

CANADIAN MARITIMES ECOLOGICAL CONNECTIVITY FORUM

**APRIL 24-25, 2019 | HALIFAX, NS
MCINNES ROOM, 2ND FLOOR
STUDENT UNION BUILDING
DALHOUSIE UNIVERSITY**



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Dalhousie University



Nova Scotia Department of
Lands and Forestry



New Brunswick
Department of Energy and
Resource Development



Conservation Council of
New Brunswick



Welcome to the Canadian Maritimes Ecological Connectivity Forum

Forum Purpose

To support the goals of Resolution 40-3 made by the New England Governors and Eastern Canadian Premiers that acknowledges the need to work across landscapes and borders to advance efforts to restore and maintain ecological connectivity.



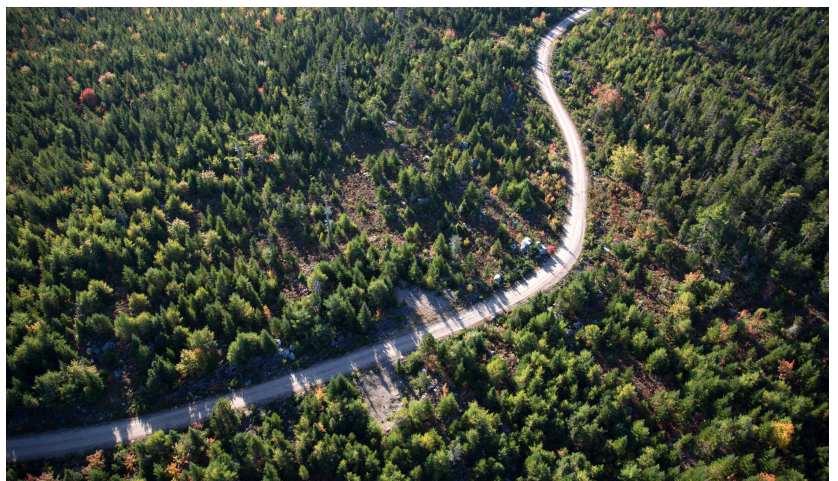
Resolution 40-3

A resolution adopted on August 29, 2016 at the Conference of New England Governors and Eastern Canadian Premiers to address the importance of ecological connectivity for the adaptability and resilience of our region's ecosystems, biodiversity, and human communities in the face of climate change.



Forum Objective

To provide a platform for sharing knowledge and experience between jurisdictions and across borders on planning efforts and land protection for restoring ecological connectivity.



Photos by Len Wagg

With keynote speakers...



DR. MARK ANDERSON

Director of Conservation Science, Eastern US
The Nature Conservancy

Mark provides science leadership, ecological analysis, and landscape assessments for conservation efforts across twenty-two states in the Eastern United States. He holds a Ph.D. in Ecology from University of New Hampshire and has worked in conservation for over 26 years. He manages a team of six scientists specializing in landscape ecology, aquatic biology, marine spatial planning, and regional data management.



DR. GARY TABOR

Founder, Center for Large Landscape Conservation

Gary is an ecologist and wildlife veterinarian based in Bozeman, Montana. In 2007, Gary founded the Center for Large Landscape Conservation to help people and institutions make better land use decisions at the scale nature functions. He has worked on behalf of large landscape conservation internationally for over 35 years with 10 years of experience in Africa, South America and Australia and 12 years as a leader within the U.S. philanthropic community, including the Yellowstone to Yukon Program Director for the Wilburforce Foundation.

Lead Organizers



Morgan Rice, Master of Resource and Environmental Management, Dalhousie University

Morgan is a recent graduate of the Master of Resource and Environmental Management Program at Dalhousie University. After receiving her Hon. B.Sc. in Environmental Science from the University of Guelph, Morgan worked at Credit Valley Conservation Authority in Ontario where she contributed to the implementation of both stream and habitat restoration projects, and educated local residents and students on conservation stewardship. Through this, her passions for conservation and protecting the environment became stronger, leading her to pursue her Masters degree at Dalhousie University. Morgan has recently completed a position as Project Manager for a government funded research project on forested wetlands in Atlantic Canada. Now, Morgan is planning to continue devoting her time to help with ecological connectivity efforts and improving landscape conservation across Atlantic Canada.



