



# Lessons Learned from Meteorite Public Outreach and Education in the Pacific Northwest

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## What we did:

### Project 1: Meteorite Display, Website, Teacher Workshops

- Meteorite display at the Rice Northwest Museum of Rocks and Minerals in Hillsboro Oregon.

- Developed a website that included an interactive meteorite identification exercise.

- Partnered with Portland Public Schools to give teacher workshops over the summer.

### Project 2: Meteorites on the Road I and II

- Partnered with Libraries of Eastern Oregon.

- Created powerpoint presentations.

- Put together a "hands-on" teaching collection of ~30 kg of meteorites.

- Drove over 27,000 miles on multi-day tours to rural areas in Oregon, Washington, and Idaho to speak to students in schools during the day, and the general public in community centers (libraries, grange halls, churches, saloons, etc.) in the evening.

- Interacted with roughly 7000 school children and 6000 adults at these events.

- Examined 2435 specimens. Of these, 119 were real meteorites, albeit already classified ones, while 4 were new unclassified samples. Most abundant "meteor-wrongs" were basalt, slag, manmade iron, and fulgerites (in that order).



Above: Meteorite Display at the Rice NW Museum of Rocks and Minerals



Below: We went anywhere: Libraries, schools, museums, community centers, grange halls, churches, saloons, etc. No venue (or screen) is too small.



Left: We drew crowds. People were standing in the back and out the door. Children filled floor spaces. Below: Dick Pugh interacts with enthusiastic gradeschoolers.



Right: Approximately one out of six attendees brought a suspected meteorite for identification. Of 2435 samples examined, 119 were real meteorites, albeit already classified ones (such as the Ness County chondrite in the upper right).

Below: Four samples turned out to be new meteorites and were classified by CML personnel (left to right below: Diamond Valley 002, Diamond Valley 003, Morrow County, Fitzwater Pass).



**Conclusion:** There is no "one size fits all" or perfect public outreach program. Museum exhibits mainly attract a local audience. Teachers prefer to have a speaker come to their classroom, rather than attend a teacher workshop. Public talks about meteorites are unlikely to draw large crowds in metropolitan areas, but can become big events in rural areas. But to reach populations in rural settings requires traveling large distances to speak to numerous small groups.

## What we learned:

Lesson 1: Teacher workshops can be ineffective - teachers responded that they felt overloaded with mandatory workshops - they were much happier to have us come to their classroom.

Lesson 2: Websites can generate interest, but people skip most of the information on a web site when browsing - people contacted us, said they'd seen the website, and asked for information that was on the website.

Lesson 3: Museum displays can interest the public, but have limited geographic reach - feedback showed that most visitors were from the Portland metro region - we weren't reaching most of Oregon.

Lesson 4: Taking a meteorite program directly into the heart of rural communities made a big splash - people reported driving long distances to attend - groups were sometimes too large for the venue - local newspapers made the presentation front-page news.

Lesson 5: There is significant public interest in meteorite identification and discovery - people brought in 2435 specimens for us to examine.

Lesson 6: There are real meteorites among rocks held by the public - including four samples classified by Cascadia Meteorite Lab Personnel: Morrow County (L6), Fitzwater Pass (IIIF iron), Diamond Valley 002 H6) and Diamond Valley 003 (H6).

Lesson 7: With diverse audiences, it is difficult to obtain rigorous quantitative assessment of program effectiveness, but relatively easy to obtain useful qualitative data.