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CIVIC ECOLOGY LAB WHITE PAPER SERIES

Returning Warriors and Environmental Education Opportunities: Outdoor Recreation, Education, and Restoration for Veterans

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Background

On September 11th, 2012, people from the US military, from organizations that serve wounded veterans, and from academia gathered to spend three days to attend a Returning Warriors Fall Workshop at 4H Camp Wabasso in Jefferson County New York, near Fort Drum. This 3 day workshop included interaction with outdoor and environmental education experts, scientists studying the value of nature contact and outdoor recreation for returning warriors, land managers, veterans, and managers of outdoor recreation programs for veterans. The objectives of the workshop were to:

- 1. Develop recommendations for enhancing support of and investment in outdoor recreation and nature contact for returning veterans, especially those with wounds and
- 2. Develop recommendations for strategies for implementing environmental education with military youth and families.

The workshop was funded by EPA's National Environmental Education Training Program— EECapacity—which is housed in the Cornell University Civic Ecology Lab. It is an extension of work begun under USDA/CUAES Federal Formula Funds 2011-12-221: Returning Warriors: A Study of the Social-Ecological Benefits of Coming Home to Nature.

Literature Review

Previous work conducted at Cornell University developed a catalog of programs initiated by veterans of the Iraq, Afghanistan and other conflicts, conservation organizations, and government agencies across the US that connect returning soldiers to nature, through gardening, farming, hunting, fishing, retreat centers, camps, and outdoor adventure experiences (Krasny, Pace, Tidball, & Helphand, in press). These initiatives are not surprising given that extensive research from horticultural therapy, conservation psychology, and other fields has demonstrated the positive outcomes of contact with nature in health and well-being. These positive outcomes include individual and community benefits arising from contact with nature including those related to physical and psychological health, and social, environmental and economic well-being (cf. Maller, Townsend, Pryor, Brown, & St Leger, 2006). These positive outcomes may be particularly relevant to veterans, especially those with post-traumatic stress disorder (PTSD) (Reyes, 2013). According to a RAND study, approximately 18.5 percent of U.S. service members who have returned from Afghanistan and Iraq currently have PTSD or depression, and 19.5 percent report experiencing a traumatic brain injury during deployment (Adamson et al., 2008). A study funded by the U.S. Army finds 8 to 14 percent of infantry soldiers who served in Iraq and Afghanistan return seriously disabled by mental health problems, and between 23 and 31 percent return with some impairment (Thomas et al., 2010).

According to researchers, novel treatment approaches for PTSD in veterans need to be explored (Jakupcak et al., 2006). Cognitive behavioral models of PTSD suggest that negatively reinforced avoidance and withdrawal behaviors reduce negative affect through the avoidance of trauma related anxiety cues (Foa, Steketee, & Rothbaum, 1989). Conditioning thru repeated negatively reinforced avoidance and withdrawal behaviors can cause anxiety responses to generalize more broadly to the contemporary environment, such that patterns of avoidance or withdrawal become globally applied (Keane, Zimering, & Caddell, 1985). As a result, veterans with PTSD are likely to remain socially isolated and avoid potentially rewarding, novel situations (Jakupcak et al., 2006), such as those offered by outdoor recreation and associated environmental education activities, among others. Patterns of avoidance and withdrawal may explain the association between PTSD and impaired quality of life (Johnson, Zlotnick, & Zimmerman, 2003) and high rates of depression (Orsillo et al., 1996).

Alternatively, a mode of addressing PTSD called behavioral activation (BA) encourages approach rather than avoidance behaviors, so patient activities in this modality may include *voluntary* habituation to discomfort or anxiety associated with adopting new behaviors (e.g., exercise or engaging with nature in new ways). To what degree might outdoor recreation and environmental education activities be thought of as a form of BA? How might environmental educators and outdoor recreation facilitators best adapt programs to returning veterans?

In BA research involving veterans, participants were not explicitly required to confront traumatic memories. Well known BA researchers, in discussing hunting as a possible form of behavioral activation, described the approach:

Suppose a client reported that he had regularly gone hunting for recreation prior to his combat experiences, but no longer enjoys it because firearms remind him of his trauma. The BA therapist might help examine what was enjoyable about hunting (e.g., spending time in nature) and suggest alternative behaviors (e.g., hiking or fishing) that bring about rewards previously associated with hunting. The goal of BA is not to habituate to traumatic cues or memories but rather to re-engage in meaningful activities, perhaps overcoming contemporary sources of anxiety (e.g., going to new places) reinstate(s) feelings of reward and pleasure (Jakupcak et al., 2006).

