STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

RE: APPLICATION BY T-MOBILE NORTHEAST, LLC FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR A TELECOMMUNICATIONS FACILITY AT 61-1 BUTTONBALL ROAD IN THE TOWN OF OLD LYME, CONNECTICUT

DOCKET NO. 393

Date: May 10, 2010

PRE-FILED TESTIMONY OF ASHLEY BONAVENIA

Q1. Please state your name and profession.

A1. Ashley Bonavenia and I am a program manager for EBI Consulting ("EBI"). EBI is located at 21 B Street, Burlington, MA, 01803.

Q2. Please summarize your professional background in telecommunications.

A2. I have a B.S. in Ocean Engineering from the University of Rhode Island. I have extensive experience in Phase I environmental site assessment, NEPA compliance, environmental assessments, SEQRA reviews and remediation consulting services to, among other industries, telecommunication firms. My work with environmental reviews includes analysis of historical properties, wetlands, endangered species habitat, flood plains, and other areas of environmental concerns in relation to proposed and existing telecommunications facilities.

Q3. Are you familiar with the subject matter of Docket 393?

A3. Yes. I am familiar with the Application for Certificate of Environmental Compatibility and Public Need submitted by T-Mobile Northeast LLC ("T-Mobile") and the

related filings in this Docket. I understand that T-Mobile retained EBI to perform compliance under the National Environmental Policy Act of 1969 ("NEPA") for the proposed telecommunications facility ("Facility") at 61-1 Buttonball Road, Old Lyme, Connecticut ("Property"). I am also familiar with the testimony provided by T-Mobile in this Docket regarding the Facility. I have obtained and/or assisted in obtaining information regarding migratory birds in accordance with the Connecticut Siting Council's ("Council") requests during the course of the proceedings in this Docket.

Q4. Would the proposed Facility be located in an "important bird area" designated by the Audubon Society or any governmental entity?

A4. No. The Property is not located in or near an "important bird area" as designated by the Audubon Society. Appended hereto as Attachment A is a list of "important bird areas" designated by the Audubon Society. The Property is not a potential "important bird area," nor has it been identified or nominated as a potential "important bird area." No State or federal entity has designated the Property as an "important bird area" or a "critical habitat." Appended hereto as Attachment B is a land and historic resources map demonstrating that the State and federal governments have not identified the Property (and surrounding area) as a "critical habitat."

Q5. Would the Property be located in a migratory bird "flyway?"

A5. Yes. Connecticut is located in a "flyway."

Q6. Are there any documented studies regarding telecommunications facilities and "bird strikes?"

A6. There are known pending studies regarding "bird strikes" in Western New York and Michigan. However, there are no known reports on these studies at this time. The United States Fish & Wildlife Service has published interim guidelines to minimize the potential impacts of telecommunications facilities on migratory birds ("Interim Guidelines"). Most notably, the Interim Guidelines suggest that telecommunications facilities be constructed at a height less than 200 feet and without guy wires. The proposed Facility would adhere to the suggestions contained in the Interim Guidelines. A copy of the Interim Guidelines is appended hereto as Attachment C.

Q7 Are there any studies regarding parakeet colonies along the Connecticut coastline?

A7. There are no formal studies regarding the presence of parakeet colonies along the Connecticut coastline. There are, however, some references to the presence of parakeet colonies. A copy of an Audubon Society submission is appended hereto as Attachment D.

Ashley Bonavenia

Sworn and subscribed to before me this
10th day of May, 2010.

Lee Preston

Notary Public
My Commission expires JULY 31, 2010

LEE PRESTON
Notary Public, State of New York
No. 4685410
Qualified in Suffolk County
Commission Expires July 31, 20 10

ATTACHMENT A

CONNECTICUT IMPORTANT BIRD AREAS

The following list may not include all potential, nominated, pending, identified, or recognized IBAs within the state as some IBA information may be unavailable for public viewing.

