a range of harvestable surpluses).
- Identify years within this time series that are anomalous due to unusual hunt or fishery conditions or other factors and that should not be part of the ANS calculation.
- Include the mean harvest for the recommended time series as the bottom line in the table.

If a reliable time series from harvest tickets, permits, or surveys is not available:

- Develop a table with estimated harvests for the stock or population based on Division of Subsistence household surveys for local communities (or another similar source); use the per capita harvest estimate and multiply by the most recent population estimate for the community to develop a harvest estimate.
 - For communities for which household harvest survey data are not available, select a similar community as a surrogate and use that community's per capita value to calculate a harvest estimate. (An alternative is to use the mean for all known communities, if there is no appropriate surrogate community.)
 - If more than one survey estimate is available for a community, choose the most recent one or develop an average for the study years.
 - The table can also report a low and high estimate for each community based on the 95% confidence interval.
 - Add the estimates together; this is the estimate of local harvests.
 - For non-local harvests, harvest ticket data will need to suffice, because household survey data will not be available.
- If no reliable harvest data are available, the department should recommend that an ANS determination be postponed until a harvest data series is established; 3 to 5 years of data is the minimum needed to begin to understand patterns and trends.
- The board chooses the harvest data set to use, i.e. whether it uses harvests by all Alaskans, local residents, and some non-local residents, or just local residents.

3. Prepare options for ANS range

A. Options, if a time series is available, include:

1. Calculate the mean for the time series; bracket the mean by a fixed percentage (25% has been used frequently) to determine the ANS range; or,
2. Use the low estimate and the high estimate within the range as the bounds; or,
3. Use the low estimate and the mean as the bounds.

B. Options, if ANS to be based on household harvest surveys and limited study years:

1. Add estimated harvests for each local community; bracket the estimate by a fixed percentage (25% has been used frequently) to determine the ANS range; or,
2. Add the low and high estimates for each community (based on the 95% CI) and use these sums as the bounds for the ANS; also,
3. Provide an estimate of non-local harvests (based on harvest ticket or permit time series) and add it to the local harvest estimate

➤ Two or more methods can be used to present options.

➤ **Step to take following the board action:**

4. Write a short synopsis of board actions.

Include:

- Date
- Final action
- Differences from staff options if any
- Reasons for modifications
- Any other major discussion points