Tidball and others have theorized that outdoor recreation and restoration activities are a unique form of meaningful activities that help overcome sources of anxiety and reinstate feelings of reward and pleasure, and therefore are useful in enhancing individual, community, and social-ecological resilience (Tidball & Krasny, 2007), especially in high stress and anxiety producing contexts (Tidball, 2010, 2012a). Further, Tidball has argued, there may be fundamental underlying mechanisms that explain the comparative value of outdoor recreation and restoration in high stress and anxiety producing contexts (Tidball, 2012b). As a result, a number of follow on questions have emerged regarding a role for environmental education approaches to outdoor recreation and restoration behavior activation. Most important of these is the question raised above, *how might environmental educators and outdoor recreation facilitators best adapt programs to returning veterans?* We turn now to a description of how the workshop participants attempted to address this question through the Returning Warriors Fall Workshop, following which are some recommendations for developing programs in this area.

Workshop Format and Attendees

The setting for the workshop was a New York North Country 4H Camp on the edges of the Adirondacks in Jefferson County. This site was chosen for its beautiful natural setting and its ability to encourage intimate and casual engagement in a non-threatening atmosphere. Much of the logistical details of the workshop were coordinated by the Cornell Department of Natural Resources/Civic Ecology Lab staff and executed by Cornell Cooperative Extension of Jefferson County staff.



Figure 1 4-H Camp Wabasso, NY - site of the Returning Warriors Workshop 2012



Figure 2 4-H Camp Wabasso, NY – view of Millsite Lake from Hiawatha Hall

Participants arrived throughout the morning on the 11th of September, 2012. After a group lunch, which was used for informal introductions, Keith Tidball, Associate Director of the Civic Ecology Lab and Primary Investigator on the Returning Warriors grant and project, gave an introduction to the workshop and an overview of the format and schedule of the 2.5 day event. Marianne Krasny, Director of the Civic Ecology Lab and PI of the EPA EECapacity grant that provided most of the funding for the workshop gave introductory comments and background information on the EPA EE Capacity program. As a more formal "icebreaker," participants were introduced to two examples of outdoor recreation and environmental education programs targeted specifically towards veterans. The Wounded Warriors in Action Foundation representative presented the "WWIAF Heroes for a day" video and the Project Healing Waters representative presented a video describing the group's activities. Opportunities to hear from all were invited in a semi-structured session, and participants were asked to consider and comment on the following: (1) What have you seen and experienced as the value of outdoor recreation for returning warriors? (2) How does environmental education fit in? The answers to these initial questions were used to refine the series of emerging themes for discussion the following day.

As it was September 11th, day 1 of the workshop concluded with a meaningful lakeside group Patriot Day reflection time. Participants were asked to share reflections on their work related to veterans in the context of their own experiences and perspectives regarding 9/11 and the current wars in the Middle East. Participants reported high degrees of satisfaction with this activity.







Figure 4 Workshop participants engaged in team-building exercise on low ropes course

http://link.brightcove.com/services/player/bcpid1115607023001?bckey=AQ~~,AAAAAEw5kwg~,2RZE_s0b97zE730Zl-qMx96jCg6eslpX&bctid=1651198730001

See the WWIAF video here:

Day two of the workshop, September 12th, commenced with a team-building exercise on the ropes course at the camp. This was a valuable exercise as it helped to create trust while leveling the playing field among participants from disparate backgrounds and occupations. The breakfast period following the ropes course was light-spirited and convivial, and paved the way for the real work to begin.

Format - Morning Tracks

After breakfast and reconvening with instructions from Tidball, the group self-selected to join one of three morning "tracks" or break-out groups, which would stay together for the remainder of the morning sessions. The groups were an "opportunities" group (Track 1), a "challenges" group (Track 2), and a "policy implications" group (Track 3). Track 1was tasked with brainstorming opportunities for conducting environmental education (EE) among returning veterans programs. Track 2 was tasked with identifying challenges and barriers to conducting EE among returning veterans programs. Track 3 was instructed to consider possible policy implications for outdoor recreation and EE in veteran's affairs. Each group had approximately 30 minutes to conduct their work in spaces removed from one another and in outdoor settings if desired. The group then reconvened for an approximately 1 hour "report-back" session, the results of which are summarized beginning on page 8.

