

A national guideline for terrestrial search methods

Development and implementation



Norwegian People's Aid





Nasjonalt Redningsfaglig Råd



Lokal kompetanse - lokal trygghet



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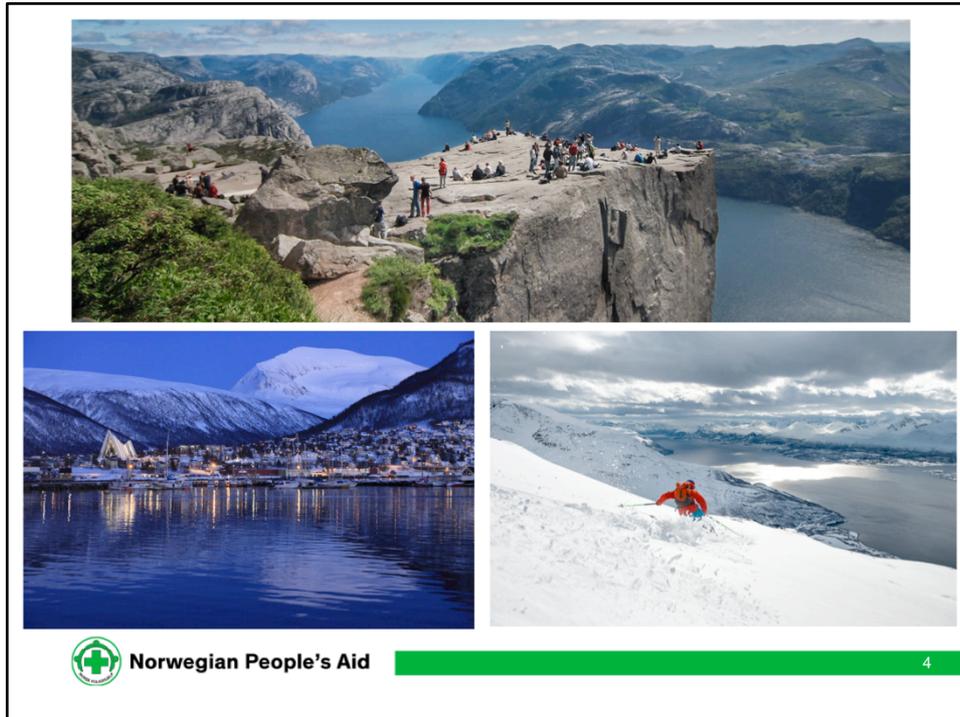
Today we are proud to share with you our experience on developing a national guideline for terrestrial search methods. We are here representing the Norwegian Council for Search and Rescue and the Society of voluntary search and rescue organisations in Norway as well as Norwegian People's Aid.



- Population: 5 200 000
- North-South: 1752 km

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Some of you might recognise this country way up north as Norway. A geographically elongated country with not so many inhabitants. 34% of the population lives around the Oslofjord, which constitutes about 4% of the total landarea. Norway has the second longest coastline in the world, only outdone by Canada. The distance North-South is 1752 km. This pattern of settlement naturally represents some challenges in organising a rescue service available for everyone who might need it.



Some other challenges is the differences in landscape, from dense forrests, to steep mountains, to larger cities. Winters are cold and come with a lot of snow. There is also increasing tourism on some of Norways most famous nature attractions, and more people are doing extreme sports, creating a need for more extreme rescue services. In the top picture you can see Preikestolen, one of Norways main..... Tromsø..... Lyngen.....

Organization

- Government agencies
- Volunteer organizations
- Professional, specialized units (330)



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So, let's talk about how we solve these challenges. In Norwegian Search and Rescue Service we have established the principle of cooperation, based on a consensus that all eligible government, volunteer and private resources come together to ensure a preparedness for search and rescue operations.

Local rescue centers headed by the local chief of police coordinates the operations within their region, under the supervision of the Rescue Coordination Centers. The only governmental full-financed dedicated rescue-resource is the rescue helicopters. This means that the backbone of the service is the voluntary organisations that educates and mobilise rescuers, rescue dogs and other resources on the ground. If, for some reason, the helicopters are not able to take part in an operation, local volunteers constitutes the actual search and rescue force. Now, just imagine how much such a preparedness would cost if all 10 000 rescuers was to be paid professionals? The volunteers make it economically viable to have a local preparedness in every little town, which is important with such a scattered population.

