

Watershed Assessment, River Restoration, and the Geoscience Profession in Oregon



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- **Introduction**
- **Oregon Geologist Licensure**
- **Watershed Projects and Licensure**
- **Conclusion**

Introduction



Geoscience in the U.S.

Scientific history rooted in the study of rivers

John Wesley Powell: 1869 tour of Grand Canyon

- **1881 appointed second director of USGS**
- **Geologic studies and topographic mapping**
- **Investigations of rivers and water resources**

Georef Citations: Keywords “river or fluvial”

>198,000 entries dating back to 1801 (AGI, 2007)

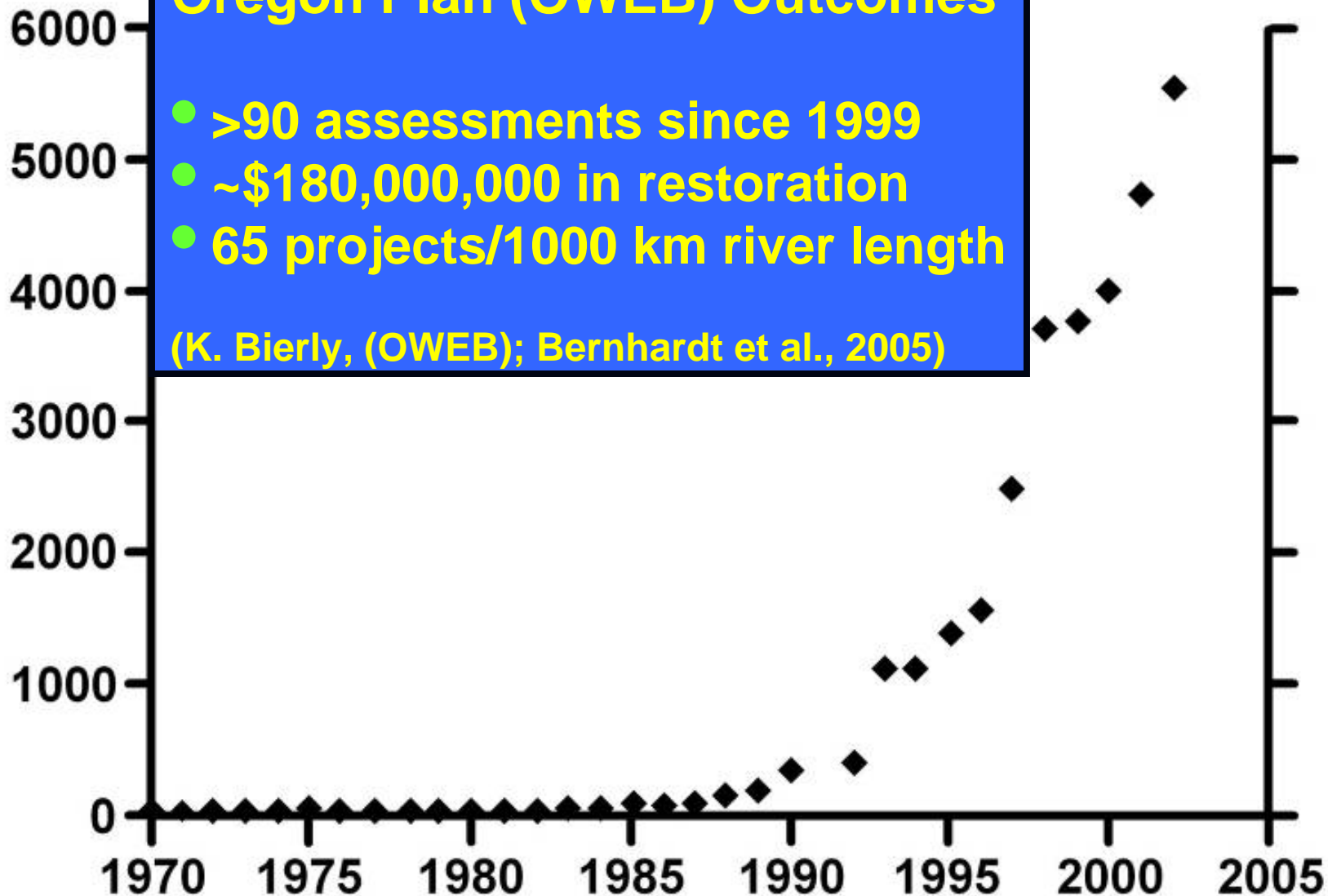
Census of U.S. River Restoration Projects

Oregon Plan (OWEB) Outcomes

- >90 assessments since 1999
- ~\$180,000,000 in restoration
- 65 projects/1000 km river length

(K. Bierly, (OWEB); Bernhardt et al., 2005)

No. Projects



National River Restoration
Synthesis Database

Year

What are the licensing requirements for professional registration?