Break-out groups: Opportunities, challenges, and policy implications for EE & Returning Warriors		
Track 1- Opportunities for EE	Track 2- Challenges for EE among	Track 3 - Policy implications for
among returning warriors	returning warriors programs	outdoor recreation/education in
programs		veteran affairs

Format - Afternoon Tracks

After lunch and reconvening with a brief summary of morning activities and discussion and instructions from Tidball, the group once again self-selected to join one of three afternoon "tracks" or break-out groups. The groups were opportunities for EE within Field Sports activities such as hunting and fishing (Track 1), opportunities for EE within habitat restoration activities (Track 2), and opportunities for EE in non-consumptive outdoor recreation activities (Track 3). Each group had approximately 30 minutes to conduct their work in spaces removed from one another and in outdoor settings if desired. The groups then reconvened for an approximately 1 hour "report-back" session, the results of which are summarized beginning on page 8.

Break-out groups: Programmatic application of EE & Returning Warriors		
Track 1 – Opportunities for EE	Track 2 – Opportunities for EE	Track 3 – Opportunities for EE in
within Field Sports activities	within habitat restoration activities	non-consumptive outdoor
(hunting and fishing)		recreation activities

At the conclusion of day two's workshop activities, participants had the option of a tour of Fort Drum natural areas and environmental education facilities, or swimming and fishing at 4H Camp Wabasso.



Figure 5 Ray Rainbolt conducting tour of Fort Drum natural areas



Figure 6 Daniel Morgan of Project Healing Waters coaches Brian Eisch of Wounded Warriors In Action Foundation on fly fishing

Day three activities included synthesizing the entire workshop in a morning session, the results of which are summarized below, concluding remarks before lunch, and packing up and departing 4H Camp Wabasso after lunch.



Figure 7 Workshop participants in small groups working collaboratively in outdoor setting at 4H Camp Wabasso



Figure 8 Workshop participants debriefing from small group discussions in Hiawatha Hall at 4H Camp Wabasso

Attendees

Ray Rainbolt	Fort Drum Fish & Wildlife
Stephanie Graf	CCE Jefferson Co
Augusto Medina	
Kyle Kostelecky	eXtension- Military Families Learning Network
Dan Morgan	Project Healing Waters
Tamar Martin	Hunter College/ Project Healing Waters
Flisa Stevenson	Cornell Lab of Ornithology
Marianne Krasny	Cornell Natural Resources
Keith Tidball	Cornell Natural Resources
Dixon Gunther	Wounded Warriors in Action Foundation
Jim Reisdorf	Wounded Warriors in Action Foundation
Brian Eisch	Wounded Warriors in Action Foundation
Dean Henley	Graduate student Royal Roads University

Expected Outcomes

Given the diversity of participants and their respective backgrounds and worldviews, the workshop leadership was cautiously optimistic that limited progress might be made in conceiving unique and novel roles for environmental education in the returning combat veteran context.

Actual Outcomes

Morning Tracks

Track 1 focused on *opportunities* for environmental education among returning warriors programming as represented by participants and their own organizational involvement.

Opportunities for and benefits of including environmental education listed included habitat restoration, outdoor experience, stewardship, exposure and experiences, mental health, family time together, reinforcement of feelings of citizenship and societal linkage, personal enrichment, economic, networking, learning to care, fostering care/stewardship/valuing, skill building, academic achievement, leadership development, intergenerational learning, and the ability to think in longer time scales, career paths.

Given this broad array of possibilities, this group's participants began to inquire about what educational implications and opportunities might start to emerge when EE is linked to restoration.

Track 2 focused on challenges for environmental education among programs designed for returning warriors. The group quickly agreed on the need for flexible protocols for conducting EE in these contexts given multiple audiences and challenges. Related to this was the need for a clear understanding of the chain of command, knowledge of who can do what needs to be done, the ability to recognize and appreciate variation among and within installations, and the flexibility to work around soldier's needs to manage multiple appointments with doctors, counselors, and so forth. This is especially true when soldiers first return and are undergoing treatment for injuries sustained while deployed, but is also applicable when they return to regular duty or are discharged.