old lyme Find Location

#	Name	Status	Priority	Counties
1.	Audubon Center in Greenwich	Recognized	State	Fairfield
2.	Bafflin Sanctuary Complex	Recognized	State	Windham
3.	Barn Island Wildlife Management Area	Recognized	Global	New London
4.	Bent of the River Sanctuary	Recognized	State	New Haven
5.	Charles Island and Silver Sands State Park	Recognized	State	New Haven
6.	Connecticut College Arboretum	Recognized	State	New London
7.	Cove Island Park	Recognized	State	Fairfield
8.	East Rock Park	Recognized	State	New Haven
9.	Falkner Island Unit of Stewart B. McKinney NWR	Recognized	State	New Haven
10.	Good Hill Farm Preserve	Recognized		Litchfield
11.	Great Captains Island	Recognized	State	Fairfield
12.	Greenwich Point Park and Nearby Islands	Recognized	State	Fairfield
13.	Hammonasset Beach State Park	Recognized	Global	New Haven
14.	Lighthouse Point Park	Recognized	State	New Haven
15.	Mamacoke Island and Adjacent Coves	Recognized	State	New London
16.	Menunketesuck and Duck Islands and surrounding tidal flats	Recognized	State	Middlesex
17.	Milford Point/Wheeler Marsh/Mouth of the Housatonic River	Recognized	State	New Haven
18.	Naugatuck State Forest	Recognized		New Haven
19.	Northwest Park	Recognized		Hartford
20.	Quinnipiac River Tidal Marsh	Recognized	State	New Haven
21.	Salt Meadow Unit of Stewart B. McKinney NWR	Recognized	State	Middlesex
22.	Sandy Point	Recognized	State	New Haven
23.	Station 43 Marsh/Sanctuary	Recognized	State	Hartford
24.	The Nature Conservancy, Devil's Den	Recognized	State	Fairfield
25.	Topsmead State Forest	Recognized		Litchfield
26.	White Memorial Foundation	Recognized	State	Litchfield

Donate

What is an IBA?
IBA Program Status
IBA Criteria
How Will IBAs Help Birds?
IBA Success Stories
What's Next?
What You Can Do
IBA contacts
Links

