Citation Evidence Report

EB-2 NIW Petition — National Interest Waiver

Matter of Dhanasar · Prong 2 (well-positioned)

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Google Scholar profile

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Prong 2 of Matter of Dhanasar (the petitioner is well positioned to advance the proposed endeavor) — the prong where past citation evidence is most probative. It is a drafting aid for the petitioner's counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

A. Overview & Filtering Statement

2,368	2,842	101	29
Citing papers mapped	Citation edges	Home papers mapped	h-index (GS)

Filtering statement — methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper's authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar's known collaborators; *same-institution* citations are by authors affiliated with the scholar's institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar's own circle.

Known limitations — counsel must verify. (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight — re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar's own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

99.0% independent of 1,049 classified citing papers

Citation type	Count
Independent	1,038
Self-citation	0
Co-author	9
Same-institution	2

1,319 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total — the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing — how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner's choice of comparison field.

Contribution 1

Claim — Contribution 1

The researcher established a foundational framework linking hydrological flow regimes to riparian vegetation dynamics in arid southwestern US rivers, significantly advancing ecological restoration science.

The researcher's core contribution rests on the 2007 paper examining the importance of low-flow and high-flow characteristics for restoring riparian vegetation in the arid southwestern United States. This work serves as the anchor for a sustained line of inquiry into riverine ecology.

This line of work appears to address the critical need to understand how specific hydrological patterns influence plant communities in water-scarce regions. By progressing from restoration mechanics in 2007 to climate implications in 2010 and ecosystem resilience in 2013, the researcher systematically expanded the scope from local restoration to broader climatic sensitivity.

The significance of this contribution is evidenced by substantial independent uptake. With over 700 combined citations for this specific line of work, and nearly 100% of citing papers originating from independent researchers, the field has widely adopted these frameworks to understand dryland riparian ecosystems.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 252 · **20 flagged influential by Semantic Scholar**

CORE PAPER

Importance of low-flow and high-flow characteristics to restoration of riparian vegetation along rivers in arid south-western United States

2007 · Freshwater Biology 52 (4), 651-679, 2007 · 457 citations (GS)

Field-normalised: 380 Semantic Scholar citations place it in the top 5% of Environmental Science papers from 2007 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Hydropower impacts on riverine biodiversity (2024)	Brazilian Agricultural Research Corporation, Eberhard Karls Universitaet Tuebingen, Northeast Institute of Geography and Agroecology, Chinese Academy of Sciences	Brazil, China, Germany	—
2	Managing riparian zones for river health improvement: an integrated approach	Banaras Hindu University	India	—
3	Vulnerability of riparian ecosystems to elevated <scp><scp>CO₂</scp></scp> and climate change in arid and semiarid western <scp>N</scp>orth <scp>A</scp>merica	Bureau of Reclamation, Colorado State University, U.S. Geological Survey	United States	**Influential**
4	Analysis of vegetation recovery surrounding a restored wetland using the normalized difference infrared index (NDII) and normalized difference vegetation index (NDVI)	U. S. Geological Survey	United States	Background
5	Effects of climate-induced increases in summer drought on riparian plant species: a meta-analysis.	Utrecht University	Netherlands	**Influential**

No.	Citing paper	Citing institution(s)	Country	S2
6	Turquoise is the new green: Restoring and enhancing riparian function in the Anthropocene	Griffith University, University of Western Australia	Australia	—
7	Assessing the effectiveness of riparian restoration projects using Landsat and precipitation data from the cloud-computing application ClimateEngine.org	Desert Research Institute, United States Geological Survey, University of California, Merced	United States	Background
8	Neural Machine Translation of Sign Language	Ghent University, Universitat Pompeu Fabra	Belgium, Spain	—
9	Inundation tolerance, rather than drought tolerance, predicts riparian plant distributions along a local hydrologic gradient	U.S. Geological Survey	United States	—
10	Five Year Analyses of Vegetation Response to Restoration using Rock Detention Structures in Southeastern Arizona, United States.	U.S. Geological Survey	United States	**Influential**
11	Environmental tolerance of an invasive riparian tree and its potential for continued spread in the southwestern US	Colorado State University	United States	—
12	Plant species richness in ephemeral and perennial reaches of a dryland river	Arizona State University	United States	Background
13	Microclimate modification by riparian vegetation affects the structure and resource limitation of arthropod communities	Arizona State University	United States	—
14	Anastomosis and Low Flows Sustain Resilient Groundwater Dependent Riparian Floodplains in an Agricultural River Valley, New Mexico	Northern Arizona University, The Nature Conservancy	United States	—
15	Forest structure, flooding and grazing predict understorey composition of floodplain forests in southeastern Australia	Monash University	Australia	Background
16	Hydroclimatic drivers of the growth of riparian cottonwoods at the prairie margin: River flows, river regulation and the Pacific Decadal Oscillation	University of Lethbridge	Canada	—
17	Riparian plant composition along hydrologic gradients in a dryland river basin and implications for a warming climate	Colorado State University, U.S. Geological Survey	United States	Background
18	Riparian Ecosystems in the 21st Century: Hotspots for Climate Change Adaptation?	Australian Bureau of Meteorology, Griffith University, University of Canberra	Australia, United States	—
19	Plants as river system engineers (2013)	Queen Mary University of London	United Kingdom	—
20	Mechanistic effects of low-flow hydrology on riverine ecosystems: ecological principles and consequences of alteration (2012)	Griffith University	Australia	Background