Challenges that were more specific to EE as a discipline also emerged, which provoked additional discussion. One question that was returned to repeatedly was "what *is* EE? ... what are the different understandings of what EE is?" The group agreed this demonstrated a lack of awareness of EE programs, existing partnerships, and so on. Another challenge that was raised was the problem of a requirement for land or space for some programming, but that many possible locations had restrictions and posed challenges regarding regulation sand/or liability. And even if the space can be arranged, land owners and decision makers may experience risk aversion, which requires proponents of EE for returning warriors to show merit, value and benefit to participants.

An audience and perception concern was also raised as a challenge, one that highlighted both distinctions and overlaps between traditional EE versus something more akin to environmental advocacy, and illucidated the perception that the military community may be adverse to messaging that is heavily infused with "environmental/social justice" themes. It was pointed out that the EE community itself does understand and value the returning veteran community as an audience.

A final important suggestion came from morning track 2 involving the need for a research base that indicates that environmental education coupled with outdoor recreation is a viable approach for returning warriors. The drug abuse resistance education (DARE) program was held out as an example—anecdotal evidence kept it going but was not necessarily supported by research. The credibility of this research base can be enhanced by the quality of the research institution partners, and will carry more clout with more respected research partners. A "clearinghouse" of evidence based research and information was proposed and enthusiastically supported regarding the value of EE and outdoor recreation and outdoor exposure and health, especially in the returning veterans context.

Track 3 focused on policy implications for outdoor recreation and environmental education in veterans' affairs. The participants in track 3 felt strongly that in order to start discussing policy, there was a need to know what are the challenges and opportunities (from the other two tracks), as those items are what will shape this.

Discussions in track 3 seemed to focus upon perceived problems of credibility for the premise of the value of outdoor recreation and EE as a viable approach to veteran reintegration and therapy, and ways to increase credibility and/or overcome credibility gaps. A national outdoor recreation and education certification for the Department of Defense (DOD) use was mentioned multiple times as a possible solution. While exploring this concept, it was pointed out that such a certification would have to emerge from or be pushed by the DOD level and its corresponding congressional committees.

Another important point was that there was a need to connect the national level experts on environmental issues that work with DOD on installation natural resource management and environmental hazard mitigation and cleanup with any advocates or proponents of outdoor recreation and education, since many DOD commanders defer on issues of "the environment" to these experts. High level staff from the Department of Veteran's Affairs would also need to be included.

A final point that emerged in the track 3 group was the importance of soldiers' stories regarding the efficacy of these approaches to soldier reintegration and welfare. Policy makers will want to hear many stories of the value of outdoor recreation, education, and restoration activities for returning warriors.

Afternoon Tracks

Track 1 focused on opportunities for environmental education within field sports communities (hunting and fishing) as understood via veterans and veterans groups. The participants in this track all agreed that returning veterans, male or female, are used to or conditioned to being physically challenged, they seek something challenging, and seem to thrive in such challenging environments. An obvious opportunity for environmental education is to explicitly situate the curriculum in adventures and challenging contexts.

Other opportunities identified by the afternoon track 1 participants keyed in upon how the kinds of activities described above demonstrate potential for individuals to take personal ownership of their new situation, their new outlook based on new experiences, and perhaps their newly acquired disability. Alternatively, the opportunities described above also represent a kind of substitution. Soldiers can no longer experience the extreme challenges of combat, but can join like-minded groups doing outdoor recreation, education, and restoration activities that challenge them and simulate or replicate the camaraderie experienced in deployments situations.

Affiliation with this kind of programming may create significant networking opportunities for returning warriors that can contribute to their sense of well-being including partnerships and programs with well-known outdoor recreation organizations, conservation organizations, state and federal agencies, and not-for-profit groups such as Wounded Warriors in Action and Project Healing Waters, among others. This kind of networking can directly feed into initiatives promoting lifelong learning, and assist in exploring new careers, as well as relate in important ways to efforts among wildlife and natural resources management professionals concerned with hunting and angling recruitment and retention.