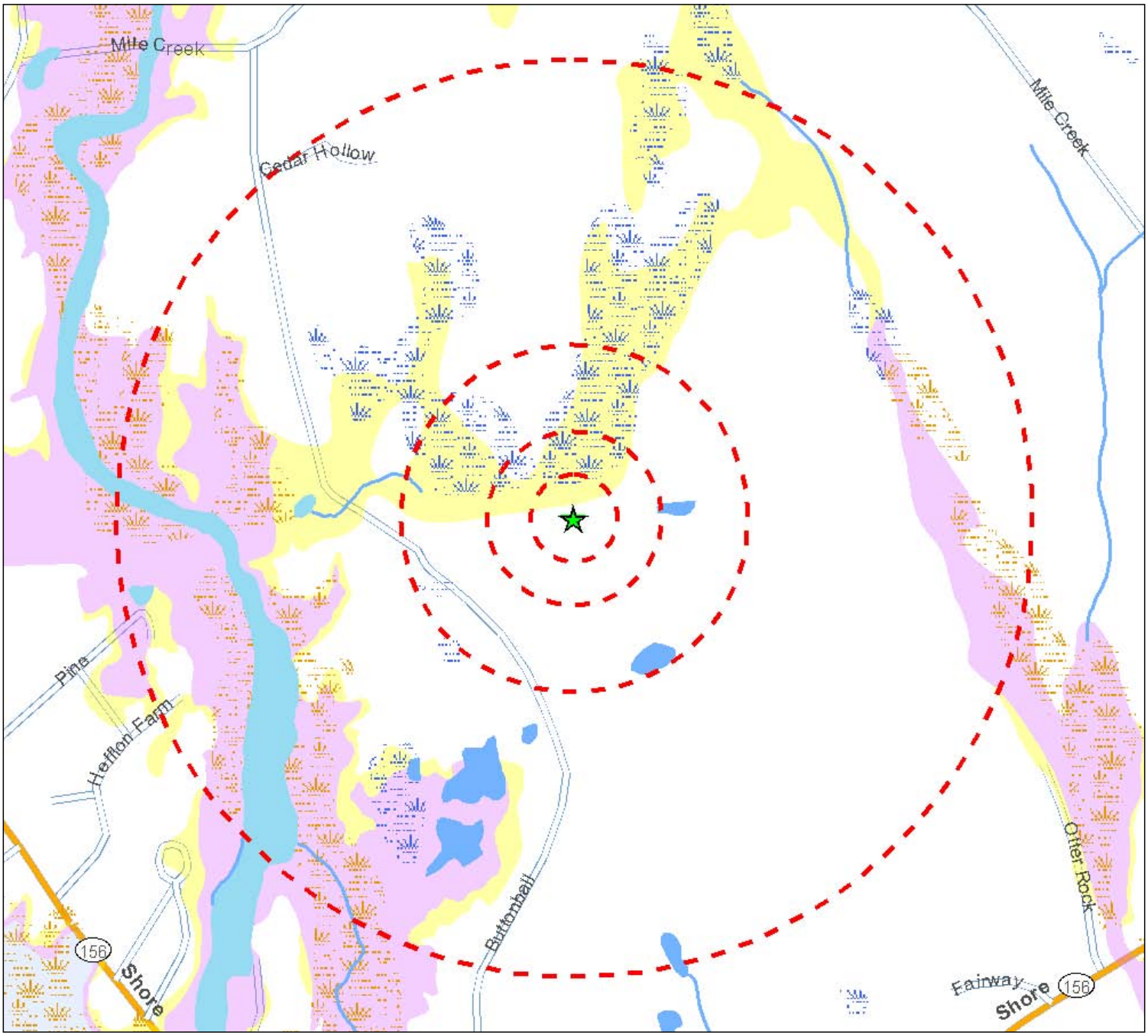
Search IBAs

BirdLife INTERNATIONAL

"IBAs have the unique power to unite people, communities, and organizations in proactive bird conservation, one place at a time"

- Frank Gill, Interim President, National Audubon Society

ATTACHMENT B



Legend

★ Project Site Site Buffer at 250', 500', 1000' and 1/2 mile

See associated legend for additional map symbology

Source: See associated map legend

Land and Historic Resources Map

CTNL801A/Amtrak Old Lyme 2
61-1 Buttonball Road
Old Lyme, CT 06371-1757

PN: 61087700

0 500 1000 feet

National Datalayers Legend*

National Register Historic Site

National Register Historic District

Source: NPS National Register of Historic Places, updated July 2008

National Park Service Trail

Source:U.S. National Parks Serivce. Various dates. NR/GIS WebSite, U.S.Dept.o fthe Interior,NPS,Wash.,D.C. http://science.nature.nps.gov/nrdata/index.cfm.

National Scenic Parkway

National Wild and Scenic River

Federally Owned Land

Source:National Atlas of the U.S.,Reston,VA,12/05, Federal Land Features of the U.S.
-Parkways and Scenic Rivers
-Federal Lands of the United States

FWS Critical Habitat

Source:U.S.Fish and Wildlife Service.Various dates. FWS Critical Habitat for Threatened & Endangered Species website. U.S. Dept. of the Interior, FWS,Wash,D.C. http://crithab.fws.gov/.

*Includes data obtained from federal agencies developed to be consistent throughout the US.

National Wetlands Inventory

Stream or Creek

Freshwater Forested/Shrub Wetland

Freshwater Emergent Wetland

Estuarine & Marine Wetland

Unconsolidated Shore

Freshwater Lake, Pond, or River

Estuarine & Marine Deepwater

Open Water

Source: U.S. Fish and Wildlife Service.Various dates. National Wetlands Inventory website. U.S. Dept. of the Interior, FWS, Wash, D.C. http://www.fws.gov/nwi/.

FEMA Q3 Flood Zone

500-year inundation area.

100-year inundation area.

100-year inundation area with velocity hazard.

Area not included on any FIRM publication.

Undetermined but possible flood hazard area.

Floodway area, including watercourse extent.

No Flood Data No Flood Data Available

Source: FEMA

Connecticut - State Specific Datalayers Legend

CT - Natural Diversity Database Area

Source: CT DEP
Data Date: December 2009
http://www.ct.gov/dep/gis

CT - DEP Property

Source: CT DEP
Data Date: October 2009
http://www.ct.gov/dep/gis

CT - DEP Municipal and Open Space

Source: CT DEP Office of Information Management
Data Date: 1997
http://www.ct.gov/dep/gis

CT - DEP Critical Habitat

Source: CT DEP
Data Date: December 2009
http://www.ct.gov/dep/gis

CT - Aquifer Protection Area

Final

Preliminary

Source: CT DEP
Data Date: March 2010
http://www.ct.gov/dep/gis

CT - DEP Trails

Source: CT DEP
Data Date: January 2010
http://www.ct.gov/dep/gis

Land Based and Historic Resources Legend

EBI CONSULTING
Creating Value for Your Business

ATTACHMENT C

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington, D.C. 20240

In Reply Refer To:
*FWSIFHC/DHCIBF*A

Memorandum

To: Regional Directors, Regions 1-7

From: Director ***/s/*** **Jamie Rappaport Clark** SEP 14

Subject: Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers

Construction of communications towers (including radio, television, cellular, and microwave) in the United States has been growing at an exponential rate, increasing at an estimated 6 percent to 8 percent annually. According to the Federal Communication Commission's *2000 Antenna Structure Registry,* the number oflighted towers greater than 199'feet above ground level currently number over 45,000 and the total number of towers over 74,000. By 2003, all television stations must be digital, adding potentially 1,000 new towers exceeding 1,000 feet AGL.