What is the role of geoscience in river restoration practice?

Oregon Geologist Licensure

Oregon Board of Geologist Examiners

- Licensing laws enacted in 1977
(ORS 672.505 to 672.991)

- Board mission: to
“safeguard the health
and welfare and property
of the people of Oregon”



- “...safeguards are in the fields of geology as related to engineering, ground water, land use planning, mineral exploration, geologic hazards, and other matters of the state”

Who Are We?

- **Semi-independent board / Governor-appointed**
- **Fee supported / self-sustaining**
- **4 professional members, 1 community member, State Geologist serves *ex officio***



Organizational Functions

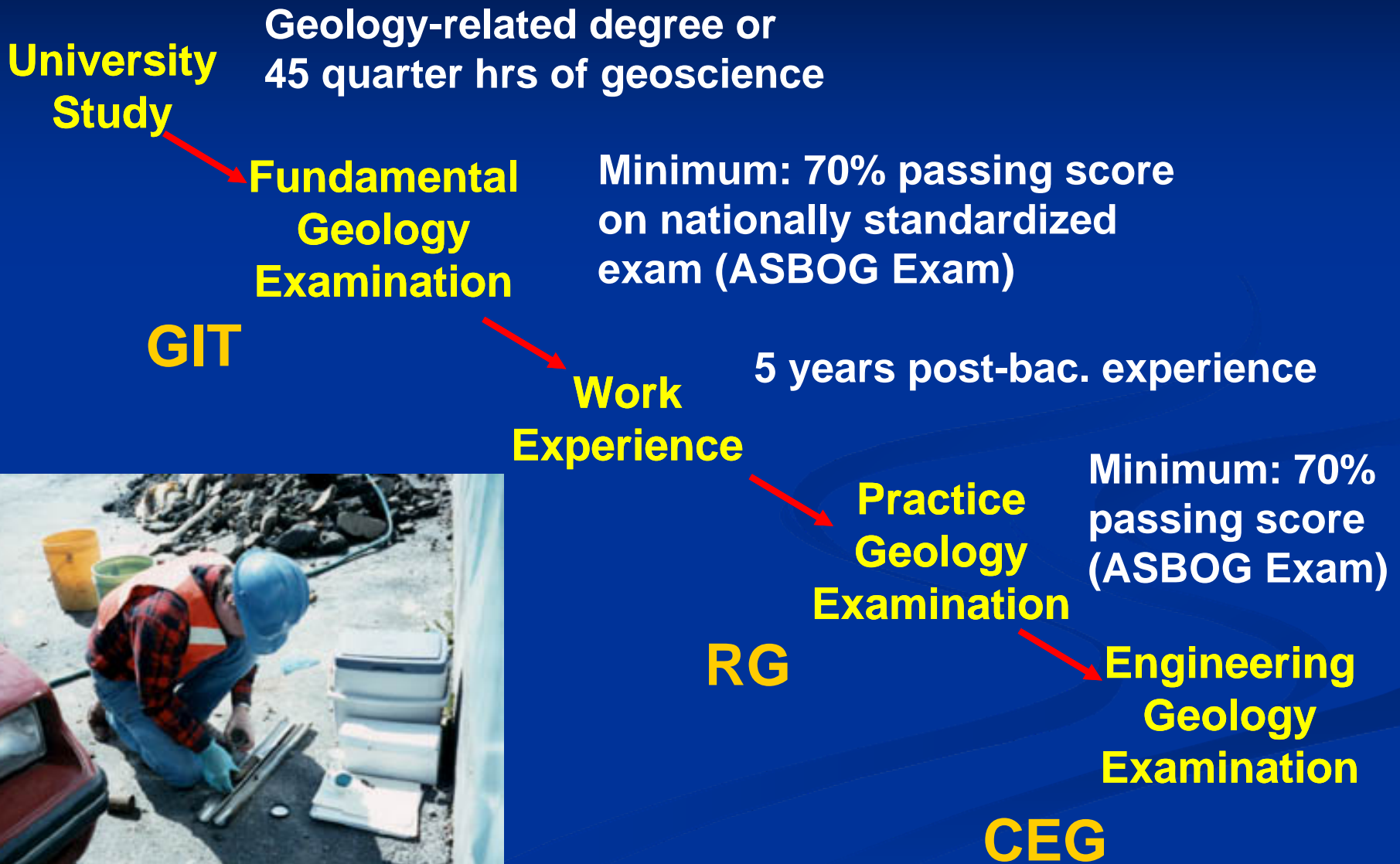
- License Registrants and Screen Applicants
 - Experience & Education
 - Standardized Examinations
- Compliance
- Interpret Statutes (ORS)
- Promulgate Rules (OAR)
- Consult with Attorney General's Office

