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**Local documentation and  
management of living  
resources:**

**User Guide**

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ENGLISH/DANSK / QALLUNAATUT

Piniakkanik Sumiiffinni Nalunaarsuineq  
Greenland Self-Rule  
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*Welcome to Greenland Self-Government's Guide to Local Documentation and Management of Living Resources! This guide is intended to help citizens document and interpret changes in living resources. The guide has been written especially for hunters, fishers and others with an interest in the natural environment who want to contribute to strengthening the management of living resources - and to promote sustainable use of those resources.*

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PISUNA is an abbreviation of *Piniakkanik sumiiffinni nalunaarsuineq*. PISUNA will strengthen the involvement of hunters, fishers and others interested in the documentation and management of living resources. The government would like to see PISUNA being used by communities all over Greenland to ensure that the people living closest to nature have a well-established way of sharing their knowledge. This will ensure that user-knowledge always forms part of the basis for making decisions concerning the management of living resources, locally, nationally and globally. Some documentation by hunters of the living resources already exists in the catchment database *Piniarneq*. However, much of the local knowledge that could be used to strengthen the management of living resources is not included in *Piniarneq*.

PISUNA is coordinated by Departementet for Fisheries, Hunting and Agriculture on behalf of the Self-Rule Government. This manual is written by: Finn Danielsen, Martin Enghoff, PâviâraK Jakobsen, Adam Hansen, Nette Levermann, Peter Løvstrøm, Nuka Møller Lund, Michael K. Poulsen, Martin Schiøtz, and Elmer Topp-Jørgensen. Martin R. Nielsen commented on the draft. Photographs are by Elmer Topp-Jørgensen, Martin R. Nielsen and others.



### **Who can document local resources?**

The local documentation and management of living resources is carried out by Natural Resource Councils in each community. When members of these councils are on tour in the area for any reason, they collect data about living resources and their use. At quarterly council meetings, data is summarized, discussed and analyzed, and possible management initiatives discussed.

### **How will knowledge from local resource documentation be used?**

The information collected by the Natural Resource Council members will be interpreted by the members. This interpretation and a summary of the documentation will be forwarded to the village council, the municipality and the Self-Government. The results will be used by the local community, the municipality and the Self-Government to make decisions about the management of living resources. Some of the information will also make the community, the municipality or the Self-Government aware of particular circumstances that need further investigation.



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Local documentation and management of living resources consists of the five steps described below:

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### **Step 1: Designate a Natural Resource Council and a coordinator in each community**

The community members and village council in each community must designate a Natural Resource Council. This nomination must be done in cooperation with the local hunters' and fishers' organizations and the municipality's business consultants. Participation in the work is voluntary.

#### **Natural Resource Council composition**

The Council shall consist of c. 5-12 persons. Council members may:

- Come from families in the village who use the living resources a great deal.
- Be interested in helping manage the living resources.
- Include the most experienced hunters / fishers and other environment and nature enthusiasts.
- Represent different age groups, both middle-aged, young and older.

#### **Natural Resource Council Responsibility**

Natural Resource Council members are responsible for:

- Selecting the living resources to be focused on,
- Collecting data on the living resources, as a minimum on the first catch / fishing / nature trip of each month, all year round,
- Discussing, analyzing and interpreting data at least every three months,

- Advising and proposing local initiatives in the field of catches and fisheries to the village council and the municipality, based on the knowledge collected,
- Organizing separate registration and counting activities as needed,
- Organizing an annual meeting with fishers, hunters and other nature enthusiasts and environmentalists in the village to discuss the results of the village's documentation and management of living resources,
- Choosing a coordinator for the community's documentation and management of living resources from among Council members.

### **Coordinator of Natural Resource Council**

The Natural Resource Council coordinator is responsible for coordinating the village's documentation and management of living resources. The coordinator is responsible for:

- Organizing a meeting of the Natural Resource Council once every three months. At this meeting, data from the village's documentation of living resources will be summarized by all members and inserted into a joint summary form (see Annexes 5 and 6). The importance of the data should be discussed and analyzed / interpreted (and possibly conclusions drawn). Proposals for management initiatives should be discussed.
- Sending copies of summary forms and lists of possible management initiatives to the municipality after each meeting of the Natural Resource Council.
- Presenting management proposals to the village council and assisting in sending relevant proposals for further processing by the authorities.
- Inviting members of the Natural Resource Council to collect data on living resources between meetings.
- Organizing an annual meeting with fishers, hunters and other interested parties in the village to discuss the results of the village's documentation and management of living resources.