The construction of new towers creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. Communications towers are estimated to kill 4-5 million birds per year, which violates the spirit and the intent of the Migratory Bird Treaty Act and the Code of Federal Regulations at Part 50 designed to implement the MBTA. Some of the species affected are also protected under the Endangered Species Act and Bald and Golden Eagle Act.

Service personnel may become involved in the review of proposed tower sitings and/or in the evaluation of tower impacts on migratory birds through National Environmental Policy Act review; specifically, sections 1501.6, opportunity to be a cooperating agency, and 1503.4, duty to comment on federally-licensed activities for agencies with jurisdiction by law, in this case the MBTA, or because of special expertise. Also, the National Wildlife Refuge System Improvement Act requires that any activity on Refuge lands be determined as compatible with the Refuge system mission and the Refuge purpose(s). In addition, the Service is required by the ESA to assist other Federal agencies in ensuring that any action they authorize, implement, or fund will not jeopardize the continued existence of any federally endangered or threatened species.

A Communication Tower Working Group composed of government agencies, industry, academic researchers and NGO's has been formed to develop and implement a research protocol to determine the best ways to construct and operate towers to prevent bird strikes. Until the research study is completed, or until research efforts uncover significant new mitigation measures, all Service personnel involved in the review of proposed tower sitings and/or the evaluation of the impacts of towers on migratory birds should use the attached interim guidelines when making recommendations to all companies, license applicants, or licensees proposing new tower sitings. These guidelines were developed by Service personnel from research conducted in several eastern, midwestern, and southern States, and have been refined through Regional review. They are based on the best information available at this time, and are the most prudent and effective measures for avoiding bird strikes at towers. We believe that they will provide significant protection for migratory birds pending completion of the Working Group's recommendations. As new information becomes available, the guidelines will be updated accordingly.

Implementation of these guidelines by the communications industry is voluntary, and our recommendations must be balanced with Federal Aviation Administration requirements and local community concerns where necessary. Field offices have discretion in the use of these guidelines on a case by case basis, and may also have additional recommendations to add which are specific to their geographic area.

Also attached is a Tower Site Evaluation Form which may prove useful in evaluating proposed towers and in streamlining the evaluation process. Copies may be provided to consultants or tower companies who regularly submit requests for consultation, as well as to those who submit individual requests that do not contain sufficient information to allow adequate evaluation. This form is for discretionary use, and may be modified as necessary.

The Migratory Bird Treaty Act (16 U.S.C. 703-712) prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the Act has no provision for allowing an unauthorized take, it must be recognized that some birds may be killed at structures such as communications towers even if all reasonable measures to avoid it are implemented. The Service's Division of Law Enforcement carries out its mission to protect migratory birds not only through investigations and enforcement, but also through fostering relationships with individuals and industries that proactively seek to eliminate their impacts on migratory birds. While it is not possible under the Act to absolve individuals or companies from liability if they follow these recommended guidelines, the Division of Law Enforcement and Department of Justice have used enforcement and prosecutorial discretion in the past regarding individuals or companies who have made good faith efforts to avoid the take of migratory birds.

Please ensure that all field personnel involved in review of FCC licensed communications tower proposals receive copies of this memorandum. Questions regarding this issue should be directed to Dr. Benjamin N. Tuggle, Chief, Division of Habitat Conservation, at (703)358-2161, or

Jon Andrew, Chief, Division of Migratory Bird Management, at (703)358-1714. These guidelines will be incorporated in a Director's Order and placed in the Fish and Wildlife Service Manual at a future date.

