

## GROUPING SCHEME: SAMPLE MESSAGE ON TREES



Let's look at a more complex example. Say I'm writing a report on threats to forests. I've written a first draft, but I don't have an organization structure yet. I now give a brief label to each paragraph I've written, and I come up with the following list:

insects	insects	fire	erosion
insects	N.E. U.S.A.	fire	Alberta
weather	disease	insects	B.C.
erosion	White Spruce	White Pine	fire
White Birch	weather	N.W. U.S.A.	weather
Quebec	over-harvesting	weather	disease
weather	Red Spruce	land conversion	land conversion
New Brunswick	Ontario	Lodgepole Pine	Black Spruce
disease	Maple	B.C.	Balsam Fir
fire	Quebec	weather	Alberta
over-harvesting	Maple	weather	Maple
fire	White Pine	White Pine	land conversion
erosion			

Figure 7

At first glance, Figure 7 is a bewildering list of labels. But after taking a closer look, I start to see some patterns. Figure 8 shows what I come up with next:

THREATS	over-harvesting	SPECIES	REGIONS
insects	land conversion	White Birch	Quebec
insects	fire	White Spruce	New Brunswick
weather	fire	Red Spruce	N.W. U.S.A.
erosion	insects	Maple	Ontario
weather	weather	Maple	Quebec
disease	land conversion	White Pine	N.E. U.S.A.
fire	weather	White Pine	B.C.
over-harvesting	weather	Lodgepole Pine	Alberta
fire	erosion	Black Spruce	B.C.
erosion	fire	Maple	Alberta
insects	weather	White Pine	Alberta
disease	disease	Balsam Fir	B.C.
weather	land conversion		Alberta

Figure 7

That list still has a lot of duplication, and the pattern to it is far from transparent. However, upon reading my text again I see there are more common elements in the paragraphs than I saw when I first sketched out the paragraph labels. I notice that most of the threats are also discussed in both the paragraphs I labeled "species" and the paragraphs I labeled "regions".

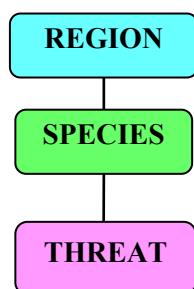
## Option 1

Now I can start to make some real progress. I decide to make three jumps at once:

- First, I group all the paragraphs under one region or another — splitting many of them as I do so.
- Second, I group all the paragraphs by species within each region — again splitting many of the paragraphs as I go.
- Third, I group all the paragraphs by threat for each region — splitting many of the paragraphs yet again.