No.	Citing paper	Citing institution(s)	Country	S2
21	Ecological research and management of intermittent rivers: an historical review and future directions (2015)	Irstea, James Madison University, University of New England	Australia, France, United States	—
22	Riparian plant community responses to increased flooding: a meta-analysis. (2015)	Utrecht University	Netherlands	Background
23	Effects of Hydropower Generation and Opportunities for Environmental Flow Management in Swedish Riverine Ecosystems (2010)	Umeå University	Sweden	—
24	Groundwater-dependent ecosystems: recent insights from satellite and field-based studies (2015)	University of Technology Sydney	Australia	—
25	Riparian Zone Assessment and Management: an Integrated Review Using Geospatial Technology (2023)	Birla Institute of Technology, Chulalongkorn University	Thailand	—
26	Equids engineer desert water availability. (2021)	Arizona State University, Northern Arizona University, Roger Williams Park Museum of Natural History	Australia, United States	—
27	Groundwater dependence of riparian woodlands and the disrupting effect of anthropogenically altered streamflow. (2021)	Cardiff University, State University of New York College of Environmental Science and Forestry, University of California, Santa Barbara	United Kingdom, United States	—
28	Recovery and Degradation Drive Changes in the Dispersal Capacity of Stream Macroinvertebrate Communities. (2025)	Senckenberg Research Institute and Natural History Museum Frankfurt, Smithsonian's National Zoo and Conservation Biology Institute	Germany, United States	—
29	From pixels to riverscapes: How remote sensing and geospatial tools can prioritize riverscape restoration at multiple scales (2024)	Desert Research Institute, U.S. Geological Survey, Utah State University	United States	Background
30	Immobilizing nitrogen to control plant invasion. (2010)	Colorado State University	United States	Background

Showing the 30 most-cited of 164 independent citing papers.

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

FOLLOW-UP WORK

Effects of stream flow patterns on riparian vegetation of a semiarid river: implications for a changing climate

2010 · River Research and Applications 26 (6), 712-729, 2010 · 218 citations (GS)

Field-normalised: 152 Semantic Scholar citations place it in the top 5% of Environmental Science papers from 2010 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Tracing the scientific trajectory of riparian vegetation studies: Main topics, approaches and needs in a globally changing world	Universidade de Lisboa, Université Rennes 2	France, Portugal	—
2	Vulnerability of riparian ecosystems to elevated <scp><scp>CO₂</scp></scp> and climate change in arid and semiarid western <scp>N</scp>orth <scp>A</scp>merica	Bureau of Reclamation, Colorado State University, U.S. Geological Survey	United States	Influential
3	Effects of climate-induced increases in summer drought on riparian plant species: a meta-analysis.	Utrecht University	Netherlands	Background
4	Dynamics of Murray-Darling floodplain forests under multiple stressors: The past, present, and future of an Australian icon	Monash University	Australia	Background
5	Linking stream flow and groundwater to avian habitat in a desert riparian system.	Natural Resource Research Center	United States	Background
6	Incorporating climate change projections into riparian restoration planning and design	Colorado State University, National Oceanic and Atmospheric Administration, U.S. Geological Survey	United States	Influential
7	Using Vegetation Guilds to Predict Bird Habitat Characteristics in Riparian Areas	Arizona State University, Colorado State University, USDA Forest Service	United States	—
8	Riparian vegetation of ephemeral streams	Idaho State University, University of Arizona	United States	—
9	Environment-driven changes in diversity of riparian plant communities along a mountain river.	El Colegio de la Frontera Sur, Universidad Nacional Autónoma de México	México	Background
10	Riparian plant composition along hydrologic gradients in a dryland river basin and implications for a warming climate	Colorado State University, U.S. Geological Survey	United States	Result
11	Using LiDAR to assess transitions in riparian vegetation structure along a rural-to-urban land use gradient in western North America	University of Utah	United States	—
12	Vegetation structure along urban ephemeral streams in southeastern Arizona	International Hellenic University	Greece	—
13	Patterns of water use by the riparian tree Melaleuca argentea in semi-arid northwest Australia	The University of Western Australia	Australia	Background
14	Plants as river system engineers	Queen Mary University of London	United Kingdom	—
15	Groundwater-dependent ecosystems: recent insights from satellite and field-based studies	University of Technology Sydney	Australia	—
16	Livestock management, beaver, and climate influences on riparian vegetation in a semiarid landscape.	Trout Unlimited, US Bureau of Land Management	United States	—

No.	Citing paper	Citing institution(s)	Country	S2
17	Sensitivity of Intermittent Streams to Climate Variations in the USA	U.S. Geological Survey	United States	Background
18	Riparian responses to extreme climate and land-use change scenarios	—	—	—
19	Modelling feedbacks between geomorphological and riparian vegetation responses under climate change in a Mediterranean context	Deltares, Universidad Politécnica de Madrid, University Utrecht	Netherlands, Spain	Background
20	Effects of Groundwater Fluctuations on the Water Uptake of Saltcedar in Two Habitats in an Arid Oasis, Northwestern China	China University of Geosciences	China	—
21	Projected warming disrupts the synchrony of riparian seed release and snowmelt streamflow	Colorado State University, US Geological Survey, US Geological Survey Colorado Water Science Center	United States	—
22	The hydroclimate niche: A tool for predicting and managing riparian plant community responses to streamflow seasonality	Northern Arizona University, U.S. Geological Survey	United States	—
23	Urban runoff and stream channel incision interact to influence riparian soils and understory vegetation	University of California, Davis	United States	—
24	Banking carbon: a review of organic carbon storage and physical factors influencing retention in floodplains and riparian ecosystems	Colorado State University	United States	Background
25	A conceptual model of vegetation–hydrogeomorphology interactions within river corridors	Queen Mary University of London	United Kingdom	Background
26	Plants and river morphodynamics: the emergence of fluvial biogeomorphology	Queen Mary University of London, University of Trento	Italy, United Kingdom	—
27	Hydraulic traits that buffer deep-rooted plants from changes in hydrology and climate	—	—	—
28	Contrasting water-uptake and growth responses to drought in co-occurring riparian tree species	—	—	Background
29	Riparian vegetation responses to altered flow regimes driven by climate change in Mediterranean rivers	Instituto Superior Técnico Technical University of Lisbon	Portugal	**Influential**
30	Solar energy development and aquatic ecosystems in the Southwestern United States: potential impacts, mitigation, and research needs	—	—	Background

Showing the 30 most-cited of 66 independent citing papers.