Karen Beazley, Professor, School for Resource and Environmental Studies, Dalhousie University

Karen is a professor in the School for Resource and Environmental Studies at Dalhousie University. For more than 30 years, her teaching and research has covered a range of topics related to ecological connectivity, from various socio-ecological perspectives, including systematic conservation planning. She has been engaged with several non-governmental partnerships, such as the Canadian Council on Ecological Areas; Wildlands Network; Two Countries, One Forest; Staying Connected Initiative; and, The Nature Conservancy of Canada, among others. She Chairs the Nova Scotia Crown Share Land Legacy Trust, and is a proud Nova Scotian and Maritimer, from birth.



Peter Bush, Provincial Landscape Ecologist, Nova Scotia Dept. of Lands and Forestry

Peter Bush is the Provincial Landscape Ecologist for Forest Research and Planning Group in the Forestry Division for the Nova Scotia Department of Lands and Forestry. Peter holds a Doctorate in Geography from the University of Western Ontario, a Masters in Forestry from Lakehead University and Environmental Geography degree from Laurentian University. Peter is an adjunct professor at Dalhousie and Saint Mary's Universities and an Honorary Research Associate at University of New Brunswick.

SCHEDULE OF PRESENTATIONS

Day 1 - April 24th 2019

Registration and Refreshments at 8:30 AM

McInnes Room, 2nd Floor Student Union Building, Dalhousie University

Welcome and Forum Overview 9:00 AM - 9:10 AM

Official Opening by the Nova Scotia
Minister of Lands & Forestry 9:10 AM - 9:25 AM
**The Honourable
Iain Rankin**

A Resilient and Connected Network of
Sites to Sustain North America's
Natural Diversity 9:25 AM - 10:25 AM
Mark Anderson

Brief History of Ecological
Connectivity Mapping in the
Ecoregion 10:25 AM - 10:45 AM
Karen Beazley

BREAK - 10:45 AM - 11:00 AM

**Resolution 40-3, A Lever to
Ecological Connectivity -
Ensuring the Conservation of the
Connected Landscape of the
Northeast Region** 11:00 AM - 12:00 PM
**John Austin
Danielle St. Pierre**

LUNCH - 12:00 PM - 1:00 PM

**Implementing Connectivity
Science into Action in
Transportation Planning:
Examples from Ontario and
Quebec** 1:00 PM - 2:40 PM
**Dave Ireland
Jochen Jaeger
Mandy Karch
Kari Gunson**

BREAK - 2:40 PM - 3:00 PM

**Implementing Connectivity
Science into Action in
Transportation Planning:
Examples from New Brunswick
and Vermont (and Quebec)** 3:00 PM - 4:00 PM
**Greg Quinn
Chris Slesar
Jochen Jaegar**

**Implementing Aquatic
Ecosystem Restoration in
Massachusetts** 4:00 PM - 4:30 PM
Kristen Ferry

Natural Connections 4:30 PM - 5:00 PM
Len Wagg

Reception - 5:00 PM - 6:00 PM

SCHEDULE OF PRESENTATIONS

Day 2 - April 25th 2019

McInnes Room, 2nd Floor Student Union Building, Dalhousie University

Welcome and Forum Overview 9:00 AM - 9:10 AM

Large Scale Conservation in an era of Planetary Thresholds 9:10 AM - 10:00 AM
Gary Tabor

Pathway to Canada Target 1 - Advancing Connectivity Throughout Canada 10:00 AM - 10:15 AM
Richard Pither
Andrea Clouston

BREAK - 10:15 AM - 10:30 AM

Ten Years of Landscape-Scale Collaboration for a Connected Landscape: The Staying Connected Initiative 10:30 AM - 11:30 AM
Jessica Levine
John Austin

Discussion Panel: Connectivity Priorities and Opportunities in the Canadian Maritimes 11:30 AM - 12:30 PM
Moderated by
Dave MacKinnon
Steve Gordon

LUNCH - 12:30 PM - 1:30 PM

Session A

McInnes Room

Tools for Measuring and Monitoring Connectivity 1:30 PM - 2:30 PM
Peter Bush
Jochen Jaeger
Caitlin Cunningham

BREAK - 2:30 PM - 2:45 PM

Connectivity in Municipal Park and Land Use Planning 2:45 PM - 4:00 PM
Ben Sivak
Ian Watson
Amanda Shearin

