

Current  
trajectory

Best of  
both worlds

EBM &  
rapid change

Siloed management  
& high challenges

1

2

3

4

*changes relative  
to present day*

Less spring snow  
Warmer rivers  
75% less sea ice  
Lower marine productivity

Slightly less spring snow  
Slightly warmer rivers  
40% less sea ice  
Slightly lower productivity

Much less spring snow cover  
Much warmer rivers  
No sea ice  
Much lower marine productivity



4-6 MHWs/decade



2-4 MHWs/decade



6-9 MHWs/decade (50% cat5)

Moderate warming  
Moderately increased variability  
More climate shocks  
Medium risk future

Slightly warmer conditions  
Similar variability  
Occasional climate shocks  
Lowest risk future

Very high warming  
Higher variability  
Many more climate shocks  
Very high risk future

Moderate emissions  
Medium predictability

Lower emissions  
Higher predictability

High emissions  
Lower predictability

Ecosystem drivers included  
Ecosystem impacts included

*Managing fisheries  
from a whole  
ecosystem perspective*

Ecosystem drivers included  
Ecosystem impacts included  
Cross-sector cooperation  
Diverse knowledge

*Taking a whole ecosystem  
perspective to manage  
all resources*

Ecosystem drivers included  
Siloed decision making

*Fisheries  
focused  
management*

Ecosystem Based  
Fisheries Management

Ecosystem Based Management

Ecosystem Approach to  
Fisheries Management

# Future Climate Change Scenarios