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

RESULT Riparian plant composition along hydrologic gradients in a dryland river basin and implications for a warming climate

"Mean annual streamflow is projected to decrease significantly over the next 100 years in southwestern North America (Barnett & Pierce, 2009; Jerla, Prairie, & Adams, 2012; Seager et al., 2013) with air temperature increasingly driving reductions in streamflow under Published 2017."

FOLLOW-UP WORK

Dryland riparian ecosystems in the American Southwest: sensitivity and resilience to climatic extremes

2013 · Ecosystems 16 (3), 411-415, 2013 · 78 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Microclimate modification by riparian vegetation affects the structure and resource limitation of arthropod communities	Arizona State University	United States	—
2	Stakeholder-Informed Hydroclimate Scenario Modeling in the Lower Santa Cruz River Basin for Water Resource Management	Bureau of Reclamation, University of Arizona	United States	—
3	Riparian plant composition along hydrologic gradients in a dryland river basin and implications for a warming climate	Colorado State University, U.S. Geological Survey	United States	—
4	Chapter 4.6. The biota of intermittent and ephemeral rivers: amphibians, reptiles, birds, and mammals	Complutense University of Madrid, Miguel Hernández University of Elche, University of Girona	Spain	—
5	Recognizing the ephemeral stream floodplain: Identification and importance of flood zones in drylands	Colorado State University	United States	Background
6	Spatial variation in leaf nutrient traits of dominant desert riparian plant species in an arid inland river basin of China	Chinese Academy of Sciences, Shanxi University of Finance and Economics, University of Chinese Academy of Sciences	China	—
7	Temporal and spatial variation in riparian vegetation and floodplain aquifers on the regulated Dolores River, Southwest Colorado, USA	Fort Lewis College, University of Arizona	United States	**Influential**
8	Banking carbon: a review of organic carbon storage and physical factors influencing retention in floodplains and riparian ecosystems	Colorado State University	United States	**Influential**
9	A tale of two rivers: Dam-induced hydrologic drought on the lower Dolores River and its impact on tamarisk establishment	—	—	Background
10	A systematic review of ecological attributes that confer resilience to climate change in environmental restoration	—	—	—
11	Resistance and resilience of invertebrate communities to seasonal and supraseasonal drought in arid-land headwater streams	—	—	Background

No.	Citing paper	Citing institution(s)	Country	S2
12	Environmental filtering and environmental stress shape regional patterns of riparian community assembly and functional diversity	—	—	—
13	Mammal use of riparian corridors in semi-arid Sonora, Mexico	—	—	—
14	Livestock grazing limits beaver restoration in northern New Mexico	—	—	Background
15	Structure and composition of altered riparian forests in an agricultural Amazonian landscape	—	—	—
16	High-resolution riparian vegetation mapping to prioritize conservation and restoration in an impaired desert river	—	—	Background
17	Strategies of shredders when feeding on low-quality leaf-litter: Local population adaptations or fixed species traits?	—	—	—
18	Decadal-scale trajectories of land cover change along the Colorado and San Juan Rivers in response to declining water storage in Lake Powell Reservoir	University of Utah	United States	—
19	Ground-dwelling arthropod communities of a sky island mountain range in Southeastern Arizona, USA: obtaining a baseline for assessing the effects of climate …	Museum of Southwestern Biology, University of New Mexico	United States	Background
20	Climate-driven changes of riparian plant functional types in permanent headwater streams. Implications for stream food webs	—	—	—
21	Floodplain Transition Zone Hydrodynamics: The Role of Riparian and Floodplain Vegetation in Compound Channel Flows	—	—	—
22	Self-affine fractal spatial and temporal variability of the San Pedro River, southern Arizona	—	—	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Contribution 2

Claim — Contribution 2

The researcher established a foundational framework for understanding how human-altered flood regimes, specifically levees, impact floodplain forest dynamics and wetland ecohydrology.

CLAIM: The researcher's seminal 2002 paper, "Consequences of human-altered floods: levees, floods, and floodplain forests along the Wisconsin River," serves as the cornerstone of this contribution, establishing a critical link between infrastructure-driven hydrological changes and ecological outcomes in riverine systems.

ORIGINALITY: This line of work appears to address the gap in understanding how specific anthropogenic interventions, such as levee construction, alter natural flood pulses and subsequently reshape forest composition. The chronology suggests an evolution from this core focus on altered floods to broader applications, including the dynamics of Plains Cottonwood forests in unchannelized segments (2012) and contemporary wetland ecohydrology (2025), indicating a sustained effort to refine these ecological models.

