

# ENGAGING LATINO AUDIENCES IN INFORMAL SCIENCE EDUCATION

## Key Findings and Recommendations

**As the cars pull into the park, adults, children, and families pile out, dressed for a day of learning about birds at the annual Fall Bird Festival. It is an event like hundreds of others that are held across the Western Hemisphere to celebrate the incredible journeys of migratory birds. Visitors come to learn about the warblers, sparrows, shorebirds, and raptors that fly from nesting sites in Canada and the United States to wintering grounds to the south, as far away as Argentina.**

To the casual observer, there is nothing unusual about this event, and this scene is repeated at over 500 sites across the United States hosting International Migratory Bird Day (IMBD). IMBD is a hemispheric celebration of birds, and events offer activities for youth and adults in diverse settings. Natural areas such as wildlife refuges, local, state, and national parks, and national forests, as well as more traditional sites, such as museums, zoos, schools, and nature centers host half-day to multi-day programs that introduce the public to birds, migration, and conservation. What is notable is that despite the presence of vibrant Latino communities near these IMBD events, the overwhelming majority of participants is Caucasian.

**THE STUDY** From 2009 through 2013, Environment for the Americas, National Park Service, and a suite of partners across the United States studied the barriers to Latino participation in informal science education (ISE) programs at natural areas. We used International Migratory Bird Day, Junior Ranger Day, and other informal science education programs as the focus of the study in Leavenworth (WA), Muir Woods National Monument (CA), Barr Lake State Park (CO), Bandelier National Monument (NM), New Jersey Coastal Heritage Trail Route, Cape May (NJ), and Fire Island National Seashore (NY). Great Sand Dunes National Park & Preserve (CO) was a control site.



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Two surveys were conducted at each of 6 study sites. Over 1,000 *community surveys* gathered demographic information and responses to statements about potential barriers to participation in ISE at natural areas. This survey was conducted with Latino adults in communities in close proximity to the study sites. *Participation surveys* were conducted at the events with a convenience sample of attendees to gather information about race/ethnicity, distance traveled to the event, prior visitation to the site, and how respondents learned about the ISE program.

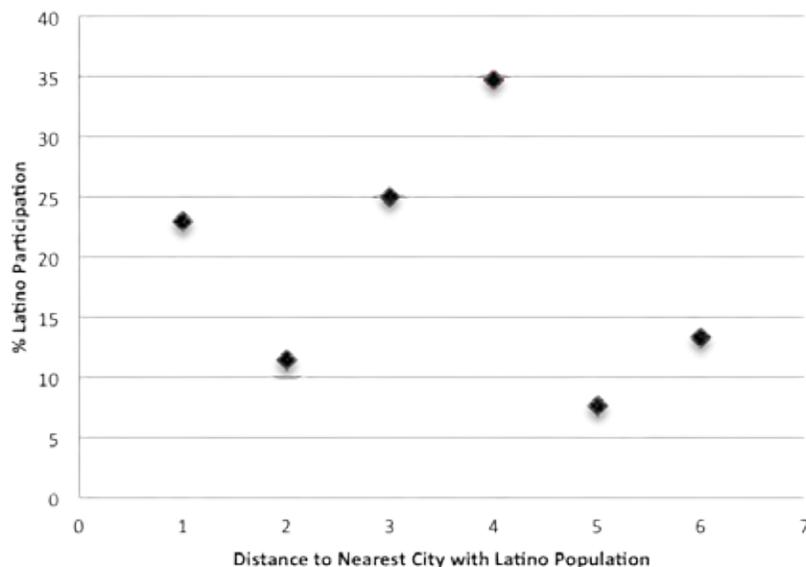
**“Before this project, just 7.8% of attendees to Barr Lake State Park’s Fall Bird Festival were Latino, and all of these participants lived within 20 miles of the Park.”**

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## Study Site Demographics

Community Demographics							
Site	N	Completed High School	Country of Origin	Generations in U.S. (%)			
				1	2	3	4
Washington	185	47%	96% Mexico	70	22	8	0
California	102	38%	71% Mexico	43	33	22	2
Colorado	196	53%	78% Mexico	52	20	12	12
New Mexico	209	67%	48% Mexico 38% U.S. 22% Other	22	16	14	41
New Jersey	178	52%	57% Mexico 38% Puerto Rico	57	26	8	8
New York	120	37%	81% Ecuador	76	23	1	0

**Figure 1.** Over 1,000 community surveys provided information about level of education, country of origin, and generations living in the United States of Latino respondents. Surveys were conducted face-to-face by bilingual interns and staff.



Participation by Latinos was lowest at Barr Lake State Park (CO) and in Cape May (NJ), both of which are located within 8 miles of communities with significant Latino populations. Some natural area staff have expressed, anecdotally, that travel is a barrier to participation, but within the distance range sampled, that perception is not supported by this study.

**Figure 2.** There was no relationship between distance from the study sites to the nearest community with a significant Latino population and participation in ISE programs at natural areas.

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## Key Findings

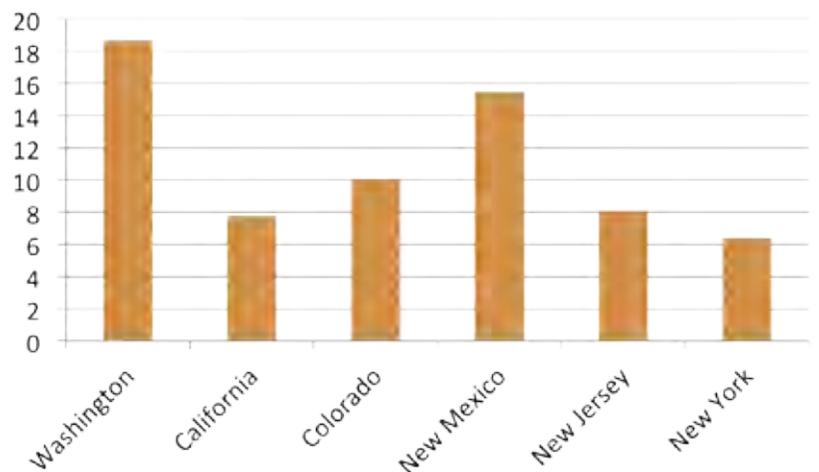
### A comparison of Latino and non-Latino participation in ISE programs.