In relation to each meeting of the Natural Resource Council, the coordinator shall:

- Arrange the meeting with the participants in good time (at least one week prior) to ensure that all participants can attend. The municipality's business consultant for the area in question may be invited to attend the meeting.
- Ensure that the necessary points are discussed at the meeting (see Annex 5 on meetings of the Natural Resource Council).
- File the summary forms in the Natural Resource Council's ring binder after each meeting. The ring binder must remain in the village office.

At the first meeting of the Natural Resource Council, the coordinator will ensure that:

- The Natural Resource Council advises which species the village wishes to keep an eye on.
- Council members agree on how they will name and define the extent of each fishing and hunting area in which they will document the living resources.

### **Step 2: Fill in calendars by catch and fishery**

After hunting / fishing / nature trips at least once every month throughout the year, Natural Resource Council members will:

- Observe and note species and impacts on living resources (see Annex 3)
- Register catch data (see Annex 4)



The more often this is done, the better the data. It should happen as a minimum in relation to the first hunting / fishing / nature trip in each month all year round.

### **Step 3: Summarize data and observations at meetings of the Natural Resource Council every quarter**

The Natural Resource Council in the village meets once every three months. At this meeting, data from the documentation of living resources will be summarized by all members, discussed and analyzed / interpreted, and proposals for management initiatives should be discussed. You should make sure that the proposed management measures are based on data. This information is then incorporated into a joint quarterly summary by the Natural Resource Council (see Annexes 6 and 7). After the meeting, the Natural Resource coordinator will send the Council a copy of the summary forms and the list of possible management initiatives will be sent to the municipality and the Self-Government. See Appendix 5 for more information.

### **Step 4: Suggest management initiatives to the village council and the municipality**

Natural Resource Council proposals and underlying documentation should be presented to the village council and the municipality. The village council and municipality can be encouraged to take decisions on what to do, by whom and when. Make sure that proposals approved by the village council are forwarded to the municipality. Check that the proposals are processed in the system.

### **Step 5: Discuss the results at the annual community meeting**

Once a year, the Natural Resource Council organizes a meeting with fishers, hunters and other nature and environmental stakeholders in the village to discuss the results of the village's documentation and management of living resources, along with the implementation and effects of management measures. See Annex 8 for a joint meeting in the village.



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# Annexes

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- Annex 1. Why document the living resources?
- Annex 2. What is local documentation and management of living resources?
- Annex 3. The Observation Method
- Annex 4. The Catch Data Method
- Annex 5. Meetings of the Natural Resource Council
- Annex 6. The Summary Form and instructions for completion
- Annex 7. From field data to results: Data organization, calculations and interpretation
- Annex 8. Joint meetings in the village
- Annex 9. Data retention



## **Annex 1. Why document the living resources?**

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The Greenland Self-Government wants more local governance. Repeated data collection or 'documentation' can help adapt the use of living resources in order to optimize usage.

**Questions that local documentation can answer:** Local documentation of living resources can provide answers to biological questions and management issues.

Biological questions, e.g.:

1. Are there more or fewer animals?
2. Are the fish caught bigger or smaller?
3. Are the animals arriving/leaving later or earlier than 'normal'?

Management issues, e.g.:

1. Are any adjustments needed in the management?
2. Are there increased benefits for the communities from sustainable resource use?
3. Does species management have the desired effect on the stock?

In other words, local documentation can show whether management initiatives in the area are effective in promoting optimal sustainable use. This can ensure that we get the most out of existing resources.

**Existing resource documentation and monitoring.** Monitoring of Greenland's living resources is currently taking place primarily through reports made to the catch database Piniarneq and research-based studies. Experience indicates that there is great potential for managing knowledge on living resources among Greenlandic hunters and fishers.



## **Annex 2. What is local documentation and management of living resources?**

**Purpose.** Local resource documentation can help decision makers in communities, municipalities and the Self-Government by providing knowledge from regular collection and interpretation of data on living resources and their use. The focus is on recognizing changes in living resources and their use as early as possible - in order to guide timely decisions on the management of living resources.

In addition, local resource documentation can promote the involvement of users of living resources in resource management. Local resource documentation can:

1. Strengthen the documentation of local knowledge about living resources
2. Promote local discussion, analysis and interpretation of changes in living resources
3. Make the local knowledge available to the municipality and to the Self-Government
4. Increase the opportunities for local management and for local communities to contribute to the basis for setting quotas
5. Create a forum for data-based dialogue between communities and the Self-Government
6. Shorten the time between observed changes and management measures

**Methods.** Two methods are used by all communities:

1. Observation Method.
2. Catch Data method.

These methods are described in more detail in the next two annexes.