Attachment

cc: 3012-MIB-FWS/Directorate Reading File
3012-MIB-FWS/CCU Files
3245-MIB-FWS/AFHC Reading Files
840-ARLSQ-FWS/AF Files
400-ARLSQ-FWS/DHC Files
400-ARLSQ-FWS/DHC/BFA Files
400-ARLSQ-FWS/DHC/BFA Staff
520-ARLSQ-FWS/LE Files
634-ARLSQ-FWS/MBMO Files (Jon Andrew)

FWS/DHCIBFAJRWillis:bg:08/09/00:(703)358-2183
S:\DHC\BFA\WILLIS\COMTOW-2.POL

Attachment

Service Interim Guidelines For Recommendations On
Communications Tower Siting, Construction, Operation, and Decommissioning

1. Any company/applicant/licensee proposing to construct a new communications tower should be strongly encouraged to collocate the communications equipment on an existing communication tower or other structure (e.g., billboard, water tower, or building mount). Depending on tower load factors, from 6 to 10 providers may collocate on an existing tower.

2. If collocation is not feasible and a new tower or towers are to be constructed, communications service providers should be strongly encouraged to construct towers no more than 199 feet above ground level, using construction techniques which do not require guy wires (e.g., use a lattice structure, monopole, etc.). Such towers should be unlighted if Federal Aviation Administration regulations permit.

3. If constructing multiple towers, providers should consider the cumulative impacts of all of those towers to migratory birds and threatened and endangered species as well as the impacts of each individual tower.

4. If at all possible, new towers should be sited within existing "antenna farms" (clusters of towers). Towers should not be sited in or near wetlands, other known bird concentration areas (e.g., State or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species. Towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.

5. If taller (>199 feet AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used. Unless otherwise required by the FAA, only white (preferable) or red strobe lights should be used at night, and these should be the minimum number, minimum intensity, and minimum number of flashes per minute (longest duration between flashes) allowable by the FAA. The use of solid red or pulsating red warning lights at night should be avoided. Current research indicates that solid or pulsating (beacon) red lights attract night-migrating birds at a much higher rate than white strobe lights. Red strobe lights have not yet been studied.

6. Tower designs using guy wires for support which are proposed to be located in known raptor or waterbird concentration areas or daily movement routes, or in major diurnal migratory bird movement routes or stopover sites, should have daytime visual markers on the wires to prevent collisions by these diurnally moving species. (For guidance on markers, see *Avian Power Line Interaction Committee (APLIC).* 1994. *Mitigating Bird Collisions with Power Lines: The State of the Art in* 1994. *Edison Electric Institute, Washington, D.c.,* 78 *pp,* and *Avian Power Line Interaction Committee (APLIC).* 1996. *Suggested Practices/or Raptor Protection on Power Lines. Edison Electric InstituteiRaptor Research Foundation, Washington, D. C;* 128 *pp.* Copies can be obtained via the Internet at http://www.eei.org/resources/pubcat/enviro/. or by calling 1-800/334-5453).

7. Towers and appendant facilities should be sited, designed and constructed so as to avoid or minimize habitat loss within and adjacent to the tower "footprint." However, a larger tower footprint is preferable to the use of guy wires in construction. Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight.

8. If significant numbers of breeding, feeding, or roosting birds are known to habitually use the proposed tower construction area, relocation to an alternate site should be recommended. If this is not an option, seasonal restrictions on construction may be advisable in order to avoid disturbance during periods of high bird activity.

9. In order to reduce the number of towers needed in the future, providers should be encouraged to design new towers structurally and electrically to accommodate the applicant/licensee's antennas and comparable antennas for at least two additional users (minimum of three users for each tower structure), unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.

10. Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.

11. If a tower is constructed or proposed for construction, Service personnel or researchers from the Communication Tower Working Group should be allowed access to the site to evaluate bird use, conduct dead-bird searches, to place net catchments below the towers but above the ground, and to place radar, Global Positioning System, infrared, thermal imagery, and acoustical monitoring equipment as necessary to assess and verify bird movements and to gain information on the impacts of various tower sizes, configurations, and lighting systems.

12. Towers no longer in use or determined to be obsolete should be removed within 12 months of cessation of use.

In order to obtain information on the extent to which these guidelines are being implemented, and to identify any recurring problems with their implementation which may necessitate modifications, letters provided in response to requests for evaluation of proposed towers should contain the following request:

> "In order to obtain information on the usefulness of these guidelines in preventing bird strikes, and to identify any recurring problems with their implementation which may necessitate modifications, please advise us of the final location and specifications of the proposed tower, and which of the measures recommended for the protection of migratory birds were implemented. If any of the recommended measures can not be implemented, please explain why they were not feasible."

ATTACHMENT D

Monk Parakeets: Why Here?

By Linda Pearson and Alison Olivieri

(*Editor's Note:* This article was published in the December 1995 issue of *Birder's Digest* , authored by two of Connecticut Audubon's most noted birders who conducted extensive research into monk parakeets. The large parrot nest tree featured in this article was destroyed in a storm in June 1993. The birds have dispersed to nest at other nearby sites.)