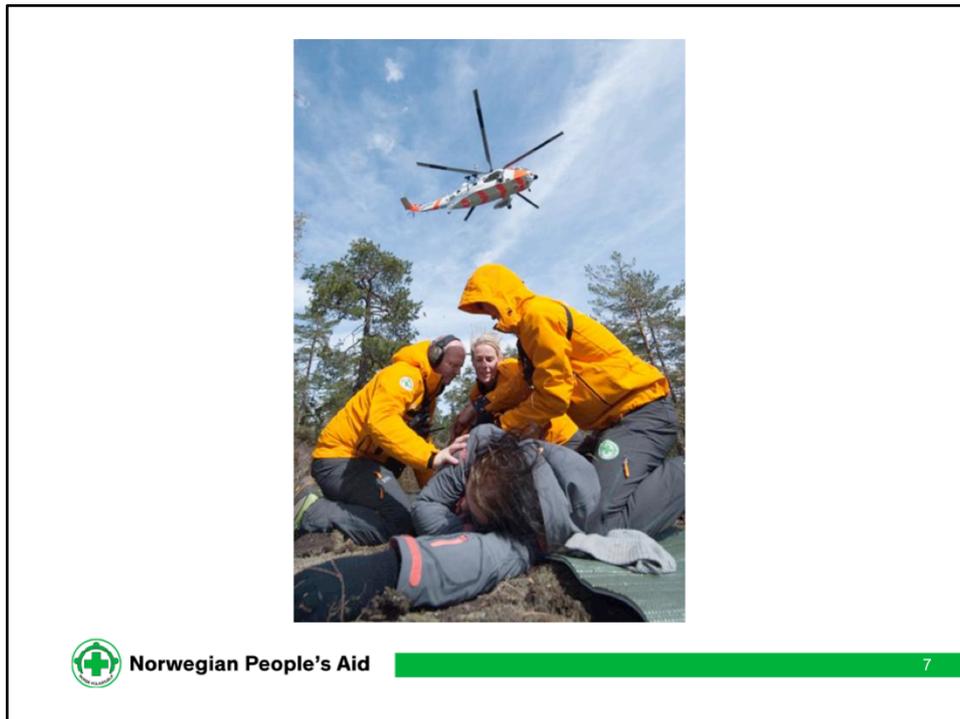
The voluntary organisations has been dedicated in their work on search and rescue service, and has therefore taken a big part in developing the methods used. Different organisations have developed their own education and have put emphasis on their



So – this is how it may look like at the Incident Command Post when all the different resources come together. Here we see rescuers from NPA, Red Cross, Norwegian Civil Defence, dog handlers and the police. If all of these should have a say in how the operation should be carried out, everyone can be sure to have time to finish their cake before going out in the field.

We all have the same agenda – to find the person that is missing/injured and bring him home safe. But the ideas of how to get there may very well be as many as there are people in the room. Can any of you relate to this?

To gather and agree on one quality assured strategy and a set of methods based upon statistics supplied with intelligence (etterretning) can be difficult in times of pressure.



It's only natural that every institution feels that their way of solving the operation is the best way. It is important that every organisation takes pride in their work. At the same time, every resource should be aware of their strength and weaknesses.

The helicopters have a good overview from above, and can cover a wide range of terrain on a short amount of time. They also have medical expertise and more advanced search tools such as infrared and thermal imaging. On the downside the helicopters have limitations based on weather conditions, and if the vegetation is very dense they can not see the ground.

The equipment of dog and dog handlers have comprehensive training in optimal use of dogs in search, but there is a limitation in the dogs attention span and the weather conditions should be optimal to have the full effect of the dogs abilities.

Rescuers can contribute in a rescue operation almost regardless of the weather. They can adapt to every different situation and apply different search methods to gain the desired probability of detection. Some disadvantage of rescuers is the limitations that comes with the dark and also the focus of the rescuers will decline over time.

Eventuelt spørre salen???

All institutions should be aware that a joint effort between the different resources

How?



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With an increasing number of search and rescue operations, the need for a common understanding of terms and methods based on best practise has increased as well. The initiative for a national guideline for terrestrial search methods came from the volunteer organisations. A projectgroup consisting of representatives from the different contributors in the search and rescue preparedness was appointed by the Norwegian council for search and rescue. There were some challenges concerning the bureaucracy of the different institutions. All the contributors had to admit to their strengths and weaknesses, and this was not always easy. Well-established traditions and cultures within each organisation had to be considered, and focusing on statistics and best practice some also had to give up on "the way things used to be". We can all probably relate to this as a challenge. In spite of this, the work group was able to work through these differences and agree on a method focusing on the missing person in need of a fast response.