### **Annex 3. The Observation Method**

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The first method is the Observation Method. Observations of species and impacts during hunting, fishing and nature trips are important. These observations can, for example, help the Natural Resource Council to find out if more or fewer animals are being seen in the area. There are two types of observations:

1. Observations of impacts (on living resources).
2. Observations of species (living resources).

The observations are made primarily in relation to the species and impacts agreed upon by the village and they are recorded in the calendar on the relevant date by number and location, possibly with comments.

The observations are noted and form the basis for the data in the summary forms, which are completed quarterly.

**WHO NOTES OBSERVATIONS.** The members of the Natural Resource Council in the village note their observations of the impacts and species that the Council has agreed to monitor.

**WHEN TO NOTE OBSERVATIONS.** A list of observations on impacts and species is made, as a minimum, on the first hunting / fishing trip of each month.

**HOW TO PAY FOR THE WORK.** Participants are doing important work for the community on a voluntary basis. Some small compensation for the time spent on quarterly meetings has been introduced.

**TIPS.** Data on unusual observations is stronger if the data is accompanied by photos.



## **Annex 4. The Catch data Method**

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The second method is the Catch Data Method. Catch data can, for example, help the Natural Resource Council to find out if the captured animals in the area are growing bigger or smaller. Catch data is recorded for the agreed species of fish, mammals and birds. Information on date, location, fishing / hunting gear and quantities should be noted. If possible, note also how much time and the amount of gear used in the catch. If there are relevant comments on the size of fish / fish, age, fitness and trends, this is also noted.

Catch data is noted, and is then used as data in the summary form, filled in every quarter.

**WHO NOTES CATCH DATA.** The members of the Natural Resource Council in the community note their catch data.

**WHEN TO NOTE CATCH DATA.** A list of catch data is drawn up, as a minimum, on the first catch / fishing / nature trip of each month.

**HOW TO PAY FOR THE WORK.** Participants do an important job for the village on a voluntary basis. Some small compensation for the time spent on quarterly meetings has been introduced.



## **Annex 5. Meetings of the Natural Resource Council**

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The Natural Resource Council should hold a meeting in the village every quarter. Meetings of the Natural Resource Council are important because, at these meetings, data is summarized to provide an overall picture of the observations from the previous quarter and this can then be interpreted by the community and presented in a form that can be communicated to others.

### **STEPS TO BE TAKEN DURING NATURAL RESOURCE COUNCIL MEETINGS**

1. The Natural Resource Council coordinator is responsible for the meeting.
2. Make sure that everyone knows the purpose of the meeting. It is to discuss the species and impacts that the Natural Resource Council has agreed the village will monitor. It is also to summarize the last three months' observations from members' hunting, fishing and nature trips. Make sure there is guidance on who will participate and whether there are any special points for the meeting in addition to the review of species and impacts that you have chosen to document.
3. Start the meeting by agreeing the duration of the meeting. Then arrange the order of the topics to be discussed.
4. Go through the species and impacts that the Natural Resource Council in the village has agreed to document, one by one. Use observations from all members for the Summary Form, use data from all members for the Summary Form. Follow the headings in the Summary Form (see Annex 6):
  - let participants present their observations on the living resource
  - discuss and agree trends in the occurrence / size / quality / distribution of the living resource concerned during this quarter compared to the same time last year
  - discusses trends in the use of the resource
  - discuss changes in impact on the resource
  - discuss whether the trends are significant or insignificant
  - discusses the reasons for important changes
  - discuss issues and solutions and possible management measures.
5. Repeat these steps for each species and impact that the Natural Resource Council has agreed to document. Remember to review all species / impacts at each meeting even if there have been no significant observations.
6. Discuss other relevant topics that the participants consider important.
7. Evaluate the meeting with the participants. Is there something to be done next time?
8. Plan the place and time of the next meeting. Finish the meeting.

### **TIPS**

1. Make sure the discussion is a dialogue. All members of the Natural Resource Council should participate in the discussion. Focus on fruitful cooperation and listening.
2. Be sure to be open to new ways of seeing things. Avoid pre-defined conclusions. The members must draw their conclusions on the discussions together.
3. Don't worry about reporting obvious things. All trends are important knowledge - also no visible changes in species or impacts of resources.

### **EXAMPLES OF WHAT SHOULD BE DISCUSSED IN THE NATURAL RESOURCE COUNCIL**

Compared to the same quarter last year...