Certifications

- Geologist-in-Training (GIT)
- Registered Geologist (RG)
- Certified Engineering Geologist (CEG)



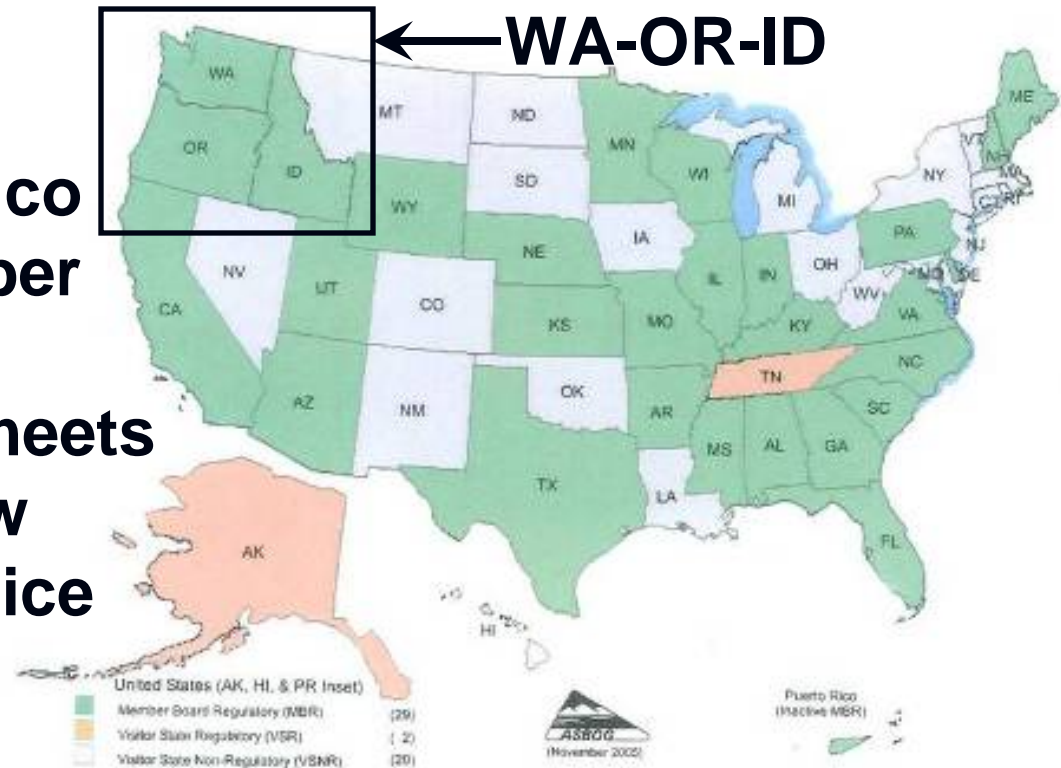
Licensing Requirements





Standardized Testing Association of State Boards of Geology

- 28 States and Puerto Rico
- Oregon founding member since 1990
- Council of Examiners meets twice annually to review Fundamental and Practice Exams



Compliance

■ Common Complaints

- Practice without a license
- Unstamped work products
- Poor quality workmanship
- Fraud, negligence, deceit
- Avg. ~8-10 cases/year

■ Enforcement Actions

- Letter of concern
- Peer review and mentoring
- Civil penalties (max \$1,000 per violation)
- License revocation



Exemptions from Oregon Geology Licensing Laws

- **Individuals preparing reports of existing documents and acting as scriveners**
- **Federal employees working on employment-related projects**
- **University professors working on employment-related teaching and research**
- **Private citizens providing testimony at public hearings as part of their free-speech rights**

Watershed Projects and Geology Licensure

Watershed Systems

- **Characterized by geology, landforms, and climate**
- **Affected by local biotic and abiotic influences**
- **Comprised of multivariate subsystems with interdependent process-response mechanisms**

Watershed Assessment Objectives

- **Identify features and processes important to fish habitat**
- **Determine the influence of natural processes**
- **Understand human activities and evaluate effects of land management**

River management projects require a multi-disciplinary team approach

Watershed Project Activities Involving the Practice of Geology

- **Map / air photo interpretation of geologic features**
- **Geologic and geomorphic mapping**
- **Geomorphic analysis (processes and landforms)**
- **Interpretation of the geologic record**
- **Hydrogeology and aquifer characterization**
- **Engineering geology (erosion and slope stability)**
- **Evaluation of geologic hazards**

Conclusion

- River management projects require a multi-disciplinary team approach with a diverse array of specialists (represented here today)
- Under Oregon state law, geologic components of watershed projects require a registered geologist or engineering geologist
- Given the inherent overlap between natural resource disciplines, OSBGE recognizes the need for professional alliances to ensure public welfare ... outreach and discussion is a key component

Contact OSBGE

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