Result



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How many of you have a set of national written guidelines that apply to all the parties involved in a search and rescue operation?

The result of the process is a rather large guideline of a 100 pages. The lack of Norwegian literature on the field made it necessary to include some in-depth methodology and descriptions in the guideline. Now let's sum up the main focus points that are addressed in the guideline:

Standardization of routines for alarming all available resources



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A faster alarming and response save lives. (Ta inn eksempel fra demente). It was important to establish a culture where the resources are alarmed rather once too often than once too little, and that we use the joint effort of all resources to assure that every patient gets the most efficient help. The guideline states a response time to that can be expected, also from the volunteers. This is interesting, seeing that we now state some expectations even though the rescuers use their spare time.

Ta inn de spesifikke tidene som er oppgitt i veilederen. De frivillige har selv sagt at dette er der de vil være i responstid, det er ikke myndighetene som stiller dette kravet.

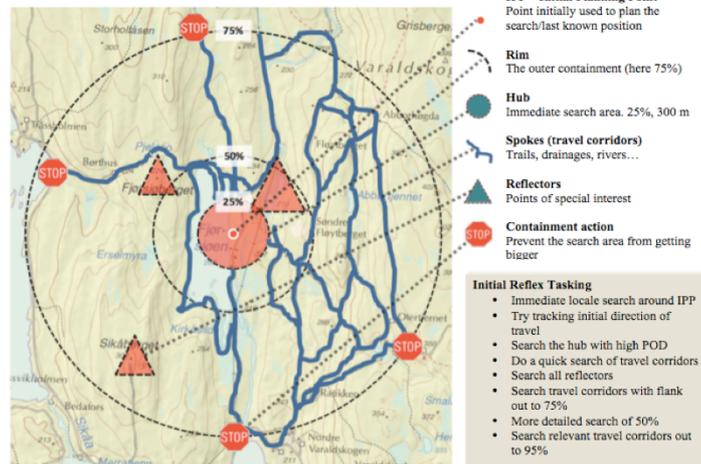
The guidelines include some highlightet points. Regarding this specific focus point the highlight is the following:

Warning

Only utilizing one rescue resource weakens the quality of the operation. Different resources have different capacities and complements each other. When an air resource is used, there should always be field resources as well.



Establishing a standard method for the initial search effort



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There was a consensus regarding the use of the bike-wheel model, as described by Robert Koester in *Lost Person Behavior*, as a standard method for the initial phase of an operation. The bike-wheel-model secures a consecutive approach in every search. Of course investigation is always important, and action according to information about this specific lost person should always be taken. But when in doubt, using statistics and knowledge about specific categories of lost persons helps in securing an effective initial effort, and forms sort of a procedure for the initial search phase, known from Koester as "reflex tasking".

Describe the bike-wheel-model based on the figure.

In avalanche rescue operations you have an established model for how to carry out the operation over time: Initially you do quick searches with a low preciseness, with an ambition of doing an early finding on the surface if possible. In the second phase you use more precise search methods with a high POD. In the third phase you repeat the search to make absolutely sure that the missing person is not in that area. We use the same model in the guideline: Initial quick search, then more thorough search, then repeat as a quality assurance. Just as in avalanches the probability of finding the lost person alive is dependent on time before rescue, and a cold climate makes an effective approach even more important.

Provide a common description of the different established search methods



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When the search planner assigns a specific search task to a team, it is of great importance that they have the same understanding of the search methods used. The guideline therefore describes the most common search methods used by the different resources, recommended use of every method and the expected POD/ quality of the method.

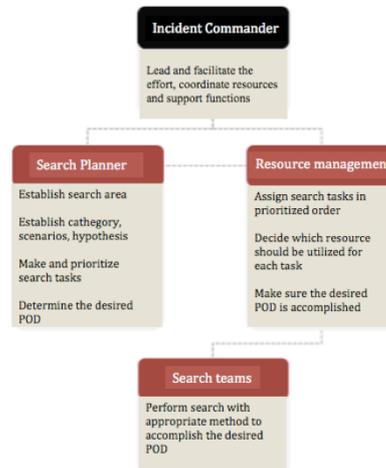
To give you a couple of examples: On the left you can see illustration of two search methods for rescuers:

- 1) Trailsearch with flank (Trail and immediate proximity on each side). This is appropriate when the search planner based on investigation or statistics believe the lost person to be found on or close to a travel corridor. The POD depends on distance between the rescuers.
- 2) Search line: Five or more rescuers form a line and systematically moves through a search area. This can be appropriate in the immediate proximity to IPP in an initial search phase.

