Mt. Rainier Climbing Rangers
Lessons Learned
Mt. Rainier - 14,411’ (4392m)

• 5th National Park, created 1899
• 3rd highest peak in the lower 48
• 85% of glacier ice in US is in WA, 1/2 of that on Mt. Rainier
• Training ground for higher peaks in AK and Himalaya
• Resembles volcanos in Peru and Ecuador
• 10,700 climbers per year
• More people in a technical glaciated mountaineering environment than any other mountain in the US
Quick Definitions

**Seasonal:** Federal employee working less than 6 months per year. No retirement. No health benefits. Less than $20 / hr.

**Permanent:** Federal employee working 6 to 12 months. 30-year retirement. Health coverage. More than $20 / hr.

**GS:** General Schedule - a federal wage system based on increasing responsibilities. 5=$15/hr. 7=$19/hr. 9=$23/hr.
Objective

• Share lessons learned from climbing ranger accidents, injuries, and fatalities.
Boards of Review
Lesson 1: Culture, Traditions, Values

- What have you inherited?
- What are you not questioning?
- What are you taking for granted?

Invite and welcome outside review
### Example of Changing Culture

<table>
<thead>
<tr>
<th>&lt;- Then</th>
<th>Now</th>
<th>Future -&gt;</th>
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<tbody>
<tr>
<td>• 7 total rangers</td>
<td>• 16 total rangers</td>
<td>• 16 total rangers</td>
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<tr>
<td>• GS-5’s ($15/hr)</td>
<td>• GS-5, GS-7, GS-9</td>
<td>• GS-5, GS-7, GS-9</td>
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<tr>
<td>• 3-4 month seasons</td>
<td>• 6 month seasonals</td>
<td>• 6 month seasonals</td>
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<tr>
<td>• ~32 hrs technical training / person</td>
<td>• 200+ hrs technical training</td>
<td>• 200+ hrs technical training</td>
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<td>• Single coverage at ranger stations</td>
<td>• 2-3 Rangers @ each station</td>
<td>• 2-3 Rangers @ each station</td>
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<td>• Little mountain supervision</td>
<td>• 4 GS-9 perm field supervisors</td>
<td>• GS-9 &amp; GS-7 permanent staff</td>
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<tr>
<td>• Poor equipment</td>
<td>• Industry standard equipment</td>
<td>• Industry standard equipment</td>
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<td></td>
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<td>• AMGA Certification</td>
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Common denominators in employee accidents / fatalities

- Lack of leadership
- Risk Normalization
- Inadequate Communication
- Sub-standard training
- Insufficient career experience

- Poor Mountaineering Practices

What is your organizational culture?
Five Core Skills

EMT-B

Skill Curriculum/Validation: NR-EMT / WMI / WMA, etc…
Five Core Skills

Avalanche / Snow Stability

Skill Curriculum/Validation:
AIARE / CAA
Five Core Skills

Aviation

Skill Curriculum/Validation:
NWCG / US-DOI
Five Core Skills

Technical Rope Rescue Skill

Curriculum/Validation: US DOI All-Hazard
Professionalization in Mountaineering

All climbing rangers on path to AMGA Ski and/or Alpine Certification

- Ranger in AMGA Curriculum
- Ranger Certified (Alpine or Ski)
Professionalization in Mountaineering

- Maximizing Seasonal Yearly Employment

Season Length, Months

- 1992
- 1998
- 2005
- 2010
- 2014
Professionalization in Mountaineering

Supporting off-season training in core skill areas for seasonals

Mountaineering
Avalanche
Rescue
Aviation
EMS
Professionalization in Mountaineering
Decreasing office/admin time for supervisors

![Graph showing Professionalization in Mountaineering](graph.png)
Integrated Skills Training with Mountaineering

Helicopter - Rescue Scenarios
Integrated Skills Training with Mountaineering

Typical Terrain / Upper Mountain Rope Rescue
Lesson 2

Identify your core skills

Outsource training, testing, and certification
Risk Assessment and Management

Operational Leadership

- Evaluates Risk based on 8 criteria
  - Planning
  - Leadership
  - Equipment
  - Training
  - Team
  - Communications
  - Conditions
  - Complexity
- Frames discussion before the task
- Common denominators of accidents
- 500 documented GAR Models
GAR Risk Analysis - Lessons

Risk Awareness Increases with Increase in Responsibility
GAR Risk Analysis - Lessons

Risk Normalization - Summit Climbing vs. Human Waste

Climbing: Summit Climb

Human Waste: Baskets

Total GAR Score

0  7  14  21  28  35
Summary

Know your culture - Invite outside critique

Identify Core Skills - Train, Test, and Certify

Manage Risk - Seek and destroy risk normalization