SIGNIFICANCE: The core paper has garnered 190 citations, while the 2012 follow-up has received 97 citations, demonstrating sustained academic engagement. Notably, 99.8% of the scholar's total citations originate from independent researchers, suggesting that this framework has been widely adopted and validated by the broader scientific community rather than relying on self-citation or institutional bias.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 66 · **4 flagged influential by Semantic Scholar**

CORE PAPER

Consequences of human-altered floods: levees, floods, and floodplain forests along the Wisconsin River

2002 · Ecological applications 12 (6), 1755-1770, 2002 · 190 citations (GS)

Field-normalised: 151 Semantic Scholar citations place it in the top 10% of Environmental Science papers from 2002 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Local increases in diversity accompany community homogenization in floodplain forest understories	Iowa State University, Northland College, University of Wisconsin-Madison	United States	—
2	Genetic diversity and stand structure of neighboring white willow (Salix alba L.) populations along fragmented riparian corridors: A case study	Università degli Studi di Padova	Italy	**Methodology**
3	Recent changes in the riparian forest of a large regulated Mediterranean river: implications for management.	Pyrenean Institute of Ecology	Spain	—
4	Is rewetting enough to recover Sphagnum and associated peat-accumulating species in traditionally exploited bogs?	Colorado State University, The University of British Columbia, Université Laval	Canada, United States	Background
5	Impacts of Hydraulic Engineering on Wetland Flood Inundation and Management Implications	China Institute of Water Resources and Hydropower Research, Maintenance and Administration Center of the Central Nenriver Diversion Project and Jiangdong Irrigated Area of Heilongjiang Province, Northwest University	China	—
6	Developing state and transition models of floodplain vegetation dynamics as a tool for conservation decision-making: a case study of the Macquarie Marshes Ramsar ...	—	—	—

No.	Citing paper	Citing institution(s)	Country	S2
7	A systematic review of ecological attributes that confer resilience to climate change in environmental restoration	—	—	—
8	Floods in future climates: a review	—	—	Background
9	Spatiotemporal variations of riverine flood fatalities: 70 years global to regional perspective	—	—	Background
10	Levee effects upon flood levels: an empirical assessment	—	—	Background
11	Inundation dynamics in seasonally dry floodplain forests in southeastern Brazil	—	—	—
12	Infrastructure and the environment	—	—	—
13	Capturing flood-risk dynamics with a coupled agent-based and hydraulic modelling framework	—	—	Background
14	The spatial organization of ecosystem services in river-floodplains	—	—	—
15	Disconnecting the floodplain: earthworks and their ecological effect on a dryland floodplain in the Murray–Darling Basin, Australia	—	—	—
16	Dynamics of Plains Cottonwood (Populus deltoides) Forests and Historical Landscape Change along Unchannelized Segments of the Missouri River, USA	—	—	—
17	Impact of floodplain and Stage 0 stream restoration on flood attenuation and floodplain exchange during small frequent storms	—	—	—
18	Historical foundations and future directions in macrosystems ecology	—	—	Background
19	Effects of restoration and reflooding on soil denitrification in a leveed Midwestern floodplain	—	—	—
20	Large, connected floodplain forests prone to flooding best sustain plant diversity	—	—	Background
21	Effects of a 'natural'flood event on the riparian ecosystem of a regulated large-river system: the 2011 flood on the Missouri River, USA	—	—	—
22	Managing floodplain-forest restoration in European river landscapes combining ecological and flood-protection issues	—	—	—
23	Implementing a dynamic riparian vegetation model in three European river systems	—	—	Background

No.	Citing paper	Citing institution(s)	Country	S2
24	Assessing the effects of alternative setback channel constraint scenarios employing a river meander migration model	—	—	—
25	Nonstationary decision model for flood risk decision scaling	—	—	Background
26	Waterbird communities and seed biomass in managed and reference-restored wetlands in the Mississippi Alluvial Valley	—	—	Background
27	Influence of dam regulation on 55-year canopy shifts in riparian forests	—	—	—
28	Critical linkages among floodplain hydrology, geomorphology and ecology along a lowland meandering river, Illinois, USA	—	—	—
29	Spatial relationships of levees and wetland systems within floodplains of the Wabash Basin, USA	—	—	Background
30	Multiscale control of flooding and riparian-forest composition in Lower Michigan, USA	—	—	Background

Showing the 30 most-cited of 39 independent citing papers.

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

METHODOLOGY Genetic diversity and stand structure of neighboring white willow (Salix alba L.) populations along fragmented riparian corridors: A case study

"The degree of LD between pair-wise combinations of marker alleles at different genomic loci was estimated by maximum likelihood from the frequency of all willow genotypes, according to Hill (1974). Only significant values, for p < 0."

FOLLOW-UP WORK

Wetland ecohydrology

2025 · Routledge Handbook of Wetlands, 38-53, 2025 · 0 citations (GS)

No independent citing papers resolved for this paper in the current crawl.

FOLLOW-UP WORK

Dynamics of Plains Cottonwood (Populus deltoides) Forests and Historical Landscape Change along Unchannelized Segments of the Missouri River, USA

2012 · Environmental management 49 (5), 990-1008, 2012 · 97 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Integrative conservation of riparian zones	Centro Italiano per la Riqualificazione Fluviale, Colorado State University, Federation University Australia	Australia, Canada, Germany	Background