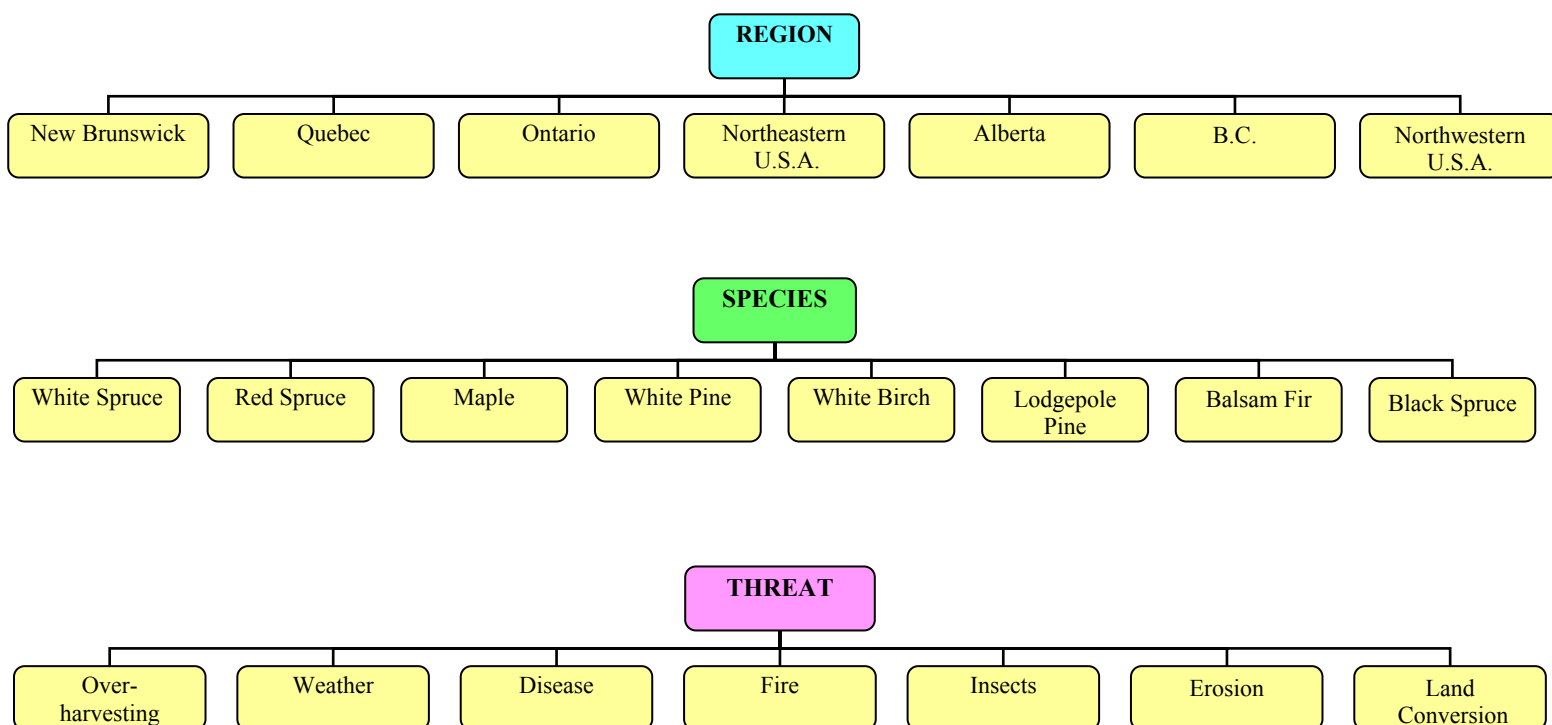
Figure 11 on the next page shows the result.

This organization structure has three levels in its vertical span:



**Figure 9**

None of those levels has more than eight items in its horizontal span:



**Figure 10**

## Option 1: Region – Species – Threat

NEW BRUNSWICK	<u>Maple</u>	ALBERTA	<u>Red Spruce</u>
<u>White Spruce</u>	weather	<u>White Birch</u>	insects
insects	erosion	insects	fire
land conversion	disease	weather	over-harvesting
<u>Maple</u>	<u>White Pine</u>	erosion	<u>Maple</u>
weather	disease	<u>White Spruce</u>	disease
erosion	fire	weather	fire
fire	land conversion	erosion	over-harvesting
land conversion	<u>Black Spruce</u>	land conversion	land conversion
<u>White Pine</u>	insects	<u>Red Spruce</u>	White Pine
insects	land conversion	insects	weather
fire	<u>Balsam Fir</u>	land conversion	erosion
<u>Black Spruce</u>	insects	<u>Maple</u>	over-harvesting
over-harvesting	fire	disease	land conversion
land conversion		fire	<u>Lodgepole Pine</u>
		over-harvesting	insects
		land conversion	<u>Black Spruce</u>
QUEBEC	N.E. U.S.A.	<u>White Pine</u>	erosion
<u>White Birch</u>	<u>White Birch</u>	insects	land conversion
insects	insects	weather	<u>Balsam Fir</u>
weather	weather	erosion	erosion
land conversion	erosion	disease	disease