Session B

Council Chambers

Protected Areas and Connectivity: Building Networks 1:30 PM - 2:30 PM
Dave MacKinnon
Craig Smith
Karen Beazley

BREAK - 2:30 PM - 2:45 PM

Key Linkage Area - Chignecto Isthmus: Achievements and Future Directions 2:45 PM - 4:00 PM
Dave MacKinnon
Roberta Clowater
Craig Smith
Paula Noel
Amelia Barnes

Forum Conclusion 4:00 PM - 4:30 PM
Key Takeaways and Opportunities
Gary Tabor

Speakers



John Austin, Co-chair of the working group for Resolution 40-3, New England Governors and Eastern Canadian Premiers

Mr. John Austin is the Director of Land and Habitat Conservation for the Vermont Fish and Wildlife Department. Mr. Austin has served as a wildlife scientist and administrator for the State of Vermont for the past 25 years. In this capacity, Mr. Austin oversees all aspects of the Department's land and habitat conservation interests. He was involved in the development of Resolution 40-3 and has a long history of working closely with a wide range of conservation partners on matters related to region-wide landscape conservation, including working with the Staying Connected Initiative.



Danielle St-Pierre, Co-chair of the working group for Resolution 40-3, New England Governors and Eastern Canadian Premiers

Mrs. Danielle St-Pierre holds a Bachelor's degree in Biology from the Université du Québec à Chicoutimi and a Masters degree in management and organizational development from Université Laval. She has 28 years experience in public services in environment and wildlife fields. She has worked in nine different administrative regions in Quebec. As a Wildlife Manager since 2005, she is director of the Direction de l'expertise sur la faune terrestre, l'herpétofaune et l'avifaune (Terrestrial Wildlife) of the ministère des Forêts, de la Faune et des Parcs (Forest, Wildlife and Parks). She is a member of the Canadian Wildlife Directors Committee, the Eastern Habitat Joint Venture Council, and co-chair, with Mr. John Austin of Vermont, the working group for the implementation of the Resolution 40-3 on Ecological Connectivity, Adaptation to Climate Change and Biodiversity Conservation.



Jessie Levine, Senior Conservation Advisor and Coordinator of the Staying Connected Initiative, Nature United

Jessie works on developing and implementing tools to sustain connected forest and freshwater habitats and addressing challenges posed by climate change. Jessie is the Eastern North America lead for the IUCN Connectivity Conservation Specialist Group and a member of the Executive Committee of the Network for Landscape Conservation. Her prior work includes managing local and international environmental partnerships in the US, Canada, and across North America, coordinating biodiversity research, overseeing youth environmental education programs, and directing volunteer programs in Latin America. Jessie has a BA in Human Biology from Stanford University, an MS in Energy and Resources, and an MCP in City and Regional Planning, both from UC Berkeley.

Speakers



Dave Ireland, Senior Project Manager, Conservation Council of New Brunswick

Dave works at the intersection of science, policy and public engagement, and has over 20 years experience in conservation biology and environmental action. Previously Dave was the Managing Director of Natural History at the Royal Ontario Museum and is the co-founder of the Ontario Road Ecology Group.



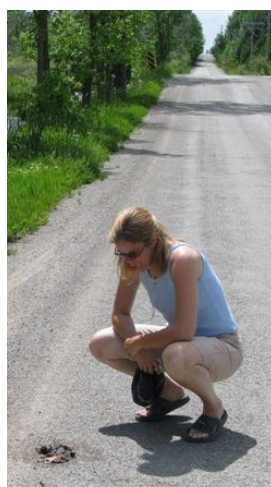
Dr. Jochen Jaeger, Associate Professor, Concordia University Montreal, Department of Geography, Planning and Environment

Jochen Jaeger joined Concordia University in Montreal in 2007. He is working in the fields of landscape ecology, road ecology, urban sprawl, ecological modelling, environmental indicators, environmental impact assessment, and trans-disciplinary research concepts. His lab recently investigated the effectiveness of fences and wildlife passages along a major highway in Quebec (HW 175), the ecological connectivity of natural areas in cities, and the role of uncertainties in environmental impact assessment in Canada. His research team received the IENE Project Award 2011 for their project "Landscape Fragmentation in Europe" from the Infra Eco Network Europe (IENE) in 2011.