Track 2 focused on opportunities for environmental education within habitat restoration activities. This group acknowledged up front that the support of the chain of command would be critical to accomplish any of the things under discussion within the returning warriors context. The chain of command's explicit support for outdoor recreation, education, and restoration as a part of the process of assisting with soldiers transitioning from the battle field to their families and places of work would also help prevent "getting to soldiers too late," a concern when dealing with alarmingly high suicide rates among returning veterans. Involving the chaplain corps was deemed to be worth exploring in this regard as well.

The track 2 group had significant expertise and experience within their members regarding aquatic habitat recreation, education, and restoration. Examples discussed included warm water habitat restoration focused on black bass populations, including a successful project involving pulling water chestnuts (an aquatic invasive species) on Oneida Lake that a wounded warrior in the workshop had participated in, along with his two sons. This work was recognized when the National Berkley Conservation Award was given to the participant's Bass Angler's Sportsman's Society (B.A.S.S.) chapter for the chestnut removal activity.

Terrestrial habitat restoration activities were also discussed, including grassland recovery and tree planting activities, which could be linked to model programs such as Green Jobs for Veterans. Sustainable farming was also discussed; the example of the growing network of Patriot Farms was mentioned.

In all of the above, it was agreed that creating attractive incentives that included challenges would be a common issue, and that accessibility issues must always be a concern.

Track 3 focused on opportunities for environmental education in non-consumptive outdoor recreation activities. This group easily found application for outdoor recreation, education, and restoration in activities such as water based activities (canoeing, kayaking, surfing, etc.), land based adventure (hiking, mountain biking, rock climbing, etc.), and citizen science activities (bird and butterfly counts, tree monitoring, etc.). The group pointed to the importance of doing a needs assessment of what outdoor recreation, education, and restoration opportunities are near or on the military installation. It was also mentioned that another side of interaction with the outdoors for returning warriors includes more subdued, perhaps therapeutic, aesthetic, and even spiritual encounters that are calming and safe opportunities for reflection. This notion was affirmed by members of the military community within the workshop, and was frequently couched in terms of a desire to "be part of something bigger."

Recommendations

The general consensus was that a move towards better appreciation, operationalization, and integration of outdoor recreation, education, and restoration as a means to assist veteran transition from combat deployments back into society needs to happen at two levels. The first level is about learning and related outcomes, about the value of outdoor recreation, education, and restoration activities for physical and mental health and well-being in the context of the military arena. This includes educating decision makers about the multiple levels and meanings of resiliency, and making this legible to the decision makers in leadership positions within the military chain of command. It also includes educating environmental educators so that they come to realize the important and underserved audience of military veterans and returning combatants. The second level is about information management and dissemination. The multiple values and benefits of outdoor recreation, education, and restoration are generally already known, but this information is not easily accessed and not readily available in any single place—a clearinghouse. The material in such a clearinghouse would need to be tailored to military audiences (soldiers, their spouses and children), and this would require collaboration with experienced personnel from the military community, the EE community, the outdoor recreation community, and related areas of expertise.

Beyond these general recommendations, a number of specific recommendations were generated as follows.

• eXtension² could house a clearinghouse of materials on Returning Warrior Outdoor Recreation, Education, and Restoration (RWORER).

According to their website, eXtension is "an interactive learning environment delivering the best, most researched knowledge from the best land-grant university minds across America. eXtension connects knowledge consumers with knowledge providers - experts who know their subject matter inside out." See http://www.extension.org/

- Develop a Powerpoint presentation that can be used in a train-the-trainer approach regarding RWORER.
- Develop companion one pagers that can be distributed to reiterate and reinforce the RWORER Powerpoint.
- Words matter phrases like "outdoor education" will likely be preferred to "environmental education."
- Create financial incentives for involvement in RWORER.
- Ensure integration of RWORER programs from pre-deployment to post-deployment reintegration.
- Relentlessly review, collate, and update conclusive evidence that connection with nature helps reintegrate returning warriors into their community.
- Create a bonafide position in the Warrior Transition Unit (WTU) as liaison link to RWORER with a slot on the training schedule.
- Pursue strategic military/academic partnerships such as West Point to further legitimize research and academic aspects of RWORER.
- Work with partners to identify personal experiences through narrative, e.g., writing for local paper, online YouTube video, etc.
- Focus on key partners in 4 key groups—senior military leadership and congressional and cabinet level policy makers, EE/OE professionals, funding contributors, and returning warriors family and children
- Create online venues to offer opportunity to comment on fact sheets and other RWORER materials
- Encourage a continued collaboration and dialogue and regular meetings among key stakeholder groups and interested parties in RWORER
- Establish a formal network around this concept that can expand and gain momentum, in addition to the clearinghouse