- Have there been any changes in the time and effort needed to obtain a particular living resource?
- If yes, how much more or less effort (number of trips, number of hours, number of fishing nets) has it been necessary to use?
- Have there been any changes in the occurrence of species (more / fewer, earlier / later, bigger / smaller, fatter / thinner, better / worse meat quality of animals)?
- What are the possible reasons?
- What possible management measures are there, if any?
- Are there any species used this year that were not used in the same season last year?
- Have there been any changes in the methods you and others use to catch / hunt / fish?
- Have there been more / fewer hunters / fishers since the same season last year?
- Is the price of imported animals different from that of the same time last year?



## Annex 6. The Summary Form and instructions for completion

Here is a short guide to how to complete the individual fields in the Summary Form. A blank copy of the summary form follows the instructions.

**All fields in the summary form must be filled in unless stated otherwise.**

Heading	Instruction
Coordinator's name:	Enter the name of the Natural Resource Council coordinator
Year, quarter:	Fill in the year and three-month period the summary form covers.
Community:	Fill in the village name.
Species / Impact:	Fill in the name of the species / impact for which data is presented. There is room for six species / impacts on each sheet. All the species / impacts the Natural Resource Council has chosen to follow will be reviewed quarterly. If there are other significant species / impacts that the Natural Resource Council wishes to report on in a quarter, these may follow the review of the selected species. There could, for example, be observations of an unusual nature or a rare impact such as a large oil spill.
Month	Fill in the month, for example, 'May' (only one month on each line)
Location	Fill in the location as accurately as possible. In some cases, the GPS position or field code will be relevant. Put the town's name if you are unable to be more accurate.
Number of trips	Fill in the total number of days spent on trips to this location in that month. If two people visit the same site on the same day, it counts as two trips. If two people are on the same trip, it counts as one trip.
Number seen	All numbers from all trips are combined except when it is clear that it is the same animal / group that has been seen several times. Comments can be written on these numbers in a later field.
Total catch	State what is relevant to the species. For example, number of individuals taken or number of kg fish caught. Information on size, age, gender, fitness (such as the thickness) can be added in a later field.
Method use	State which method was used to capture the species. Please write both means of transport and fishing gear (rifle, hooks, yarn, etc.).
Tendency No changes Increase Decrease Do not know	You can tick one of the four options below: - Tick if status is judged to be unchanged compared to same period last year. - Tick if there is considered to be an increase compared to same period last year. - Tick if there is considered to be a decrease compared to same period last year. - Tick if there is no agreement on the trend or if there is too little



	data to judge.
Comments on the number seen, sizes of animals, first / last observed, etc.	Here there is room for writing in-depth comments. Comments on number may be e.g. the number of animals in the largest recorded flock. For some species, the Natural Resource Council may decide that gender, age, size, or the like is always recorded. For others, it may decide that fishing effort is always recorded (e.g. number of hooks on fishing lines and the number of hours the lines were in the water). Comments on phaenology (such as the arrival of Narwhales) can also be noted here. If there are no comments, the field can be left empty.
Significance and possible explanation of trend	Does the Natural Resource Council find any changes (compared to the same period last year) of major or minor importance? Are these simply fluctuations that are to be expected from year to year, or do you feel they are more general? When a species changes status, there are often many possible reasons why. Local people often have a very good sense of what the reasons are locally behind these changes. The different possible reasons should often be examined in more detail. The better you understand the reasons, the better you can adapt management both locally and nationally. If there are no comments, the field can be left empty.
Recommendations for management (perhaps explain on separate sheets)	The main reason for local documentation of living resources is that this documentation can lead to better management both locally and nationally. The living resources can be regulated by hunting times, quotas (possibly including gender and age), rules for equipment, rules for who can hunt / fish where, when and with what gear, etc. When a species is in decline, the rules for catch / fishing should possibly be tightened. When one species is increasing, the restrictions could possibly be loosened. Likewise changes may call for management measures. The Natural Resource Council's management proposals must be presented at the level at which decisions can be taken. The village council may take some local decisions it will often need to refer the proposals to the municipality. The municipality can make some decisions but the municipality may also quite often have to refer the proposals to the Self-Government. If there are no recommendations, the field can be left empty.
Contributors	Names of contributors to this summary form.
Coordinator's signature	Signature of coordinator in the village (to verify the accuracy of the information)



## **Annex 7. From field data to results: Data organization, calculations and interpretation**

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The Natural Resource Council coordinator will ensure that the Natural Resource Council meets once every three months to discuss, agree on and enter data into the Summary Form. The last quarter's observations should be entered into the Summary Form. Based on data and discussion, participants will propose management measures that provide a good balance between hunting and fishing pressures and the status and trends for the individual species.

The Quarterly Summary Form should now be completed as explained in the table above.

### **From results to possible explanations of reasons**

possible reasons for the results.