To stand in a lovely residential neighborhood in coastal Connecticut and be surrounded by scores of chattering, screeching, free-flying wild parrots, is to experience a fantasy. To look up into an immense 75 foot evergreen tree containing over 40 parrot nests and see two adult great horned owls roosting silently among the branches of the tree is to extend the fantasy. But to look closer and see firmly settled on top of one of the parrot nests a fluffy, white, baby great horned owl stretches fantasy to its outermost limit.

Questions Everywhere

As surreal a situation as it might seem this was the state of reality for a colleague and myself in May 1992. What were these parrots doing here in the middle of this suburban Connecticut neighborhood? Why were there so many nests in this massive, exotic, evergreen tree which marked the property line between two lovely contemporary houses and closely abutted the street? Don't parrots live in the tropics? How could they survive our cold New England winters? Of more pressing interest, what kept the parrots there when the largest avian predators in the Northeast had set up housekeeping in the middle of their colony? Why weren't they in a panic over the new tenants? Weren't they probably the top item on the owl family's grocery list?

The questions about the presence of the parrots were ones we had been wrestling with for over a year. The unexpected arrival of the owls in the winter of 1992, however, added a whole new concern. Small numbers of these parrots had been seen in New York, Long Island and Connecticut since the early 1970's. The species, known as monk parakeets (Myiopsitta monachus) ordinarily residents of Argentina, Bolivia, Brazil, Paraguay and Uruguay, were imported in large numbers to this country by the pet industry in the late 1960's and early 1970's. Theories as to how they escaped into the wild include broken crates at airports, accidental releases by pet stores and pet owners, intentional releases by overstocked pet stores, and liberation by pet owners unable to stand the birds' screeching and squawking.

Hearty Survivors

All of these are reasonable explanations and the numbers of monk parakeets sighted all over the United States would indicate that these birds did not enter the wild through one single event but rather through varied and multiple incidents. Whatever their means of release, once on their own they managed to survive very successfully. Actually, in many parts of their range in South America the temperatures were quite similar to our milder winters. They were certainly thriving here in Connecticut and their numbers were on the increase. At first only a handful of parrots had occupied this particular neighborhood tree. Now this tree held the largest colony of them in Connecticut. Reports of more sightings and more nests up and down the coast were becoming common.

The Connecticut Audubon Society had received so many calls and inquiries about them, that the Director of the Connecticut Audubon Center at Fairfield, Milan Bull, felt it was time to collect some serious information on these birds. As an introduced species it was possible that they were displacing native birds or carrying diseases harmful to native birds. Since they are considered agricultural pests in South America it would be important to know if their dietary habits made them a threat to Connecticut crops and vegetation. Just where were they settling and how fast were they spreading? Therefore, as inveterate bird watchers and long-time bird banders for the Connecticut Audubon Society,we, in an effort to answer some of these questions, volunteered to conduct a study of these

intriguing but misplaced birds.

Revealing Research Begins Revealing Research Begins
We began the study in January of 1991 and set 5 goals: a census of the birds through the location of nests; a determination of their diet; an estimation of their effect, if any, on native birds; a judgement as to whether they were just a temporary phenomenon or an established species in Connecticut; and, if established, what factors made this possible?

Between the time period of our first observations in January 1991 and May of 1992 we had learned a great deal about these fascinating birds. The monk parakeet is approximately 12 inches in length, with a bright green body, deep blue primary feathers, yellowish green underparts and a sharply pointed long blue-green tail. The distinguishing markings and the source of its name is the gray forehead, face and breast which give the appearance of a hood, (i.e., a monk's hood). The breast feathers have darker edges giving a scaled impression. Their eyes are brown, their legs are gray and their bills are beige.

Unique Nests Are A Key
A colonial nester, the monk parakeet is the only parrot of 300 members of the Psittacidae family to build a stick nest. All the other species are cavity nesters. Not only does the monk parakeet build a stick nest but it builds a very, very big stick nest, mound-like in shape and sometimes over six feet long and three to four feet wide. Each nest can contain multiple, separate nesting chambers each with its own entrance hole located on the underside of the nest.

In South America, these entrances on the bottom of the nest are designed to keep predators (generally snakes and monkeys) from gaining access to the nesting chambers. The strategy works just as well here - cats, opossums and raccoons being the likely predators. The suburban neighborhood tree, site of the largest Connecticut colony, has at least 40 nests structures and each nest houses one to seven pairs of parrots, each living in its own chamber - - rather like a condominium .