<u>White Spruce</u>	<u>White Spruce</u>	fire	
disease	disease	over-harvesting	N.W. U.S.A.
fire	fire	land conversion	<u>White Birch</u>
land conversion	over-harvesting	<u>Lodgepole Pine</u>	insects
<u>Red Spruce</u>	land conversion	insects	weather
insects	<u>Red Spruce</u>	weather	<u>White Spruce</u>
<u>Maple</u>	over-harvesting	erosion	insects
land conversion	land conversion	disease	weather
<u>White Pine</u>	<u>Maple</u>	fire	erosion
erosion	insects	over-harvesting	<u>Red Spruce</u>
over-harvesting	weather	land conversion	fire
<u>Black Spruce</u>	erosion	<u>Black Spruce</u>	over-harvesting
insects	<u>White Pine</u>	insects	<u>Maple</u>
weather	insects	disease	erosion
erosion	weather	fire	disease
<u>Balsam Fir</u>	erosion	<u>Balsam Fir</u>	<u>White Pine</u>
weather	disease	weather	insects
erosion	fire	erosion	fire
	<u>Black Spruce</u>	land conversion	over-harvesting
	insects		land conversion
	weather		<u>Black Spruce</u>
	erosion		fire
	disease	B.C.	land conversion
	fire	White Spruce	<u>Balsam Fir</u>
	over-harvesting	erosion	insects
	<u>Balsam Fir</u>	disease	weather
	erosion	fire	erosion
	disease	land conversion	
	fire		
ONTARIO			
<u>White Birch</u>			
land conversion			
erosion			
<u>White Spruce</u>			
insects			
land conversion			
<u>Red Spruce</u>			
disease			