Mandy Karch, Executive Director, Ontario Road Ecology Group

Mandy has studied turtle populations that rely on safe movement corridors whether it be across roads or ocean habitat. Mandy has been dedicated to the Ontario Road Ecology Group for a decade and has initiated research projects, launched citizen science programs, facilitated government and non-government collaborations, and championed mitigation and policies that enhance landscape connectivity to improve the way wildlife/road interactions are managed.



Kari Gunson, Road Ecologist, Wildlife on the Roads

Kari Gunson is a practicing road ecologist in Ontario and elsewhere in North America. In the past ten years her work has focused on monitoring the use of crossing structures for both large and small animals on both large highways and small municipal roads. In addition, Kari is an experienced Geographic Information Systems analyst and has worked with municipalities and the provincial government in Ontario to integrate new and emerging planning tools into landscape-level analyses to better understand where animals are killed on roads, and to prioritize mitigation. More recently Kari has started a new program called 'Wildlife on Roads' that includes a handbook, citizen science data collection platform, and forum for education and awareness about collecting good and complete wildlife on roads data to be used in mitigation planning

Speakers



Chris Slesar, Environmental Resource Coordinator, Vermont Agency of Transportation

Chris oversees the work of a top-notch staff of natural and cultural resources experts. Chris has been engaged in road ecology and habitat connectivity issues since 2002, when he developed the Highways & Habitats Training for VTrans staff. As the Chair of his town's (Monkton, VT) conservation commission, Chris was the volunteer project manager for the Monkton Amphibian crossing project that retrofitted a town road with two dry culverts that provide safe passage for migrating amphibians at one of the region's most robust and threatened amphibian crossing sites. The Amphibian Crossing project received a 2017 Federal Highway Administration (FHWA) Environmental Excellence Award. Chris is a member of the Steering Committee for the International Conference on Ecology and Transportation (ICOET) and is the ICOET 2019 Program Chair.



Greg Quinn, Ecologist, New Brunswick Dept. of Transportation and Infrastructure

Greg works on a variety of wildlife, wetland, and environmental regulatory issues. Recent projects include wetland compensation, vehicle/wildlife collision monitoring, track and camera surveys, Canada goose management and various environmental assessments for road and bridge infrastructure. Prior to working at NBDTI, he spent over a decade working in consulting, and served as a technical lead in wetlands and vegetation. He also has extensive work and educational experience in forestry, bat ecology, birds, and other wildlife. Greg is currently on the steering committee for the Staying Connected Initiative.



Kristen Ferry, Habitat Restoration Program Manager, Division of Ecological Restoration, Massachusetts Dept. of Fish & Game

For the past 18 years, Kristen has worked in the fields of ecological restoration and marine fisheries biology at the state and federal agency levels in the Northeastern, United States. As Habitat Restoration Program Manager, she provides oversight for DER's river, stream, and wetland restoration activities. The Habitat Restoration Program includes five practice areas: dam removal, tidal wetland restoration, stream continuity (i.e., culvert replacement), retired cranberry bog restoration, and ecological restoration engineering. DER's habitat restoration projects also increase climate change resiliency for aquatic systems and communities through the removal or replacement of outdated and degraded aquatic infrastructure.

Speakers



David MacKinnon, Systems Planning Coordinator, Protected Areas Branch, Nova Scotia Environment

David co-founded the Nova Scotia Nature Trust and is a former chair and current vice-chair of the Canadian Council on Ecological Areas, as well as former chair and current treasurer of the Atlantic Canada Conservation Data Centre. He is currently a member of the Staying Connected Initiative steering committee.



Craig Smith, Nova Scotia Program Director, Nature Conservancy of Canada

Craig has been working and volunteering on conservation issues in Nova Scotia for over a decade, including directing the Nature Conservancy of Canada's conservation efforts across the province. Craig enjoys working at the intersection of science, planning and management and teaching his young kids how to enjoy being outside.



Roberta Clowater, Executive Director, Canadian Parks and Wilderness Society - NB Chapter

Roberta has worked for the past 26 years in leadership roles for non-government conservation organizations in New Brunswick. Roberta has a B.Sc. in Biology from the University of New Brunswick, and a MA in regional and park planning from the University of Waterloo. She is a part-time instructor in Forestry and Environmental Management at the University of New Brunswick. Roberta is a Board member and current chair for the international Two Countries, One Forest network.