The nest is the center of activity for these energetic and sociable birds. They live in it year round and spend all year building, adding, and repairing it. The noise level as they work can be extraordinary - - squawks, rattles, chrrs and screeches at top volume. Their raucous calls in flight make them easily identifiable even at great distances from their nest. They can be seen carrying sticks three times the lengths of their own bodies through the air to the tree where they patiently poke and push and work the stick into the structure. The nests do suffer storm damage and sometimes large chunks or entire nests can be found on the ground beneath the tree.

Year ‘round use of the nest means the birds have some protection from bad weather. It would seem reasonable to believe that some warmth is provided when the birds huddle together inside it. We believe the enclosed nest is a factor in the monk parakeet's ability to survive the colder New England winters.

A Growing Population
Ascertaining facts on the reproductive life of the parrots is another difficulty we've encountered. We know they are reproducing because of the increase of the main colony nests and the increase of nest sites up and down the Connecticut coast. In South America, the monk parakeets' breeding season is November. In Connecticut, we have observed copulation in late spring and nestlings have been found in July and August. It is hard to ascertain when exactly the young are born. Unlike many birds who can be observed carrying food and are thus feeding young, the monk parakeets feed their young with a kind of milk produced and regurgitated from their crops. Since we can't see inside the nests or observe the adults carrying food we can only guess at their family status.

By the time the young are fledged they resemble the adults in most respects except for a slightly green wash on their foreheads (hard to see through binoculars) and a tubercule on their beaks up until 2 months and then only a scar until the third month at which time the scar disappears. We have had no reports of young at any other time of the year so we assume that the parrots only have one brood a year in the summertime in New England.

Apparently when nest sites become unavailable in the original tree, due to rising population, pairs move off to other locations and start other small colonies. We discovered during the course of the first year of observation that there were smaller colonies beginning in many new locations from Norwalk to Branford, Connecticut. In the second year of observation we discovered not only completely new nest

sites but that all of the "off-shoot" colonies had an increased number of nests.

We also learned that Rhode Island has a growing population of monk parakeets. The common factor for all these populations is that they are located within approximately 3 miles of the coast. The more moderate temperatures of these coastal areas may be a determining factor in this distribution pattern.

The parrots leave the nest in small foraging parties (of 2 -14) shortly after sunrise. Sometimes they graze on lawns eating blades of grass or dandelion stalks in much the same manner of a person eating spaghetti. Probably, with the grass stalks they are also ingesting grass seeds and small invertebrates. The birds are often seen sitting in the tops of trees eating leaf buds or fruit. They are partial to the leaf buds from birch, ash, and maple, as well as wild cherries, crabapples, pears, apples and mulberries. They have been reported to eat suet, cracked corn, pine seeds, insects and acorns as well.

What has made the parrots particularly noticeable over the past few years is their increasing presence at bird feeders especially where sunflower seeds are offered. The availability of such a high fat food in the winter may also be a prime factor in their ability to survive the cold winters.

Connecticut Audubon has received scattered reports of damage done by the parrots to fruit in season, garden tomatoes and ornamental trees, but we have not been able to verify these claims. We noticed that the maple and ash trees around the main colony appeared ragged in the spring, many of the twigs having been chewed off for nest building. However, by late spring the trees were in full leaf and seemed none the worse for wear. Most of the neighbors around the tree do not seem to feel that the parrots do any appreciable damage.

We also have not observed particularly aggressive behavior by the parrots toward other native birds. At feeders the parrots tend to dominate while feeding but then move on to other locations thus leaving the feeders available for other birds. We observed many passerine birds (i.e., robins, mockingbirds, finches, sparrows, mourning doves, woodpeckers) foraging around the main colony and often landing in the tree itself with no noticeable reaction from the parrots.

An Unlikely Companion

Perhaps the parrots were carrying this behavior to a fault when the great horned owls moved in in 1992. Back in December 1990, birders doing the Christmas Bird Count had been at the "parrot tree" at sundown just as a great horned owl had flown into the tree. The response then had been for the parrots to fly out in a great flock thus conveniently enabling the birders to get a count of approximately 185 birds. Neighbors said they had heard the owls calling in December of 1991 so it would appear that the owls had been reconnoitering the area for some time.