No.	Citing paper	Citing institution(s)	Country	S2
2	Strategies to restore floodplain vegetation after abandonment of human activities	Spanish National Research Council, Université de Toulouse, Université Laval	Canada, France, Spain	—
3	ABANDONED FLOODPLAIN PLANT COMMUNITIES ALONG A REGULATED DRYLAND RIVER	Colorado State University, U. S. Geological Survey	United States	Background
4	Tree mortality in mature riparian forest: implications for Fremont cottonwood conservation in the American Southwest	USGS	United States	**Result**
5	Regeneration of Salicaceae riparian forests in the Northern Hemisphere: A new framework and management tool	Universidad Politécnica de Madrid, Université Clermont Auvergne, University of Denver	France, Spain, United States	—
6	Riparian vegetation, Colorado River, and climate: Five decades of spatiotemporal dynamics in the Grand Canyon with river regulation	U.S. Geological Survey	United States	—
7	Riparian Vegetated Area in Pre-Dam, Post-Dam, and Environmental Flow Periods in Canyonlands National Park From 1940 to 2022	National Park Service, Northern Colorado Plateau Network National Park Service, United States Geological Survey	United States	—
8	Evidence of increase in woody vegetation in a river corridor, Northwest England, 1984–2007	—	—	—
9	Effects of a 'natural'flood event on the riparian ecosystem of a regulated large-river system: the 2011 flood on the Missouri River, USA	—	—	—
10	Analysing the influence of a large flood on eastern redcedar (Juniperus virginiana) distribution along the Missouri River using remote-sensing techniques	—	—	—
11	Emerging reservoir delta-backwaters: biophysical dynamics and riparian biodiversity	—	—	**Methodology**
12	Effects of dams and geomorphic context on riparian forests of the Elwha River, Washington	—	—	—
13	The dammed Missouri: prospects for recovering Lewis and Clark's river	—	—	**Methodology**
14	Effects of a large flood on woody vegetation along the regulated Missouri River, USA	—	—	**Methodology**
15	Expansion of woody vegetation on a Missouri River reservoir delta-backwater	—	—	**Influential**
16	Large wood distribution, mobility, and recruitment in an inter-dam river reach: A comparison with geomorphic process on the Garrison Reach of the Missouri River pre …	—	—	**Methodology**

No.	Citing paper	Citing institution(s)	Country	S2
17	Autumn stopover hotspots and multiscale habitat associations of migratory landbirds in the eastern United States	Princeton University	United States	—
18	Demographic responses of Piping Plovers to habitat creation on the Missouri River	—	—	—
19	Vegetation response to invasive Tamarix control in southwestern US rivers: a collaborative study including 416 sites	—	—	Background
20	Assessing the relationship between river mobility and habitat	—	—	Background
21	Metapopulation viability of an endangered shorebird depends on dispersal and human-created habitats: piping plovers (Charadrius melodus) and prairie rivers	—	—	—
22	Stopover duration, movement patterns and temporary home ranges of fall migrant yellow-rumped warblers Setophaga coronata in native and anthropogenic ...	—	—	—
23	Going with the flow: Intraspecific variation may act as a natural ally to counterbalance the impacts of global change for the riparian species Populus deltoides	—	—	—
24	Physiological evidence that anthropogenic woodlots can substitute for native riparian woodlands as stopover habitat for migrant birds	—	—	—
25	Flood effects provide evidence of an alternate stable state from dam management on the upper Missouri River	—	—	**Influential**
26	Long-term cottonwood forest dynamics along the upper Missouri River, USA	—	—	**Methodology**
27	Predictability of cottonwood recruitment along a dynamic, regulated river	—	—	—

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Citing-text excerpts — how the field used this work

RESULT Tree mortality in mature riparian forest: implications for Fremont cottonwood conservation in the American Southwest

"Although my models are simple and lack, for example, serial correlation in environmental variation that could accelerate losses (Beissinger 1995), this rate of loss is similar to that envisioned by Dixon et al. (2012) for re - lictual stands along the Missouri River."

METHODOLOGY Emerging reservoir delta-backwaters: biophysical dynamics and riparian biodiversity

"Numerous studies have been conducted to gauge the ecological effects of damming on the remnant sections of channel and floodplain below or between dams (Johnson et al. 1976, 2012, NRC 2002, 2011, Dixon et al. 2012, 2015, Scott et al. 2013)."

METHODOLOGY The dammed Missouri: prospects for recovering Lewis and Clark's river

"This remeasurement was carried out as part of a larger, river-wide study of cottonwood health (Dixon et al., 2012; Scott et al., 2013)."

METHODOLOGY Effects of a large flood on woody vegetation along the regulated Missouri River, USA

"%) in floodplain forest area have occurred since the 1890s (Dixon et al., 2012)."

METHODOLOGY Large wood distribution, mobility, and recruitment in an inter-dam river reach: A comparison with geomorphic process on the Garrison Reach of the Missouri River pre ...

"Geomorphic dynamism, however, has considerably diminished due to the consistent moderate flows maintained by dam regulation (Shields Jr et al., 2000; Dixon et al., 2012; Skalak et al., 2013)."

Contribution 3

Claim — Contribution 3

The researcher established a multi-scale framework for understanding riparian tree seedling distribution and recruitment dynamics on river sandbars, significantly advancing fluvial ecology.

CLAIM: The researcher's foundational contribution lies in elucidating the controls on riparian tree seedling distribution across different spatial scales, anchored by the seminal 2002 paper on Wisconsin River sandbars. This work provides a critical baseline for understanding how environmental factors influence forest regeneration in dynamic fluvial systems.

ORIGINALITY: By sequentially examining flow patterns (2003) and broader floodplain environmental influences (2004), this line of work appears to address the complex, scale-dependent mechanisms governing seedling recruitment. The progression from specific sandbar controls to wider floodplain abundance suggests a novel, integrated approach to disentangling hydrological and ecological drivers in riparian zones.