Amelia Barnes, Master of Environmental Studies Candidate, Dalhousie University

Amelia holds a Bachelors of Science in Biology and a Bachelors of Education from Cape Breton University. She is currently a Masters of Environmental Studies Candidate at Dalhousie University with research interests in road ecology, landscape connectivity and biodiversity conservation.



Caitlin Cunningham, PhD Candidate, Interdisciplinary PhD Program, Dalhousie University

Caitlin is an Interdisciplinary PhD student at Dalhousie University. Her work is broadly focused on landscape ecology and large scale connectivity analyses. She will discuss some of her work through an approach being used to examine forest connectivity from a variety of perspectives in Nova Scotia using multiple methods including mesh size, circuitscape and patch analytics.

Speakers



Andrea Clouston & Richard Pither, Scientists, Landscape Ecology Research Section, Environment & Climate Change Canada

Andrea and Richard both have academic and applied backgrounds in landscape ecology and have worked for the Federal Government for more than 10 and 15 years respectively.



Paula Noel, New Brunswick Program Director, Nature Conservancy of Canada

Paula is the New Brunswick Program Director with the Nature Conservancy of Canada, and board member of the NB Wildlife Council, Nature NB and the Canadian Council on Invasive Species. With NCC, Paula has been working to protect and understand terrestrial connectivity on the Chignecto Isthmus since 2009, leading programs in land conservation, road ecology, collaborative planning and communications.



Dr. Amanda Shearin, Habitat Outreach Coordinator, Maine Dept. of Inland Fisheries and Wildlife

Amanda is the Habitat Outreach Coordinator with Maine Department of Inland Fisheries and Wildlife. Prior to joining MDIFW in 2014, Amanda worked on multiple natural resource issues across Maine, New England and internationally, including wildlife and transportation conflicts, vernal pools and wetland ecology, fishless lakes, sustainable agriculture, and cetacean ecology. She holds a Ph.D. in Ecology and Environmental Sciences from the University of Maine.



Ben Sivak, Principal Planner, Halifax Regional Municipality

Ben Sivak is a Principal Planner for the Halifax Regional Municipality with 14 years of municipal planning experience in both urban and rural contexts. He received an Hon. B.Sc. from the University of Toronto and a Masters of Urban and Rural Planning from Dalhousie University.



Ian Watson, Senior Planner, UPLAND Planning + Design,

Ian is a Senior Planner with UPLAND Planning + Design. Ian leads and manages all of UPLAND's comprehensive planning projects, including drafting policies and regulations, leading background analyses, and leading public engagement strategies. Prior to becoming a planner, Ian completed an Honours Degree in Biology at Queens University.

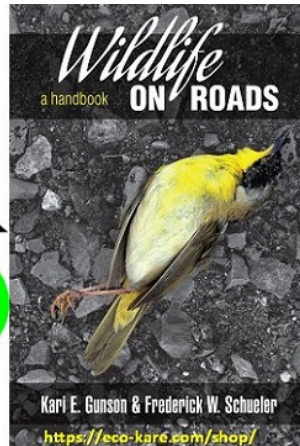


Len Wagg, Photographer

Len Wagg is an award winning Canadian photographer and author. His work has been published in newspapers, magazines, and books all over the world. He is the author of seven books including award winning Wild Nova Scotia. A visual storyteller for over thirty years, his work is known for capturing the majestic beauty of his native Nova Scotia.