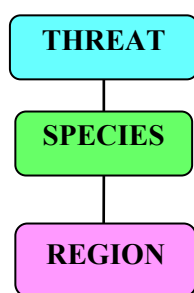
Figure 11

## Option 2

However, that's just one option. Figure 14 shows how those paragraphs could be completely regrouped for a message with a different objective or a different audience:

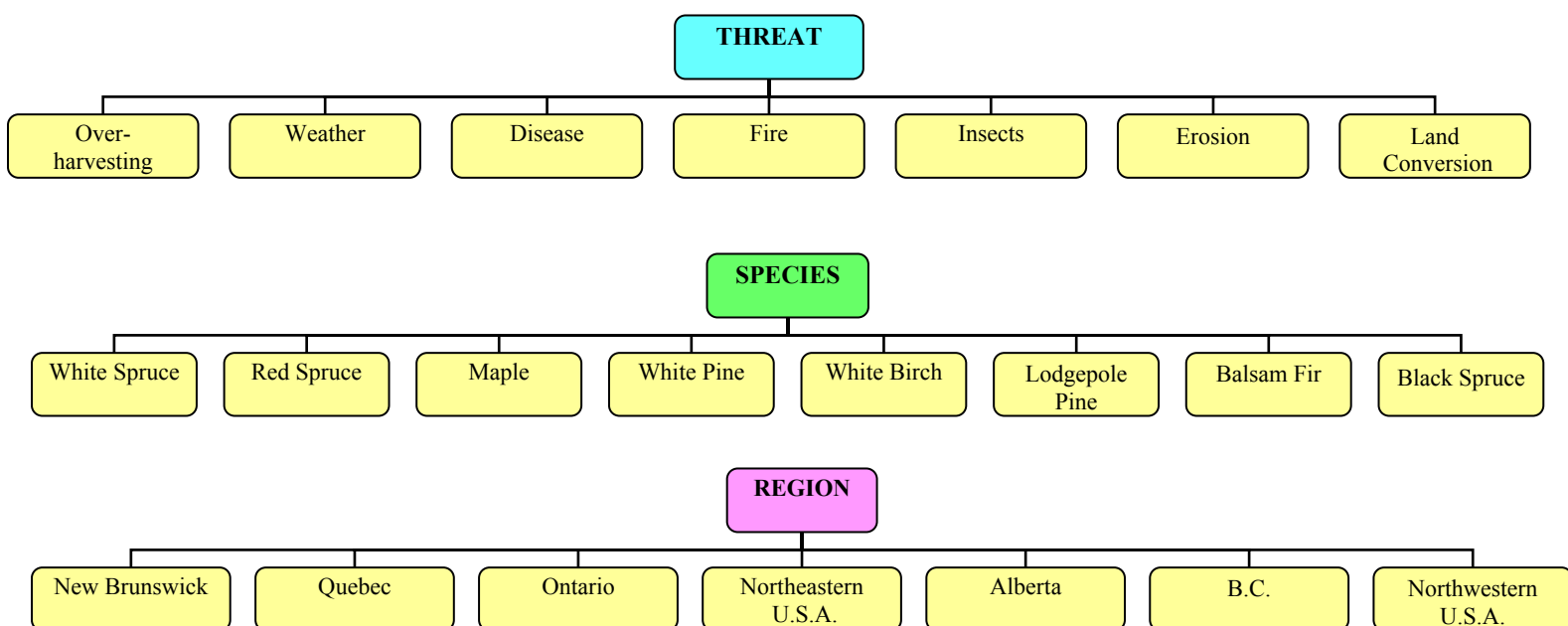
- First, I group all the paragraphs under type of threat or another — splitting many of them as I do so.
- Second, I group all the paragraphs by species under each threat — again splitting many of the paragraphs as I go.
- Third, I group all the paragraphs by region under each species — splitting many of the paragraphs yet again.

