

NCHRP Practitioner Experience

1. Section A--Information

*** 1. Please provide your contact information.**

Name:

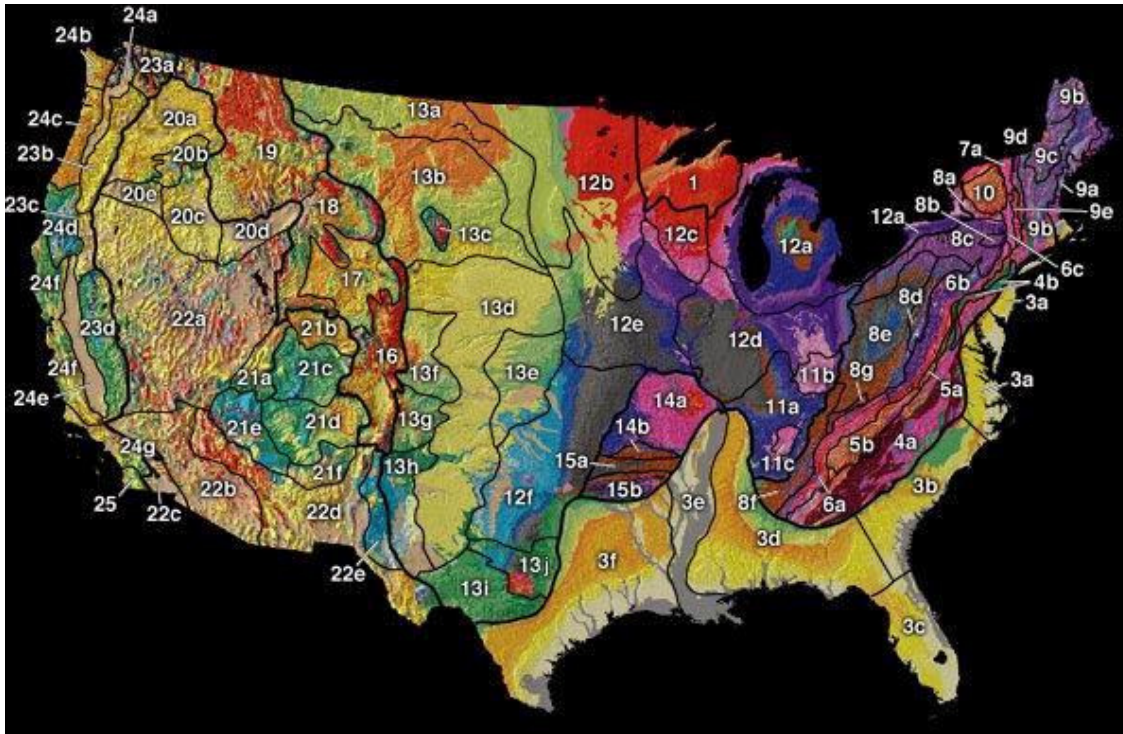
Organization:

Email:

Phone Number:

2. USGS Physiographic Region

USGS Physiographic Regions



2. Select the physiographic regions in which you have used the selected structure.

- | | | |
|---|--|---|
| <input type="checkbox"/> 1 Superior Upland | <input type="checkbox"/> 10 Adirondack Province | <input type="checkbox"/> 20b Blue Mountain section |
| <input type="checkbox"/> 2 Continental Shelf (not on map) | <input type="checkbox"/> 11a Highland Rim section | <input type="checkbox"/> 20c Payette section |
| <input type="checkbox"/> 3a Embayed section | <input type="checkbox"/> 11b Lexington Plain | <input type="checkbox"/> 20d Snake River Plain |
| <input type="checkbox"/> 3b Sea Island section | <input type="checkbox"/> 11c Nashville Basin | <input type="checkbox"/> 20e Harney section |
| <input type="checkbox"/> 3c Floridian section | <input type="checkbox"/> 12a Eastern Lake section | <input type="checkbox"/> 21a High Plateaus of Utah |
| <input type="checkbox"/> 3d East Gulf Coastal Plain | <input type="checkbox"/> 12b Western Lake section | <input type="checkbox"/> 21b Uinta Basin |
| <input type="checkbox"/> 3e Mississippi Alluvial Plain | <input type="checkbox"/> 12c Wisconsin Driftless section | <input type="checkbox"/> 21c Canyon Lands |
| <input type="checkbox"/> 3f West Gulf Coastal Plain | <input type="checkbox"/> 12d Till Plains | <input type="checkbox"/> 21d Navajo section |
| <input type="checkbox"/> 4a Piedmont Upland | <input type="checkbox"/> 12e Dissected Till Plains | <input type="checkbox"/> 21e Grand Canyon section |
| <input type="checkbox"/> 4b Piedmont Lowlands | <input type="checkbox"/> 12f Osage Plains | <input type="checkbox"/> 21f Datil section |
| <input type="checkbox"/> 5a Northern section | <input type="checkbox"/> 13a Missouri Plateau, glaciated | <input type="checkbox"/> 22a Great Basin |
| <input type="checkbox"/> 5b Southern section | <input type="checkbox"/> 13b Missouri Plateau, unglaciated | <input type="checkbox"/> 22b Sonoran Desert |
| <input type="checkbox"/> 6a Tennessee section | <input type="checkbox"/> 13c Black Hills | <input type="checkbox"/> 22c Salton Trough |
| <input type="checkbox"/> 6b Middle section | <input type="checkbox"/> 13d High Plains | <input type="checkbox"/> 22d Mexican Highland |
| <input type="checkbox"/> 6c Hudson Valley | <input type="checkbox"/> 13e Plains Border | <input type="checkbox"/> 22e Sacramento section |
| <input type="checkbox"/> 7a Champlain section | <input type="checkbox"/> 13f Colorado Piedmont | <input type="checkbox"/> 23a Northern Cascade Mountains |
| <input type="checkbox"/> 7b Northern section (not on map) | <input type="checkbox"/> 13g Raton section | <input type="checkbox"/> 23b Middle Cascade Mountains |

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- | | | |
|---|---|---|
| <input type="checkbox"/> 8a Mohawk section | <input type="checkbox"/> 13h Pecos Valley | <input type="checkbox"/> 23c Southern Cascade Mountains |
| <input type="checkbox"/> 8b Catskill section | <input type="checkbox"/> 13i Edwards Plateau | <input type="checkbox"/> 23d Sierra Nevada |
| <input type="checkbox"/> 8c Southern New York section | <input type="checkbox"/> 13j Central Texas section | <input type="checkbox"/> 24a Puget Trough |
| <input type="checkbox"/> 8d Allegheny Mountain section | <input type="checkbox"/> 14a Springfield-Salem plateaus | <input type="checkbox"/> 24b Olympic Mountains |
| <input type="checkbox"/> 8e Kanawha section | <input type="checkbox"/> 14b Boston "Mountains" | <input type="checkbox"/> 25c Oregon Coast Range |
| <input type="checkbox"/> 8f Cumberland Plateau section | <input type="checkbox"/> 15a Arkansas Valley | <input type="checkbox"/> 25d Klamath Mountains |
| <input type="checkbox"/> 8g Cumberland Mountain section | <input type="checkbox"/> 15b Ouachita Mountains | <input type="checkbox"/> 25e California Trough |
| <input type="checkbox"/> 9a Seaboard Lowland section | <input type="checkbox"/> 16 Southern Rocky Mountains | <input type="checkbox"/> 25f California Coast Ranges |
| <input type="checkbox"/> 9b New England Upland section | <input type="checkbox"/> 17 Wyoming Basin | <input type="checkbox"/> 25g Los Angeles Ranges |
| <input type="checkbox"/> 9c White Mountain section | <input type="checkbox"/> 18 Middle Rocky Mountains | <input type="checkbox"/> 26 Lower California province |
| <input type="checkbox"/> 9d Green Mountain section | <input type="checkbox"/> 19 Northern Rocky Mountains | |
| <input type="checkbox"/> 9e Taconic section | <input type="checkbox"/> 20a Walla Walla Plateau | |

Other (please specify)

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3. Structure Type

3. What structure types do you have experience with?

Rock Vanes

Cross Vanes

Constructed Riffles

J-hooks

Stream Barbs

Submerged (Iowa) vanes

W-weirs

Bendway Weirs

Spur dike/ Groynes

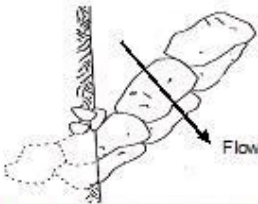
* 4. Do you have experience with the use of rock vanes?