On the right you can see the equivalent methods for search dogs:

- 1) Trailsearch with a flank. The dog crosses back and forth across the trail to cover the immediate proximity.

Establish a standard model for operational leadership in a search



In the lack of a common understanding of how to carry out an operation, every resource needs their efforts to be coordinated by their own leader at the Incident command post. This often results in too many people and too many opinions, which leads to inefficiency and waste of valuable time. The guideline is based on all rescuers having a common base of patterns of action and methods, so that the incident command post can consist of a minimal number of leaders. There are, however, some tasks that have to be attended to, and we have chosen a leadership model with 3 leaders: The incident commander is in charge of the overall operation and coordinates the resources. The search planner should be knowledgeable in search planning and efficient use of the different resources, and is in charge of making and prioritizing search tasks. The resource manager controls assigning the search tasks to the search teams, and has the direct communication with the field rescuers. If necessary, you can expand the leadership group with persons with especially assigned tasks, but the guideline states that up to 50 rescuers in the field should be possible to conduct with a leadership group no larger than 3 persons.

Warning

The incident command post should not be constituted by more than 3-5 persons. Larger leader groups tend to increase the risk of wrong decision-making due to diffusion of responsibility and a suboptimal work process.



The guideline put great emphasis on a small and effective leadergroup. The guideline states that up to 25 rescuers in field should not need a leadergroup larger than 3 persons. In an initial phase it is important to have as many rescuers as possible in the field, as you know the lost person is rarely found at the Incident command post.

Warning

Initially in an operation there is a great risk of having rescuers waiting for assignments. This leads to loss of valuable search-time, which is especially critical when time in daylight is scarce. Leaders should strive to immediately put all resources in active search. In this phase effective leadership is extremely important.



The time you waste belongs to the missing person. If you have 6 rescuers waiting for 10 minutes, you lose 1 hour of effective search time. Time from show to active search should be no more than 10 minutes. This should be sufficient time to assign a search area, get organized and get the necessary equipment ready.

Create a common understanding and standard for the terms used during an operation

POD
Travel corridors
Search area
IPP

POA
Search task
POI

LKP
NVG
Subject Category



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As beforementioned, all the different parties in the search and rescue service have developed their own methods and educations, and at the same time they have developed their own set of terms and expressions. Different terms and a different understanding of the same term can cause unnecessary misunderstandings in both in the leader group and in field, and this can lead to inefficiency and loss of valuable time. To create a common understanding of which terms we use and the meaning of each search-specific term has therefore been an important object throughout the process and in the finished guideline. We have chosen to keep many of the english abbreviations and terms, which correspond to the terms used in "lost person behavior" statistics.

Implementation



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All parties involved has been included in the process of developing the guideline, and has been invited to provide input to the workgroup. Most of the institutions also had a representative in the workgroup. We believe that an involving process ensured that all parties feel an ownership of the result, and that this was the beginning of a successful implementation. The ministry of justice and public security has been approving the work since the beginning, and the minister wrote the preface in the guideline. This approvement from the highest authority adds credibility to the work, and also makes the implementation easier. More practically the implementation has consisted of all institutions, from the police university college to the volunteers, including the guideline in their educations, and further on in training and drills, both separately and in cooperation. A substantial number of guidelines were also printed on waterproof paper and distributed in all relevant forums, to increase the availability and conciousness of a new guideline. We feel that the implementation has been quite effective, and that this guideline is now used in all parts of the country.

Does the National Guideline result in a better search and rescue service?

- Standardization of routines for alarming all available resources
- Establishing a standard method for the initial search effort
- Provide a common description of the different established search methods
- Establish a standard model for operational leadership in a search
- Create a common understanding and standard for the terms used during an operation

→ Does indeed improve the search before the rescue.



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Overbevist om at disse momentene har styrket den norske redningstjenesten og at dette har improved "the search before the rescue" og derfor bidratt til å redde liv. Ikke statistiske tall enda, men flere eksempler på at søk etter denne modellen blir effektive søk med positivt resultat.

Principle of cooperation

420 million dollars if all the volunteers would be full time hired.