SIGNIFICANCE: The impact of this research is evidenced by substantial citation counts, with the follow-up papers accumulating 135 and 119 citations respectively. Furthermore, the near-total independence of citing researchers (99.8%) indicates that this framework has been widely adopted and validated by the broader scientific community, rather than relying on self-citation or institutional bias.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 78 · **7 flagged influential by Semantic Scholar**

CORE PAPER

Riparian tree seedling distribution on Wisconsin River sandbars: controls at different spatial scales

2002 · Ecological Monographs 72 (4), 465-485, 2002 · 89 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Landscape Ecology in Theory and Practice: Pattern and Process	Oak Ridge National Laboratory, University of Maryland Center for Environmental Science, University of Wisconsin-Madison	United States	—
2	Multiscale controls on woody plant diversity in western Oregon riparian forests	Oregon State University	United States	—
3	Plants as river system engineers	Queen Mary University of London	United Kingdom	Background
4	Global sensitivity analysis for complex ecological models: a case study of riparian cottonwood population dynamics.	SUNY College of Environmental Science and Forestry	United States	Background
5	The Role of Abandoned Channels as Refugia for Sustaining Pioneer Riparian Forest Ecosystems	Centre National de la Recherche Scientifique (CNRS), State University of New York College of Environmental Science and Forestry, Université de Montréal	Canada, France, United States	—

No.	Citing paper	Citing institution(s)	Country	S2
6	Plants and river morphodynamics: the emergence of fluvial biogeomorphology	Queen Mary University of London, University of Trento	Italy, United Kingdom	—
7	Multiscale control of flooding and riparian-forest composition in Lower Michigan, USA	—	—	Background
8	Sand and sandbar willow: a feedback loop amplifies environmental sensitivity at the riparian interface	—	—	**Result**
9	Riparian recruitment persists after damming: Environmental flows and coupled colonization of cottonwoods and willows following floods along a dryland river	—	—	**Methodology**
10	Modeling the interactions between river morphodynamics and riparian vegetation	—	—	—
11	Effects of natural resource development on the terrestrial biodiversity of Canadian boreal forests	—	—	Background
12	Interactions between river flows and colonizing vegetation on a braided river: exploring spatial and temporal dynamics in riparian vegetation cover using satellite data	Queen Mary University of London	United Kingdom	Background
13	Ecogeomorphic feedbacks and flood loss of riparian tree seedlings in meandering channel experiments	—	—	Background
14	Coupled hydrogeomorphic and woody-seedling responses to controlled flood releases in a dryland river	—	—	Background
15	Influences of watershed geomorphology on extent and composition of riparian vegetation	—	—	Background
16	Scale-dependent relationships between the spatial distribution of a limiting resource and plant species diversity in an African grassland ecosystem	—	—	Background
17	Floodplain characteristics affect woody vegetation regeneration on point bars of a coastal plain river recovering from anthropogenic disturbances	—	—	**Methodology**
18	Environmental determinants of vegetation in the drawdown zones of a Columbia River Treaty reservoir: a template for ecosystem enhancement	—	—	Background
19	Temporal variability in hydrology modifies the influence of geomorphology on wetland distribution along a desert stream	—	—	—
20	Can environmental flows moderate riparian invasions? The influence of seedling morphology and density on scour losses in experimental floods	—	—	—

No.	Citing paper	Citing institution(s)	Country	S2
21	Does stream flow structure woody riparian vegetation in subtropical catchments?	Griffith University	Australia	Background
22	Contemplating the assessment of great river ecosystems	—	—	—
23	Empirical evaluation of two-dimensional unsteady hydraulic models for applications in floodplain forest ecology	—	—	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

METHODOLOGY Floodplain characteristics affect woody vegetation regeneration on point bars of a coastal plain river recovering from anthropogenic disturbances

"Studies have applied linear and logistic regression (LR) models to study seedling and saplings (Dixon et al., 2002) and the occurrence of a given riparian species (Hortobágyi et al."

FOLLOW-UP WORK

Effects of flow pattern on riparian seedling recruitment on sandbars in the Wisconsin River, Wisconsin, USA

2003 · Wetlands 23 (1), 125-139, 2003 · 135 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Contemporary and future distribution patterns of fluvial vegetation under different climate change scenarios and implications for integrated water resource management	University of Porto, University of Salamanca, University of Trás-os-Montes and Alto Douro	Portugal, Spain	Background
2	Patterns of water use by the riparian tree Melaleuca argentea in semi-arid northwest Australia	The University of Western Australia	Australia	—
3	Plants as river system engineers	Queen Mary University of London	United Kingdom	—
4	Morphodynamics of alternate bars in the presence of riparian vegetation	ARTELIA, École des Ponts Paris Tech, Électricité de France, Électricité de France	France	Background
5	MORE EXOTIC AND FEWER NATIVE PLANT SPECIES: RIVERINE VEGETATION PATTERNS ASSOCIATED WITH ALTERED SEASONAL FLOW PATTERNS	The University of Melbourne	Australia	Background
6	Projected warming disrupts the synchrony of riparian seed release and snowmelt streamflow	Colorado State University, US Geological Survey, US Geological Survey Colorado Water Science Center	United States	Background
7	Mechanisms linking river flow regime and riparian hardwood establishment	—	—	—
8	Plants and river morphodynamics: the emergence of fluvial biogeomorphology	Queen Mary University of London, University of Trento	Italy, United Kingdom	—

No.	Citing paper	Citing institution(s)	Country	S2
9	Functional flows: an environmental flow regime benefits riparian cottonwoods along the Waterton River, Alberta	—	—	Methodology
10	Influence of dam regulation on 55-year canopy shifts in riparian forests	—	—	—
11	Hydropeaking affects germination and establishment of riverbank vegetation	Umeå University	Sweden	—
12	Floods, fire, and ice: disturbance ecology of riparian cottonwoods	—	—	—
13	Ecohydrology 2.0	Accademia Nazionale dei Lincei	Italy	Background
14	A note on the role of seasonal expansions and contractions of the flowing fluvial network on metapopulation persistence	—	—	Background
15	Sand and sandbar willow: a feedback loop amplifies environmental sensitivity at the riparian interface	—	—	Influential
16	Floods reduce the prevalence of exotic plant species within the riparian zone: evidence from natural floods	—	—	—
17	Recruitment and successional dynamics diversify the shifting habitat mosaic of an Alaskan floodplain	—	—	Background
18	A discrete-time model for population persistence in habitats with time-varying sizes	—	—	Background
19	Effects of the seasonal flooding on riparian soil seed bank in the Three Gorges Reservoir Region: a case study in Shanmu River	—	—	Background
20	Local flooding history affects plant recruitment in riparian zones	—	—	Background
21	Environmental flows drive sediment and seed supply in regulated rivers	—	—	—
22	Evaluating the response of biological assemblages as potential indicators for restoration measures in an intermittent Mediterranean river	—	—	Background
23	Hydrologic connectivity of floodplains, northern Missouri—Implications for management and restoration of floodplain forest communities in disturbed landscapes	—	—	Background
24	A twofold strategy for riparian restoration: Combining a functional flow regime and direct seeding to re-establish cottonwoods	—	—	Background
25	Deposition potential and flow-response dynamics of emergent sandbars in a braided river	University of Wyoming	United States	Background