	(a)	(b)	(c)	(d)	(e)
	% non-Latino Participation	% Latino Participation	% Latino in nearest City*	Distance from nearest city to study site (miles)*	n
Leavenworth (WA)	90.2	9.8	29%	22.95	51
Muir Woods National Monument (CA)	91.2	8.8	30%	11.45	148
Bandelier National Monument (NM)	95.3	4.8	87%	24.99	42
Great Sand Dunes National Park & Preserve (CO)	85.4	14.6	53%	34.75	96
Barr Lake State Park (CO)	92.2	7.8	40%	7.62	64
Cape May (NJ)	100	0	31%	7.02	62
Fire Island National Seashore (NY)	84.4	15.6	30%	13.28	45

**Figure 3.** Latino participation in ISE was much lower than the Latino population in the nearest city. Four of the sites are within about 10-13 miles of the nearest city; three sites are more than 20 miles away. Sample size depended on the size of the event and the overall visitation to the site.

### Key Findings

- Latino participation in ISE was less than 16%, regardless of the size of the Latino population in the nearest community (Figure 2).
- There was no relationship between distance to the site and Latino participation (Figure 3).
- At all sites except Leavenworth, 50% or more of Latino participants had visited before, indicating that a positive prior experience motivates return visits.
- Latinos are not knowledgeable of the ISE programs offered at natural areas (Figure 4).



**Figure 4.** Latino awareness of natural areas and the ISE programs they offer was remarkably low. Latino respondents were most aware in Washington (18%) and least aware in New York (7%).

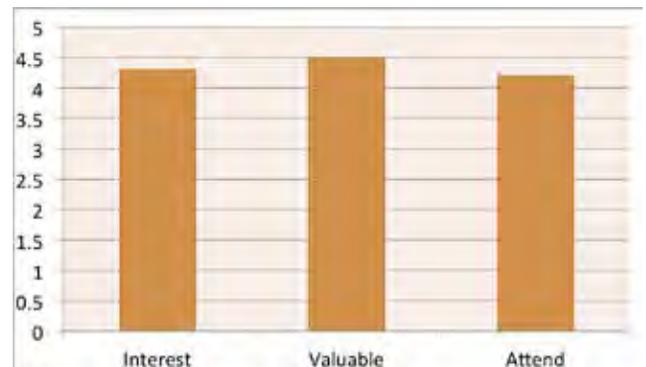
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## Increasing Latino Participation

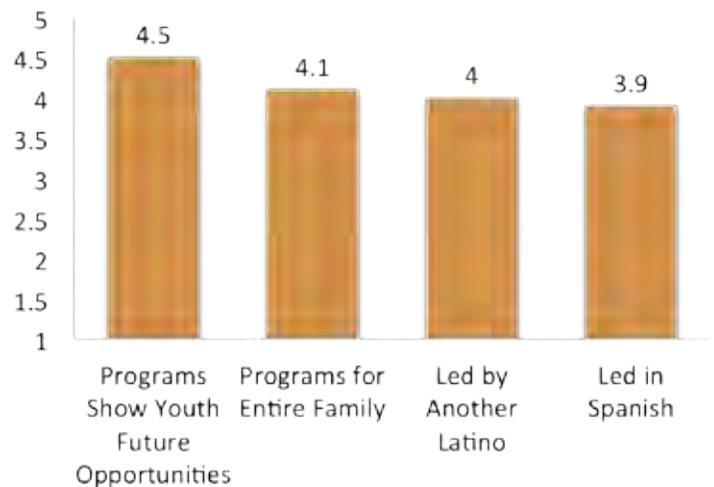
Results of community surveys also identified the key factors that influence Latinos' decisions to participate in ISE. These results were used to adapt programs at six study sites over a period of 2 years to determine if participation could be improved. The results of participation with "treatment" were compared to baseline participation surveys conducted when no adaptations were made to the event and no targeted communication was developed for Latino audiences. The results were rewarding. Latino participation in events at all study sites doubled or tripled.

### Key Findings

- Latinos are very interested in programs about nature and science, believe they are valuable to them and their families, and would attend an ISE program (Figure 5).
- Latinos do have preferences for how ISE programs are delivered (Figure 6).
- Adapting programs to meet the needs of Latinos can successfully increase Latino engagement, doubling and even tripling participation.
- Outreach can be based on scientific research assessments and these greatly improve program success.
- Methods to improve Latino participation include:
  - adapt program promotion to reach Latinos
  - provide information about events in English and Spanish
    - give detailed directions to events
    - translate information at events
    - offer bilingual activities
  - personally invite Latino community members
  - employ Latino staff and interns



**Figure 5.** Latinos' had strong positive responses (>4) on a scale of 1 to 5 about their interest in ISE, whether they value nature and science programs, and their willingness to attend an ISE program.



**Figure 6.** Community surveys showed that on a scale of 1 (least likely) to 5 (most likely), 4 factors had the greatest influence on the decisions to participate in ISE.

**7%** → **20.5%**

**Figure 7.** Adapting programs to meet the needs of Latino audiences increased participation by 210% across 6 study sites, from an average of 7% to 20.5%.

For more information about this research, its results, and how to adapt your programs, contact:  
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