

# Ballast Safety Advisory Update to the 54<sup>th</sup> Railroad Safety Advisory Committee Meeting

**November 5, 2015**  
Washington, DC



# RSAC Ballast Safety Advisory Summary

Safety Advisory 2015-04 Ballast Defects and Conditions was issued by FRA on August 20.

The Safety Advisory emphasizes the importance of timely repairing ballast defects and conditions on main tracks.

# RSAC Ballast Safety Advisory Summary

## The Ballast Safety Advisory Highlighted Accident

- July 18, 2013: CSX train derailed on Metro-North Railroad Main Track 2
- Caused by rail canting outward due to:
  - Gage
  - Profile deviation
  - Center-bound concrete ties
- Ballast failing to support track

# RSAC Ballast Safety Advisory Summary

- Track Safety Standards does not define ballast material type or volume amount
- Regardless of material, ballast must satisfy 49 CFR Part 213.103 and 213.334
  - Properly transmitting and distributing the load,
  - Restraining the track,
  - Providing adequate drainage, and
  - maintain proper geometry

# RSAC Ballast Safety Advisory Summary

- When ballast cannot adequately drain free-standing water—wheel loads are likely concentrated, rather than distributed
- Concentrated wheel loads can cause rapid deterioration of track components and track instability—increasing the risk of derailment

# RSAC Ballast Safety Advisory Summary

- Ballast defects are often readily apparent through indications of poor geometry and structure degradation—warranting additional monitoring and more restrictive remedial action
- Ballast conditions that produce a derailment risk **MUST** be corrected by repair or by applying appropriate restrictions upon discovery

# RSAC Ballast Safety Advisory Summary

- Inspectors should use technical knowledge and experience to identify poor ballast
- Take into account geometry conditions, and
- Additional factors to determine remedial action
  - Operating practices
  - Track Structure
  - Roadbed & Right-of-way conditions
  - Special trackwork and transition points

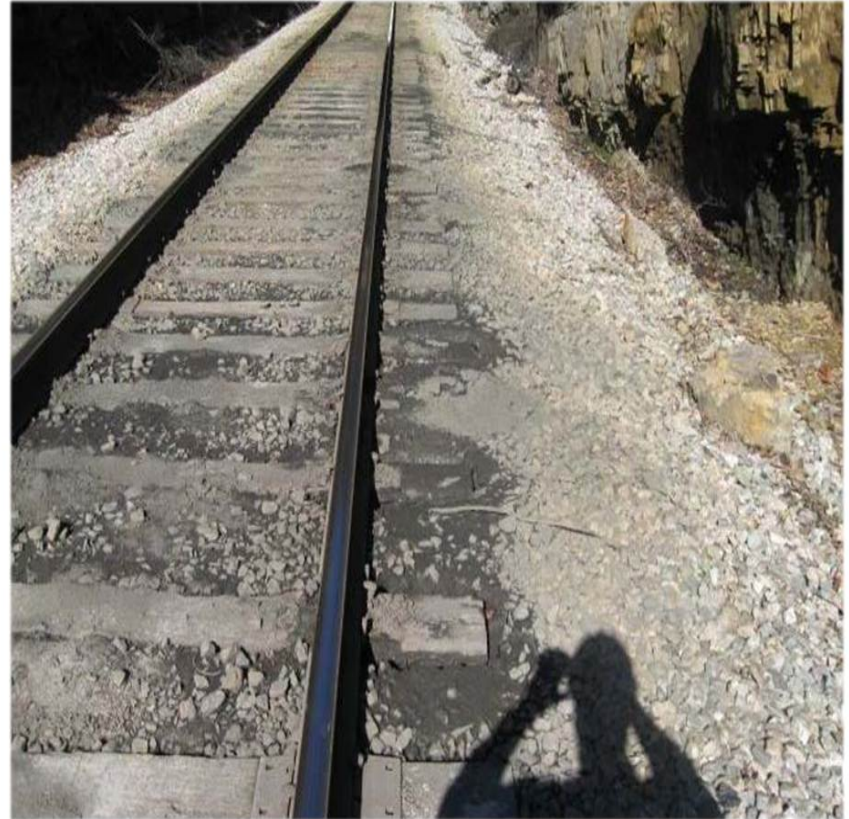
# RSAC Ballast Safety Advisory Summary

## Recommendations:

1. Assess current engineering instructions, update as necessary, to provide specific guidance to qualified inspectors (under 49CFR Part 213.7),
2. Train inspectors on updated engineering instructions and this safety advisory to ensure understanding and importance of preventing the development of unsafe combinations of track conditions, and
3. Insure supervisors provide adequate oversight of track inspectors to achieve identification and remediation of ballast defects and conditions.



# Typical Failed Ballast



# QUESTIONS?