Wildlife on Roads: A Handbook

By Kari Gunson & Frederick Schueler



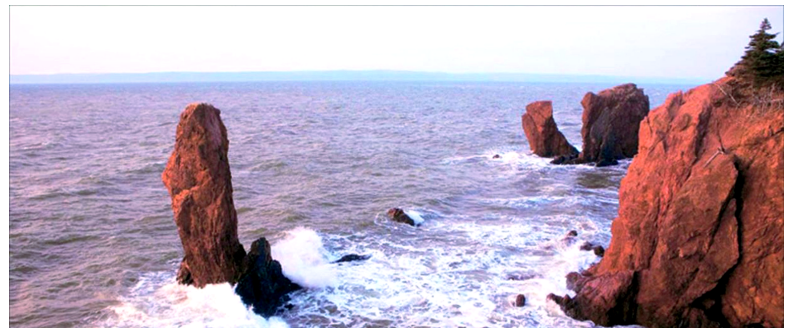
Wildlife on Roads is a handbook for those that wish to or are currently collecting data about wildlife on roads. It focuses on two key aspects of data collection: identifying wildlife on-roads to the lowest taxa level possible and accurately measuring its location. The book is organized by the following vertebrate orders: Turtles, Snakes and Lizards and by the following vertebrate classes: Amphibia, Mammalia, and Aves. Each section begins by describing why these animals are found on roads, and what information is important to collect. Each section is then detailed further by family and eventually to species. Descriptive species accounts were carefully selected based on whether road mortality was thought to be a concern. The book emphasizes how these data would help to evaluate road-kill impacts but also to provide solutions. The book features photos, sketches and case studies by artists, naturalists, ecologists, and citizen scientists, and is a precursor for a larger citizen science project that entails a repository to submit data, and upcoming workshops.

<https://eco-kare.com/>

Wild Nova Scotia

Photography by Len Wagg

Nova Scotia has designated thirty-three Crown-owned areas as Wilderness Areas, consisting of about five percent of the provincial land-mass. The wilderness area designation means no mining or logging is allowed, but people are free to hunt, fish, hike, and camp as they have for generations. These Wilderness Areas - from the massive Tobeatic Wilderness Area that covers five counties to tiny McGill Lake- showcase the best of natural Nova Scotia, and Len Wagg has photographed them all for Wild Nova Scotia. Over the last year and a half, Wagg spent close to a hundred days in the province's wilderness, logging over fifteen thousand kilometres and taking beautiful, telling portraits of the province's most secret and lovely places. Photos of important areas not designated Wilderness Areas are included as well- like the shores of the Northumberland Strait, where herds of seals find places along the shores to have their young; the Bay of Fundy, where world-class tides erode massive cliffs; Kejij National Park, where the sounds campers hear are all natural; and Nova Scotia's "barren" Sable Island, home to birds, plants, seals and a herd of wild horses. Each area has distinctive characteristics that make it unique. Wild Nova Scotia showcases the special places, protected or not, allowing people to bring home some of the amazing natural beauty of this province



Wild Nova Scotia

Photography by Len Wagg

Text by Bob Bancroft

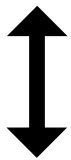
PROTECTED WILDERNESS AREAS AND CANADIAN HERITAGE RIVERS, AND OTHER NATURE SITES

<http://lenwagg.com/>

Directions & Parking

Venue

McInnes Room, 2nd floor,
Student Union Building,
Dalhousie University
6136 University Ave, Halifax, NS



- 3 minute car ride
- 17 minute walk

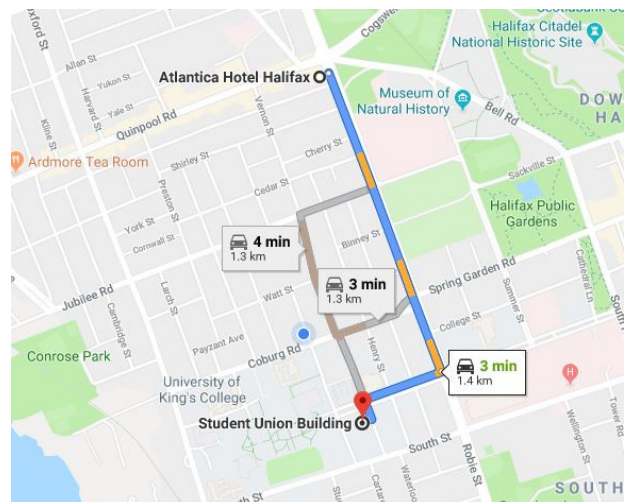


Hotel

Atlantic Hotel Halifax
1980 Robie St, Halifax, NS

Directions

1. Head south on Robie St
2. Turn right onto University Ave
3. Student Union Building will be on your left



Parking at Dalhousie University

- Metered parking operated by Halifax Regional Municipality is available on streets in and around campus
- Pay & Display - Head to the LeMarchant Place parking lot on South Street, Studley Campus. The cost is \$2 per hour or \$16 per day. Parking is free in this parking lot in all non-reserved spots from 4:30 p.m. - 1:30 a.m. No overnight parking from 1:30 to 7:00 a.m.