No.	Citing paper	Citing institution(s)	Country	S2
26	Riparian recruitment persists after damming: Environmental flows and coupled colonization of cottonwoods and willows following floods along a dryland river	—	—	**Result**
27	Secondary seed dispersal in hydro-fluctuation belts and its influence on the soil seed bank	—	—	Background
28	Flows for floodplain forests: Conversion from an intermittent to continuous flow regime enabled riparian woodland development along a prairie river	—	—	**Influential**
29	Flood flow attenuation diminishes cottonwood colonization sites: an experimental test along the Boise River, USA	—	—	**Influential**
30	Effects of flooding on seed viability and nutrient composition in three riparian shrubs and implications for restoration	—	—	Background

Showing the 30 most-cited of 33 independent citing papers.

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

METHODOLOGY Functional flows: an environmental flow regime benefits riparian cottonwoods along the Waterton River, Alberta

"For this analysis, we modified the method of Braatne et al. (2007) to refine a quantitative approach that would be applicable for other regulated rivers with riparian cottonwoods or other groundwater and disturbance dependent trees and shrubs (Richter & Richter 2000; Dixon 2003; Andersen 2005)."

RESULT Riparian recruitment persists after damming: Environmental flows and coupled colonization of cottonwoods and willows following floods along a dryland river

"...rivers of western North America, following from two lines of investigation: (1) direct observation of seedling recruitment following flood events (Dixon, 2003; Friedman, Osterkamp, & Lewis Jr, 1996; Rood et al., 1998; Stromberg, 1997; Stromberg et al., 1991), and (2) dendrochronological analyses..."

FOLLOW-UP WORK

Distribution and abundance of trees in floodplain forests of the Wisconsin River: environmental influences at different scales

2004 · Journal of vegetation science 15 (6), 729-738, 2004 · 119 citations (GS)

No.	Citing paper	Citing institution(s)	Country	S2
1	Landscape Ecology in Theory and Practice: Pattern and Process	Oak Ridge National Laboratory, University of Maryland Center for Environmental Science, University of Wisconsin-Madison	United States	—
2	Edge Effects of Linear Canopy Openings on Tropical Rain Forest Understory Microclimate	James Cook University, Wet Tropics Management Authority	Australia	Background
3	Reptile	—	—	—

No.	Citing paper	Citing institution(s)	Country	S2
4	Multiscale controls on woody plant diversity in western Oregon riparian forests	Oregon State University	United States	—
5	Order and disorder in the river continuum. Continuity and connectivity contribution to biodiversity in floodplain meadows	OVAM - Flemish Agency for Sustainable Management of Material and Soils	Belgium	Background
6	Internal fragmentation in the rainforest: edge effects of highways, powerlines and watercourses on tropical rainforest understorey microclimate, vegetation structure and composition, physical disturbance and seedling regeneration	James Cook University	Australia	—
7	Plants as river system engineers	Queen Mary University of London	United Kingdom	Background
8	Influence of dam regulation on 55-year canopy shifts in riparian forests	—	—	—
9	Multiscale control of flooding and riparian-forest composition in Lower Michigan, USA	—	—	—
10	Recruitment and successional dynamics diversify the shifting habitat mosaic of an Alaskan floodplain	—	—	Background
11	Modeling the interactions between river morphodynamics and riparian vegetation	—	—	—
12	River-valley morphology, basin size, and flow-event magnitude interact to produce wide variation in flooding dynamics	—	—	**Methodology**
13	Flood regimes alter the role of landform and topographic constraint on functional diversity of floodplain forests	—	—	—
14	Which spatial heterogeneity framework? Consequences for conclusions about patchy population distributions	—	—	—
15	Exploring the key drivers of riparian woodland successional pathways across three European river reaches	—	—	**Methodology**
16	Floodplain Forests—Key Forest Ecosystems for Maintaining and Sustainable Management of Water Resources in Alluvial Landscape	Kingston and St George's University, Sheffield Emergency Care Forum, University of Bath	United Kingdom	—
17	Including riparian vegetation in the definition of morphologic reference conditions for large rivers: a case study for Europe's Western Plains	—	—	—
18	Shoreline vegetation in the Danjiangkou Reservoir: characteristics, related factors, and differences with adjacent riverine wetlands	—	—	—

No.	Citing paper	Citing institution(s)	Country	S2
19	Evaluation of tree mortality and parasitoid recoveries on the contiguous western invasion front of emerald ash borer	—	—	Background
20	Hydrological and land use determinants of Eucalyptus camaldulensis occurrence in floodplain wetlands	—	—	—
21	The effects of flood defences on riparian vegetation species richness and abundance	—	—	Background
22	Using a Bayesian network model to assess ecological responses to hydrological factor interactions	—	—	**Methodology**

Independent citing papers only; self- and co-author citations excluded. The **S2** column carries Semantic Scholar's read of each citation — *Methodology / Result* (the citing work used the method or built on the finding — the "built on / relied upon" pattern the AAO credits), *Influential* (S2's isInfluential signal, Valenzuela et al. 2015), or *Background* (a passing mention).