I still have three vertical levels, but now “threat” is on top and “region” is at the bottom. “Species”, however, is still in the middle.



**Figure 12**

The items in the horizontal span remain exactly the same as in Option 1:



**Figure 13**

## Option 2: Threat – Species – Region

INSECTS	<u>Black Spruce</u>	B.C.	N.W. U.S.A.
<u>White Birch</u>	Quebec	N.W. U.S.A.	<u>Maple</u>
Quebec	N.E. U.S.A.	<u>White Pine</u>	Ontario
N.E. U.S.A.	<u>Balsam Fir</u>	Ontario	Alberta
Alberta	Quebec	N.E. U.S.A.	B.C.
N.W. U.S.A.	N.E. U.S.A.	Alberta	<u>White Pine</u>
<u>White Spruce</u>	Alberta	<u>Lodgepole Pine</u>	Quebec
New Brunswick	N.W. U.S.A.	Alberta	Alberta
Ontario		<u>Black Spruce</u>	B.C.
N.W. U.S.A.	EROSION	N.E. U.S.A.	N.W. U.S.A.
<u>Red Spruce</u>	<u>White Birch</u>	Alberta	<u>Lodgepole Pine</u>
Quebec	Ontario	<u>Balsam Fir</u>	Alberta
Alberta	N.E. U.S.A.	N.E. U.S.A.	<u>Black Spruce</u>
B.C.	Alberta	B.C.	New Brunswick
<u>Maple</u>	<u>White Spruce</u>	FIRE	
N.E. U.S.A.	Alberta	<u>White Spruce</u>	LAND
<u>White Pine</u>	B.C.	Quebec	CONVERSION
New Brunswick	N.W. U.S.A.	N.E. U.S.A.	<u>White Birch</u>
N.E. U.S.A.	<u>Maple</u>	B.C.	Quebec
Alberta	New Brunswick	<u>Red Spruce</u>	Ontario
N.W. U.S.A.	Ontario	B.C.	<u>White Spruce</u>
<u>Lodgepole Pine</u>	N.E. U.S.A.	N.W. U.S.A.	New Brunswick
Alberta	N.W. U.S.A.	<u>Maple</u>	Quebec
B.C.	<u>White Pine</u>	New Brunswick	Ontario
<u>Black Spruce</u>	Quebec	Ontario	N.E. U.S.A.
Quebec	N.E. U.S.A.	Alberta	Alberta
Ontario	Alberta	B.C.	<u>Red Spruce</u>
N.E. U.S.A.	B.C.	N.E. U.S.A.	Alberta
Alberta	<u>Lodgepole Pine</u>	<u>Maple</u>	New Brunswick
<u>Balsam Fir</u>	Alberta	Quebec	Quebec
Ontario	<u>Black Spruce</u>	Alberta	B.C.
	Quebec	B.C.	<u>White Pine</u>
WEATHER	N.E. U.S.A.	N.W. U.S.A.	Ontario
<u>White Birch</u>	Alberta	<u>Lodgepole Pine</u>	Alberta
Quebec	N.W. U.S.A.	Alberta	B.C.
N.E. U.S.A.	<u>Balsam Fir</u>	<u>Black Spruce</u>	<u>White Pine</u>
Alberta	Quebec	N.E. U.S.A.	Ontario
N.W. U.S.A.	N.E. U.S.A.	Alberta	Alberta
<u>White Spruce</u>	Alberta	N.W. U.S.A.	B.C.
N.E. U.S.A.	B.C.	<u>Balsam Fir</u>	N.W. U.S.A.
Alberta	N.W. U.S.A.	Ontario	<u>Lodgepole Pine</u>
N.W. U.S.A.		N.E. U.S.A.	Alberta
<u>Maple</u>	DISEASE		<u>Black Spruce</u>
New Brunswick	<u>White Spruce</u>	OVER-	New Brunswick
<u>Ontario</u>	Quebec	HARVESTING	Ontario
N.E. U.S.A.	N.E. U.S.A.	<u>White Spruce</u>	B.C.
<u>White Pine</u>	B.C.	N.E. U.S.A.	N.W. U.S.A.
N.E. U.S.A.	<u>Red Spruce</u>	<u>Red Spruce</u>	<u>Balsam Fir</u>
Alberta	Ontario	N.E. U.S.A.	Alberta
B.C.	<u>Maple</u>	B.C.	
<u>Lodgepole Pine</u>	Ontario		
Alberta	Alberta		