Future Work

Funding and subsequent staffing must be identified to ensure that informational products such as whitepapers, "one-pagers" and Powerpoint presentations can be developed to serve as a foundation for the creation of a RWORER network. This network must then seek additional resources to develop and host the evidence-based research RWORER informational clearinghouse, to include social media to both solicit new content and to disseminate existing information. Efforts to engage strategic partners such as West Point US Military Academy and others should begin as soon as possible. Once the network and clearinghouse are established, efforts should be concentrated upon full adoption and integration of RWORER activities into Warrior Transition Units and other similar organizations such as Family and Morale, Welfare and Recreation.

The future work outlined above represents a significant task and will require building support for these ideas both inside and outside the military. It is critical that funding and leadership for the creation of the RWORER be identified as soon as possible and a plan of work developed, so that a clear roadmap and concrete steps that need to be taken to move this agenda forward, and who will take them, can be generated. A first step would be to convene a second RWORER workshop that focused specifically on strategic planning for the launching of the initiative.

In conclusion, in the words of veteran Brian Eisch, "...the most important thing I can suggest is getting the information out there. I do not just mean power points and handouts. Too many returning Soldiers come back stateside, go to the Class Six (alcohol) and buy a TV and an XBOX and melt away in their rooms. It is hard to do, but they need to be shown what's out there for them... (they) do not know the outdoors and what it offers, they need to be the target."

Appendix 1- Workshop Schedule

Start	End	
		11 September 2012 (4H Camp Wabasso)
11:00	14:00	Reception and Registration (Hiawatha Hall)

12:00	13:30		Lunch Available	
14:00	15:00		orkshop introduction and overvion (Keith Tidball & Marianne Krasny)	ew
16:00	17:30		Stories from the Field	
18:00	19:00		Dinner	
20:30	???		Patriot Day Remembrance	
		12.5	September 2012	
7:30	8:30		Team-building exercise (Ropes Course)	
9:00	9:30		Breakfast	
9:45	10:00	M	lorning workshop session kickof (Hiawatha Hall)	f
10:00	10:30		ities, challenges, and policy imp Warriors	lications for EE & Returning
		Track 1- Opportunities for EE among returning warriors programs	Track 2- Challenges for EE among returning warriors programs	Track 3 – Policy implications for outdoor recreation/education in veteran affairs (SWOT)
10:30	10:45		Break	
10:45	11:45	Reconve	ne and Report-out of Break-out	Groups
12:00	12:30		Lunch	
12:45	13:00	Afternoon workshop session kickoff (Hiawatha Hall)		
13:00	13:30		ogrammatic application of EE &	Returning Warriors
		Track 1 – Opportunities for EE within Field Sports activities (hunting and fishing)	Track 2 – Opportunities for EE within habitat restoration activities	Track 3 – Opportunities for EE in non-consumptive outdoor recreation activities
13:30	14:30	Reconver	ne and Report-out of Break-out	Groups
14:30	14:40		Break	

	•	
14:40	15:15	Summary of the Day and After Action Review
15:30	16:00	Transport from 4H Camp Wabasso to Fort Drum Natural Areas
16:00	18:00	Tour of Fort Drum Natural Areas and Environmental Education Center or Swimming & Fishing at 4H Camp Wabasso
18:15	18:45	Transport from Fort Drum Natural Areas to 4H Camp Wabasso
19:00	20:00	Dinner
20:30		Sundowner/Campfire
Start	End	
		13 September 2012 (4H Camp Wabasso)
		Breakfast
8:00	8:30	(Location)
		Emerging Issues, Feedback, and the "Issue Bin"
8:45	10:00	Group discussion
0.15	20.00	(Hiawatha Hall)
10:00	10:15	Break
10:15	11:00	Activity
11:00	11:30	Activity Report-out
11:30	12:00	Workshop wrap-up and evaluation
12:00	12:30	Lunch
12:30		Transport to Syracuse International Airport

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