Citing-text excerpts — how the field used this work

METHODOLOGY River-valley morphology, basin size, and flow-event magnitude interact to produce wide variation in flooding dynamics

"...variables such as landform type (Osterkamp and Hupp 1984, Hupp and Osterkamp 1985), positioning within the river-valley bottom (Poole et al. 2002, Turner et al. 2004), and morphology of river reaches (Baker and Wiley 2009) have been used as surrogates for multiple hydro-physical attributes."

METHODOLOGY Exploring the key drivers of riparian woodland successional pathways across three European river reaches

"...(e.g., Fraaije et al., 2015) and thus, the set and strength of riparian vegetation driving factors for long last processes (e.g., vegetation succession) might be inferred relying on observational data and correlative studies (e.g., Bejarano et al., 2012; Egger et al., 2015; Turner et al., 2004)."

METHODOLOGY Using a Bayesian network model to assess ecological responses to hydrological factor interactions

"Similar approaches, using distance from the main channel and elevation data, have been utilized for modelling floodplain tree species in other landscapes (e.g. Turner et al., 2004; Kath et al., 2014)."

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
U.S. Geological Survey	United States	—	37
Colorado State University	United States	QS =458	32
Arizona State University	United States	SCImago #357 · THE 201–250 · QS =173	26
University of Arizona	United States	SCImago #408 · THE =138 · QS =287	15
University of British Columbia	Canada	SCImago #144 · THE 45 · QS 40	13
Umeå University	Sweden	SCImago #1412 · THE 401–500 · QS =401	13
Queen Mary University of London	United Kingdom	SCImago #416 · THE =134 · QS =110	11
Oregon State University	United States	SCImago #1028 · QS =624	11
Utah State University	United States	SCImago #2176 · QS 1001-1200	10
Northern Arizona University	United States	SCImago #3335 · QS 1001-1200	10

Institution	Country	World ranking	Citing papers
Instituto Nacional de Pesquisas da Amazônia	Brazil	SCImago #2290	10
USDA Forest Service	United States	—	9
University of New Mexico	United States	SCImago #1282 · QS 751-760	9
Griffith University	Australia	SCImago #869 · THE 251–300 · QS 268	8
United States Geological Survey	United States	SCImago #983	8

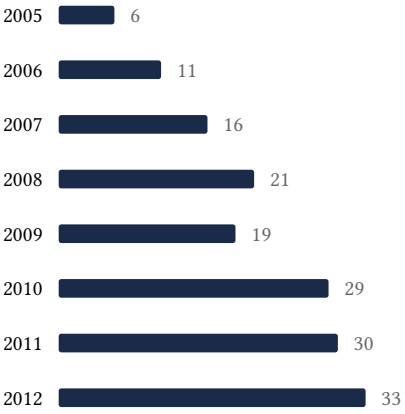
Geographic distribution of citing authors

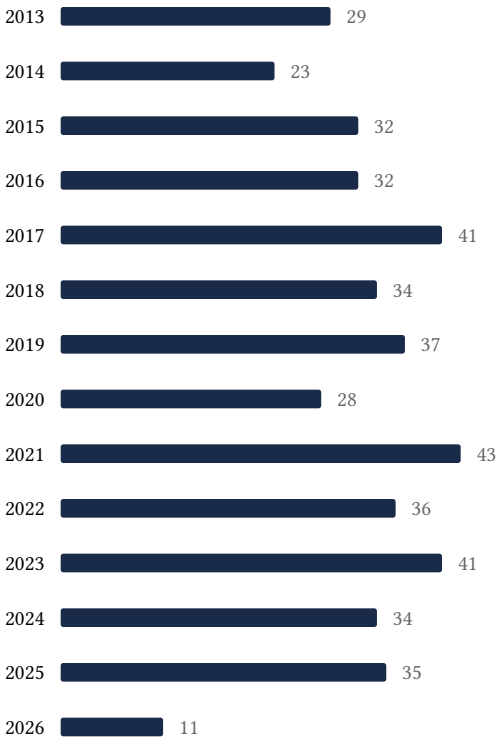
Country	Citing papers
United States	287
Australia	64
Canada	42
Brazil	38
United Kingdom	35
Spain	32
China	30
Germany	29
France	27
Sweden	26
Italy	18
Switzerland	15

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar's own institution and circle** — the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution's rank as probative on its own.

E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.





F. AAO Precedent Considerations

Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- ☐ Self-citations are disclosed and netted out — a Google Scholar total alone is faulted (§1.1).
- ☐ Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- ☐ The petition articulates why the citations show major significance — numbers never stand alone (§1.5).
- ☐ For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- ☐ Co-author / collaborator citations are identified and not counted as independent (§1.7).
- ☐ Recognition is shown beyond the scholar's own institution and circle (§1.8).
- ☐ Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- ☐ Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- ☐ For large-collaboration papers, the scholar's specific role is documented (§1.13).
- ☐ Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

Disclaimer

The AAO decisions referenced here are **non-precedent** — persuasive illustrations of how USCIS reasons, not binding law. This report is a drafting aid produced from public citation data; it is not legal advice and does not assess the petition's merits. All analysis must be reviewed by qualified immigration counsel.

G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	Importance of low-flow and high-flow characteristics to restoration of riparian vegetation along rivers in arid south-western United States	252	Dhanasar — Prong 2 (well-positioned)
Contribution 2	Consequences of human-altered floods: levees, floods, and floodplain forests along the Wisconsin River	66	Dhanasar — Prong 2 (well-positioned)
Contribution 3	Riparian tree seedling distribution on Wisconsin River sandbars: controls at different spatial scales	78	Dhanasar — Prong 2 (well-positioned)