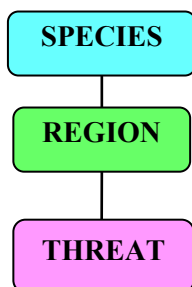
Figure 14

### Option 3

Figure 17 shows a third option, oriented again for a message with a different objective or a different audience:

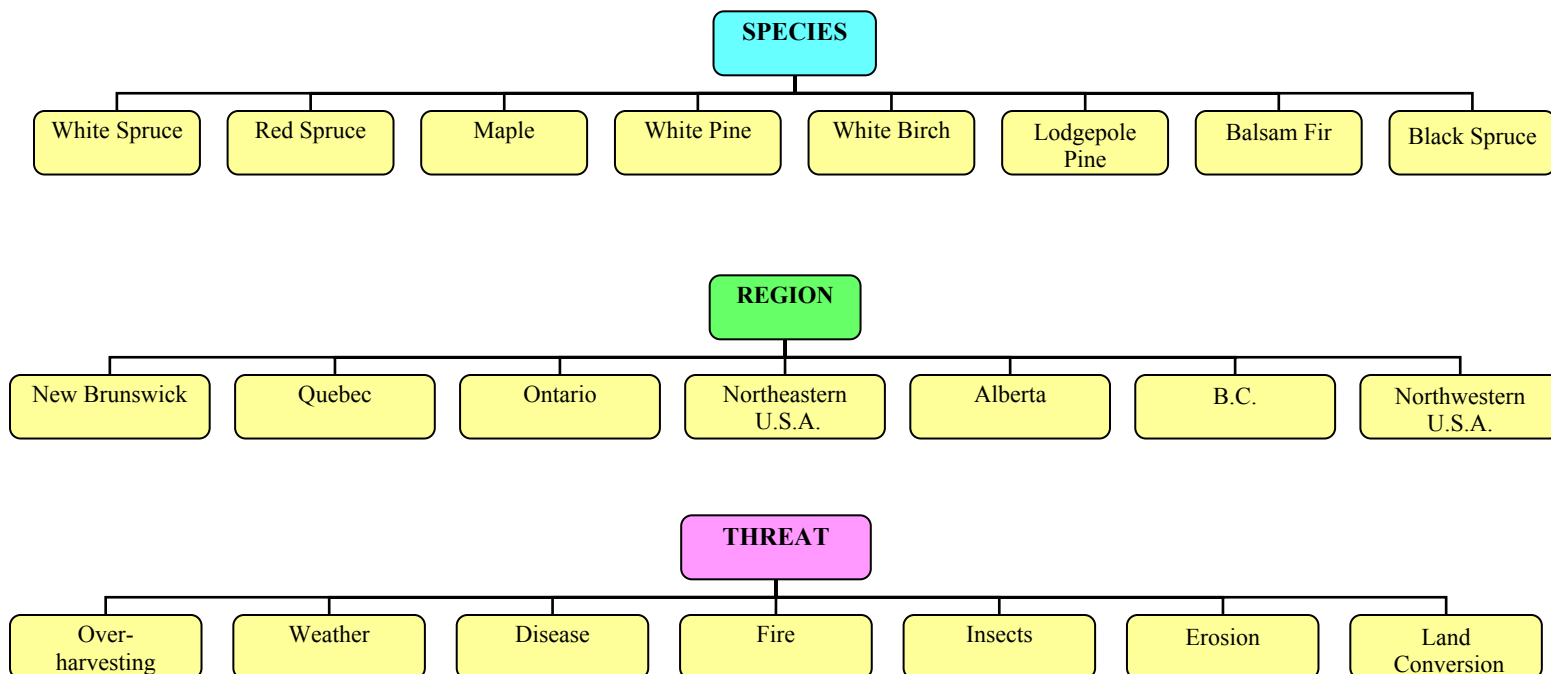
- First, I group all the paragraphs under type of tree or another — splitting many of them as I do so.
- Second, I group all the paragraphs by region under each type of tree — again splitting many of the paragraphs as I go.
- Third, I group all the paragraphs by threat under each region — splitting many of the paragraphs yet again.