Yes

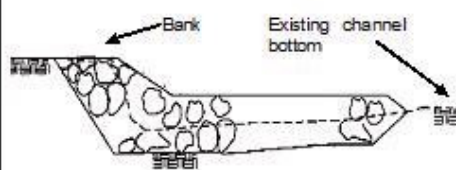
No

See sketch and descriptions for structure clarification.

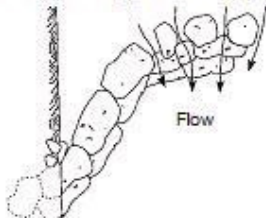
Rock vane--single-arm rock structure extending from the bank; gradually slopes from the bank into the bed at free end; tip is submerged during low flow



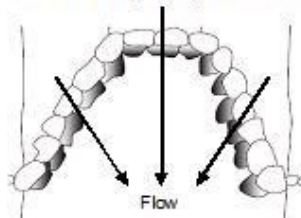
Bendway weir / stream barb--low-sill rock structure; submerged in all but very low flows; rock size and shape differ from that of rock vanes (centerline view)



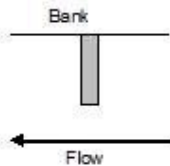
J-hook vane--constructed exactly like a rock vane except there are additional boulders placed at the tip of the vane in a hooking pattern with gaps between them



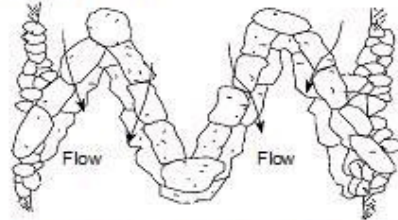
Cross vane--dual-arm rock structure made by connecting the tips of two rock vanes from opposite banks with rocks arranged perpendicular to the flow



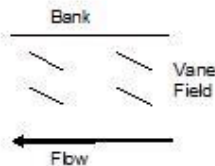
Spur dike / groyne--single arm structure made of rock or nonporous material extending from the bank; normally overtopped only during high flows



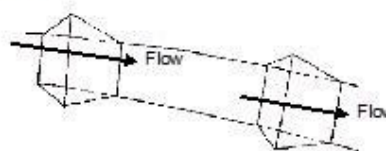
W-weir--dual arm rock vanes extending from both banks are joined by two rows of rock in the shape of a "V" pointing downstream



Submerged (Iowa) vane--thin foils angled into the upstream flow and submerged even during low flow periods



Constructed riffle--array of rock located within a channel reach where depth decreases and the channel may widen



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4. Section A--Rock Vanes

5. What is the most likely alternative to rock vanes?

- Riprap
- Pavement/Concrete
- Dredging
- Other instream structure (Please specify)

6. Answer the following questions considering rock vanes and its most likely alternative.

Rate your level of agreement; 4 being Strongly Agree, 1 being Strongly Disagree

	Strongly Agree (4)	Agree (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable
Construction/installation is quicker than the most likely alternative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost of construction materials is less than the most likely alternative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost of construction/installation is less than the most likely alternative.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Design guidelines are adequate for the selected structure type.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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5. Section A--Rock Vane Performance

7. Answer the following questions considering the performance of rock vanes.

Rate your level of agreement; 4 being Strongly Agree, 1 being Strongly Disagree

	Strongly Agree (4)	Agree (3)	Disagree (2)	Strongly Disagree (1)	Not Applicable
Structure successfully halts further bank/bed erosion or scour.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Structure results in sediment deposition at the project site.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Structure prevents erosion during a flood event.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Structure successfully protects infrastructure (pier, culvert, abutment, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Section A--Rock Vane Environmental Impact