Since great horned owls don't build their own nests but instead take over the abandoned nests of other birds such as red-tailed hawks, eagles, herons, and crows, they must have looked on this tree full of huge stick mounds as a nest hunter's paradise. They settled on the biggest nest in the tree which had originally been rather "L" shaped but during the winter had lost the top half of the "L" leaving just the bottom part. This section still contained two parrot nesting chambers. On top of this section the owls proceeded to lay their eggs. One nestling survived. The parrots went on about their business. In fact, parrots could be seen working on their part of the nest while the baby owl sat directly above them in its part of the nest. The adult owls spent the days roosting in the tree, blending so well with the foliage and tree bark that sometimes it took us 5 or 10 minutes to locate them.

We thought that the owls' moving in would probably the end of this parrot colony and of a major part of our study. Surely, day after day the owls would help themselves to the parrots until there were no parrots left. By that time the baby owl would fledge and they would all move on.

We found it imperative to know what the owls were eating and whether their diet included monk parakeets. Unfortunately, the nest was too high to be able to investigate its debris. Nor did we want to tangle with the adult owls. However, regurgitated owl pellets were obvious on the clipped grass under the tree and on the paved street nearby. We began to collect them.

We were relieved to find that the pellets contained the skulls and bones of rats, squirrels, mice and voles. One day we found a pheasant leg under the tree and another day we found part of a seagull wing. We found no parrot skulls or green feathers in the pellets or under the tree. Evidently the owls were finding their food in the nearby marshes, fields and woods and not preying on their closest neighbors.

Why would the owls pass up such an ample food supply which would require so little energy to harvest? One explanation was temporal separation: the owls don't hunt in the daytime when the parrots are active, and the parrots are in their nests when the owls are ready to hunt. In the winter when the weather is cold and the sun sets early, the parrots are all in their nests practically before dark. The owls would start calling as the first stars appeared and would fly off to hunt only when it was dark.

There is also a theory that predators don't hunt in the immediate vicinity of their own nests or lairs, probably in order not to draw the attention of other predators to their young. By the end of May, the baby owl was acquiring its darker adult plumage. Although the parents continued to remain hidden, the baby was very active and easily seen in the daylight hours. Often crows would mob the tree, but the baby would hunch down under a branch, and the adult owls never responded. Eventually the crows would give up.

Taking Flight
As flight feathers began to appear the nestling would stretch its wings and flap them. Then it began to climb around the top branches of the tree and take short experimental flights from branch to branch. One night in early June the baby was strong enough to fly, and the owls left the tree. They could be heard hooting softly in some nearby white pines for a few nights after their departure.

We were sorry to see them go as it had been a rare experience to watch the baby mature. How often does one get such a close-up view of the life of these great predators? Who would have believed that the two species - - owl and parrot - - could live together so harmoniously. How relieved we were that they could.

We certainly know more about monk parakeets now than we did earlier. We have located most of the nests along the Connecticut coast. We know what the parrots eat and so far have not witnessed any serious damage to crops. The birds' tendency to settle coastally, their enclosed nests and a good winter supply of food at bird feeders may all be factors in their ability to thrive. They do not seem to be competing with or adversely affecting native birds.

For now we can enjoy the monk parakeet as a flamboyant and intriguing member of our avian population. We will continue observing our local population, counting nest sites,and pursuing a method of marking individuals so that we can decipher their social structure.

MONK PARAKEET (Myiopsitta monachus monachus)

Description
12", looks similar to mourning dove in flocking flight. Predominantly green with gray forehead and gray scaling on breast, dark blue primaries. Eyes are brown, bill beige and legs gray.

Range
Naturally occurs in southern South America: central Bolivia and southern Brazil to central Argentina, including Paraguay and Uruguay. Exotic in U.S. with populations in CT, CA, IL, FL, MD, TX and RI.

Food
Virtually omniverous including fruits, cereal, seeds, nuts, leaf buds, grasses, blossoms, insects and insect larvae; have also been observed eating meat according to Forshaw. Considered an agricultural pest in South America, this has yet to be documented in ornithological literature.

Nesting
Only species of parrot (Family Psittacidae) to build stick nests. Nests can contain many separate chambers that house pairs (or more). Apparently only one breeding season in temperate zone with fledglings appearing in June-July. Young fed by regurgitation.

Habits
Gregarious; noisy, raucous calls and many other vocalizations. Fly strongly but seldom for long distances. Climb using bill. "Waddling" walk caused by zygodactyl configuration of toes -- two in front and two in back.