Again, I still have three vertical levels, but now “species” is on top, “region” is in the middle, and “threat ” is back at the bottom:



**Figure 15**

And again, the items in the horizontal span remain exactly the same as before:



**Figure 16**

## Option 3: Species – Region – Threat

<p>WHITE BIRCH</p> <p><u>Quebec</u></p> <p>insects</p> <p>weather</p> <p><u>Ontario</u></p> <p>erosion</p> <p>land conversion</p> <p><u>N.E. U.S.A</u></p> <p>insects</p> <p>weather</p> <p>erosion</p> <p>disease</p> <p><u>Alberta</u></p> <p>insects</p> <p>weather</p> <p>erosion</p> <p><u>N.W. U.S.A.</u></p> <p>insects</p> <p>weather</p>	<p>RED SPRUCE</p> <p><u>Quebec</u></p> <p>insects</p> <p><u>Ontario</u></p> <p>disease</p> <p>fire</p> <p><u>N.E. U.S.A</u></p> <p>over-harvesting</p> <p>land conversion</p> <p><u>Alberta</u></p> <p>insects</p> <p>land conversion</p> <p><u>B.C.</u></p> <p>insects</p> <p>fire</p> <p>over-harvesting</p> <p><u>N.W. U.S.A.</u></p> <p>fire</p> <p>over-harvesting</p>	<p>WHITE PINE</p> <p><u>New Brunswick</u></p> <p>insects</p> <p>fire</p> <p><u>Quebec</u></p> <p>erosion</p> <p>over-harvesting</p> <p><u>Ontario</u></p> <p>disease</p> <p>fire</p> <p>land conversion</p> <p><u>N.E. U.S.A</u></p> <p>insects</p> <p>weather</p> <p>erosion</p> <p>disease</p> <p>fire</p> <p><u>Alberta</u></p> <p>insects</p> <p>weather</p> <p>erosion</p> <p>disease</p> <p>fire</p> <p>over-harvesting</p> <p>land conversion</p> <p><u>B.C.</u></p> <p>weather</p> <p>erosion</p> <p>over-harvesting</p> <p>land conversion</p> <p><u>N.W. U.S.A.</u></p> <p>insects</p> <p>fire</p> <p>over-harvesting</p> <p>land conversion</p>	<p>erosion</p> <p>disease</p> <p>fire</p> <p><u>Alberta</u></p> <p>insects</p> <p>disease</p> <p>fire</p> <p><u>B.C.</u></p> <p>land conversion</p> <p><u>N.W. U.S.A.</u></p> <p>fire</p> <p>land conversion</p> <p>BALSAM FIR</p> <p><u>Quebec</u></p> <p>weather</p> <p>erosion</p> <p><u>Ontario</u></p> <p>insects</p> <p>fire</p> <p><u>N.E. U.S.A</u></p> <p>erosion</p> <p>disease</p> <p>fire</p> <p><u>Alberta</u></p> <p>weather</p> <p>erosion</p> <p>land conversion</p> <p><u>B.C.</u></p> <p>erosion</p> <p>disease</p> <p><u>N.W. U.S.A.</u></p> <p>insects</p> <p>weather</p> <p>erosion</p>
<p>WHITE SPRUCE</p> <p><u>New Brunswick</u></p> <p>insects</p> <p>land conversion</p> <p><u>Quebec</u></p> <p>insects</p> <p>weather</p> <p>land conversion</p> <p><u>Ontario</u></p> <p>insects</p> <p>land conversion</p> <p><u>N.E. U.S.A</u></p> <p>disease</p> <p>fire</p> <p>over-harvesting</p> <p>land conversion</p> <p><u>Alberta</u></p> <p>weather</p> <p>erosion</p> <p>land conversion</p> <p><u>B.C.</u></p> <p>erosion</p> <p>disease</p> <p>fire</p> <p>land conversion</p> <p><u>N.W. U.S.A.</u></p> <p>insects</p> <p>weather</p> <p>erosion</p>	<p>MAPLE</p> <p><u>New Brunswick</u></p> <p>weather</p> <p>erosion</p> <p>fire</p> <p>land conversion</p> <p><u>Quebec</u></p> <p>land conversion</p> <p><u>Ontario</u></p> <p>weather</p> <p>erosion</p> <p>disease</p> <p><u>N.E. U.S.A</u></p> <p>insects</p> <p>weather</p> <p>erosion</p> <p><u>Alberta</u></p> <p>disease</p> <p>fire</p> <p>over-harvesting</p> <p>land conversion</p> <p><u>B.C.</u></p> <p>disease</p> <p>fire</p> <p>over-harvesting</p> <p>land conversion</p> <p><u>N.W. U.S.A.</u></p> <p>erosion</p> <p>disease</p>	<p>BLACK SPRUCE</p> <p><u>New Brunswick</u></p> <p>over-harvesting</p> <p>land conversion</p> <p><u>Quebec</u></p> <p>insects</p> <p>weather</p> <p>erosion</p> <p><u>Ontario</u></p> <p>insects</p> <p>land conversion</p> <p><u>N.E. U.S.A</u></p> <p>insects</p> <p>weather</p>	<p>LODGEPOLE PINE</p> <p><u>Alberta</u></p> <p>insects</p> <p>weather</p> <p>erosion</p> <p>disease</p> <p>fire</p> <p>over-harvesting</p> <p>land conversion</p> <p><u>B.C.</u></p> <p>insects</p>

Figure 17

## Fine Tuning

Any of those options could be further fine-tuned by exchanging the sub-groups with the sub-sub-groups and vice versa. Here's how this would look for a short excerpt from Figure 11:

<i>Original</i>		<i>Fine-Tuning</i>	
NEW BRUNSWICK	land conversion	NEW BRUNSWICK	white pine
<u>white spruce</u>	insects	<u>insects</u>	<u>over-harvesting</u>
insects	fire	white spruce	black spruce
land conversion	<u>black spruce</u>	white pine	<u>land conversion</u>
<u>maple</u>	over-harvesting	<u>weather</u>	white spruce
weather	land conversion	maple	maple
erosion	<i>[the rest of the list has been</i>	<u>erosion</u>	black spruce
fire	<i>cut off here]</i>	maple	<i>[the rest of the list</i>
		<u>fire</u>	<i>has been cut off</i>
		maple	<i>here]</i>

Figure 18

## Note

Figures 9 to 18 provide excellent examples of how some organization structures can be flipped upside down. I've used them for precisely that reason. However, not all structures are amenable to such easy rearrangement. In designing possible structures, you may have to be more creative in assigning labels to various parts of the text.