8. Rock vanes trigger adverse environmental effects.

- Strongly Agree (4) Agree (3) Disagree (2) Strongly Disagree (1) Not Applicable

7. Rock Vane Adverse Effects

9. Please specify adverse effects

Increased sediment load

Blocked fish passage

Habitat destruction

Other (please specify)

8. Rock Vanes Aquatic Habitat

10. Rock vanes improve aquatic habitat.

Rate your level of agreement; 4 being Strongly Agree, 1 being Strongly Disagree

- Strongly Agree (4) Agree (3) Disagree (2) Strongly Disagree (1) Not Applicable

9. Section A--Rock Vanes Improved Habitats

11. Please identify habitats improved.

Increased flow diversity

Macroinvertebrates

Fish

Vegetation

Other (please specify)

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10. Section A--Rock Vane Repairs

Provide estimates for repairs and maintenance of rock vanes.

12. Estimated time until first repair

- Less than 6 months 6-12 months 1-2 years Greater than 2 years Never

13. Estimated cost of normal maintenance (as percentage of project cost).

- Less than 5% 5-15% 15-30% Greater than 30% None Required

14. Estimated repairs needed after design flood events.

- None Required Minor Repair Moderate Repair Major Repair Replacement

11. Section A--Uses & Limitations

15. What is the most effective use of rock vanes?

16. What are the biggest limitations of rock vanes?

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12. Section B--Rock Vane Successful Project

Please provide details for a successful project which used rock vanes.

17. Project name/Location

18. City/Town

19. Year project completed

20. Objectives of structure implementation

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13. Section B--Rock Vane Successful Project

Answer the following questions considering the successful project using rock vanes.

21. Bed composition (Select all that apply)

Clay

Gravel

Silt

Cobbles

Sand

Other (please specify)

22. Project monitoring, if any (Select all that apply)

Visual inspection

Macroinvertebrate population

Stage/discharge

Fish population

Velocity

Habitat

Water quality

NO MONITORING WAS PERFORMED

Cross-section surveys

Other (please specify)

14. Rock Vanes Project Monitoring

23. How long was the project monitored?

- Less than 1 year
- 1-2 years
- 2-3 years
- Over 3 years

24. How frequently was the project monitored?

- Every 2 years or longer
- Every 1-2 years
- More than once a year
- Other (please specify)

15. Section B--Rock Vanes

25. What changes have occurred on site since project completion?

26. Design guidelines followed, if any.

Newbury

Odgaard

HEC-23

Rosgen

NEH-654

Other (please be as specific as possible)

27. Was the project installed per design specification?

Yes

No

If no, list deviations

28. Has the low-flow structure experienced a design flood?

Yes

No

29. Why was the project considered successful?

30. Would you recommend this site for NCHRP monitoring?

Yes

No

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16. Section C--Rock Vane

Please describe an unsuccessful project that included rock vanes.

31. Project name/Location

32. City/Town

33. Year project completed

34. Objectives of structure implementation

17. Section C--Rock Vane Unsuccessful Project

35. Bed composition (Select all that apply)

Clay

Gravel

Silt

Cobbles

Sand

Other (please specify)

36. Project monitoring, if any (Select all that apply)

Visual inspection

Macroinvertebrate population

Stage/discharge

Fish population

Velocity

Habitat

Water quality

NO PROJECT MONITORING

Cross-section surveys

Other (please specify)

18. Unsuccessful Rock Vane Project Monitoring

37. How long was the project monitored?

- Less than 1 year
- 1-2 years
- 2-3 years
- Over 3 years

38. How frequently was the project monitored?

- Every 2 years or longer
- Every 1-2 years
- More than once a year
- Other (please specify)

19. Unsuccessful Rock Vanes Project

39. What changes have occurred on site since project completion?

40. Design guidelines followed, if any.

Newbury

Odgaard

HEC-23

Rosgen

NEH-654

Other (please be as specific as possible)

41. Was the project installed per design specification?

Yes

No

If no, list deviations

42. Has the low-flow structure experienced a design flood?

Yes

No

43. Why was the project considered unsuccessful?

44. Would you recommend this site for NCHRP monitoring?

Yes

No