First, you need to rule out the possibility that the observed changes / trends in the existence of living resources or in the impact of resources are due to changes in monitoring routines. Then consider if the changes / trends observed are important and, finally, try to find a reason for them.

Changes / trends in the presence of living resources in an area may, for example, be due to:

- the species arriving sooner or later in the area due to weather conditions, for example,
- the area concerned having become more or less attractive to the stock, or
- the stock having generally increased or decreased (and therefore there are more / fewer in the area).

Catch and fishing areas may become more or less attractive to living resources because access to food in the area changes, for example:

- if there is more or less food, or
- if it becomes easier or harder to obtain this food (e.g. due to frequent interference from motor traffic or hunting).

It can be difficult to determine whether there has been more or less food for the living resources in an area. It will often require studies that go beyond what is possible to implement within local resource monitoring. Suggest further studies if there are signs of significant changes in the amount of food for the living resources.

More animals may be observed because the area has become more attractive for the animals in question. Sometimes there are fewer animals because there are more disturbances or because many animals have been caught. If motor traffic and other hunters / fishers have been documented, you can see if there is more or less traffic and disturbance in the area. If there are significant changes in the extent of traffic and disturbances, discuss possible management measures in the Natural Resource Council.

If changes in the occurrence of living resources in an area are not due to the fact that the area concerned has become more or less attractive to the stock, and the changes continue over several years, it may be due to the fact that the stock has generally become larger or smaller. When assessing whether the size of the stock may have changed, it is important that you

take into account the fact that some living resources are migratory while others are permanent.

### **Typical local management measures**

Discussion of possible local management measures is a regular part of the agenda at meetings of the local Natural Resource Council. Discuss your ideas and make sure you avoid premature decisions. To find out if local management measures are to be implemented, see the list of typical local management measures below. Could it be relevant to carry out some of these or other management measures?

Make sure to bring opportunities / challenges regarding living resources up at meetings of the village council and obtain approval for proposals to be forwarded to the municipality or Self-Government.

Establish agreements between communities that use the same catch and fishing areas in order to exploit the areas. Agree on where fish can and cannot be caught and agree on hunting times, quotas and fishing gear for selected resources. Where the different villages / towns have special catch and fishing rights, such agreements can be followed by marking the borders of rural areas in the countryside so it becomes clear to everyone where the different villages / towns have their catch and fishing rights and who is responsible for enforcing local regulations in the area.

Keep an eye on initiatives in the municipality, for example fishing, scallop-catching and tourist development to ensure they lead to improvements and not a deterioration in your catch and fishing areas. Using data from your surveillance, you can document which areas are important to living resources.

List of typical local management measures:

- Rules on how many animals can be caught (quotas)
- Capture restrictions related to the gender of animals
- Capture restrictions related to the size / age of animals
- Limitation or extension of fishing time
- Rules for time of day when animals must be caught
- Rules for the means of transport that may be used
- Rules for which fishing / hunting gear may be used
- Rules for where animals may be caught
- Rules for who can fish and hunt where
- Suggestions for additional counts / research
- Suggestions for marketing and procurement
- A combination of the above

## **Annex 8. Joint meetings in the village**

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The Natural Resource Council in each village must arrange a joint meeting with fishers, hunters and other interested parties once a year. At this joint meeting, the results of the Natural Resource Council are presented to the local citizens and they will be able to access the results of the documentation of living resources in their area. The joint meetings allow others to comment on the results and lead to possible adjustments in the results. At the same time, joint meetings allow inputs and responses from other citizens, which could lead to management measures or proposals for management measures with broad local support.



## **Annex 9. Data retention**

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Comparing old and new information is central to local documentation. Data storage is therefore important. There must be no doubt as to which data and forms are to be stored, and who is responsible for them.

### **1. DATA STORED AND USED BY NATURAL RESOURCE COUNCILS**

Notes on species and impacts and notes on catch are stored by the individual members, preferably for at least five years. Ensure that all relevant and important data is continuously reviewed in the summary forms.

Person responsible: The individual member

Storage location: With each member

Summary Form (one from each quarterly meeting of the Natural Resource Council, with copy sent by the coordinator to the municipality and APNN).

Person responsible: Natural Resource Council coordinator.

Storage location: In the Natural Resource Council's ring binder in the village office.

### **2. DATA STORED AND USED BY THE MUNICIPALITY**

Summary Forms from the Natural Resource Councils

Person responsible: The municipality's business consultant.

Storage location: In the business consultant's ring binder in the municipal office

### **3. DATA STORED AND USED BY THE SELF-GOVERNMENT (APNN)**

Summary Forms from the Natural Resource Councils

Person responsible: APNN's biologists.

Storage location: In the APNN archive.

