

General Information and Terms

General Terms

- Zugunruhe: migratory restlessness
- Staging: large groups of birds gathering before migrating
- Migrant Trap: habitat that concentrates large numbers of migrants

Migration Events

- Morning flight: birds search for ideal habitat at dawn and drop into suitable habitats. Best experienced from dawn for 1-2 hours depending on the migration overnight.
- Fallout: during near perfect conditions (see Weather Conditions and Scenarios) birds will land in concentrated areas, often along lakeshores. Bird diversity and numbers are massive concentrated in lakeshore habitat. Given the exact perfect conditions, once-in-a-lifetime birding is very possible.

Morning Flight in Fall

Since birds are moving south, there is no reverse migration on the southern shore of Lake Erie since the birds have no need to turn back once they have reached habitat. As a result, morning flight is significantly more productive than during spring. During fall, birds often move westward during morning flight, and this results in varied densities of migrants in habitat relying strongly on cloud cover, wind speed, and precipitation.

Regional Conditions

There's a big difference between a movement of birds locally and a movement across an entire region. If north winds are only present in a small area, less birds will migrate, but when north winds are present throughout an entire region, such as the eastern U.S. and Canada, essentially every bird in that region migrates, leading to more birds crossing large areas overnight and ultimately resulting in higher density and variety of birds. Regional conditions are always a factor in the number of birds migrating in a night.

Weather Conditions

During fall, birds generally only move in significant numbers during north winds, as the wind pushes them south. As a result, periods of south winds cause a backup of migratory birds waiting for more favorable conditions to migrate. Additionally, cloud cover and wind speed are major factors in migration.

Low Clouds (below 2000 ft): birds pushed lower and birds are more likely to stop over, especially along lakeshores when birds hesitate and pile up along the lake.

Mid-level Clouds (2-6000 ft): Birds may fly lower but will result in less bird density than low clouds.

High/few Clouds (over 6000 ft): Birds fly higher and less stop over even if migration levels are large. Birds are less concentrated in stopover areas.

Light Wind (5-10 mph): Birds migrate in numbers but are very spread out. A calm night with high numbers of migrants may be less productive than a windier night with lower numbers of migrants, though this strongly depends on other factors like cloud cover. Birds are more likely to continue migrating during the morning, resulting in good morning flight but decreased density of migrants in habitat.

Moderate Wind (10-15 mph): Birds migrate in significant numbers, often producing the heaviest migration. Birds are more concentrated, and high densities of birds can gather in habitat, especially along lakeshores, though this strongly depends on other factors like cloud cover. Morning flight can be excellent, as strong winds push birds lower and closer to shore, and carry on for several hours.

Light Rain: Migration usually continues, though reduced, and birds fly lower and are more likely to land near dawn. Density of migrants in habitat is increased.

Moderate Rain: Migration stalls and birds land earlier than normal, resulting in scattered birds throughout a region. Localized fallout is possible.

Heavy Rain/Storms: Most birds do not take off and ones that are already in flight land. Birds become scattered and localized fallout is possible.

If rain occurs at dawn after a night of strong migration, birds land, leading to strong fallout along lakeshores. This can be some of the best fall birding and highest density of migrants.

Rebound Nights

When the wind shifts north after a period of south winds, the backup of migratory birds releases and large numbers move in a single night. These are often the best migration nights when paired with other ideal conditions.

Shorebird Weather

While shorebirds can be seen flying along the lake after high migration, rain and wind pushes more birds towards shore where they may land. Generally the best shorebirds come during or after periods of moderate to heavy rain and wind.

Scenarios

1. Light North Wind and Cloud Cover

Many birds will likely migrate, especially if it occurs after a period of south winds. Bird diversity and density will be significant, especially along the lakeshore. Significant morning flight will occur, with birds landing in lakefront habitat and others flying west along the lake.

2. North Wind and No Clouds

Density of migrants in habitat will be surprisingly low, even after a significant migration night. Birds continue migrating, and many fly westward along the lake, creating strong morning flight but low density in habitat.

3. Moderate North Wind and Cloud Cover

More birds likely cross a region than if there were light winds. This often creates some of the most significant migration events and highest density of migrants in habitat, in addition to significant morning flight.

4. Strong North Winds and Cloud Cover

Many birds will likely migrate, and if winds shift across a very large region after a period of north winds, fallout is possible if rain occurs. Due to strong winds, morning flight may be suppressed and birds can be scattered. Densities in habitat will be significant and can be some of the best in fall.

5. North Winds and Overnight Rain

Many birds will likely migrate, but will set down during the rain. This will result in scattered pockets of migrants.

6. Moderate North Wind and Rain at Dawn

This is nearly perfect for fallout, especially if winds shift north after a period of south winds across a very large region (like Eastern U.S.). Due to moderate winds, many birds will migrate and depending on the time of fall migration, over 1 million birds may cross a county overnight. Rain at dawn forces birds over the lake to land in larger numbers than average along lakeshores as well as setting down birds searching for habitat during morning flight. This results in highly concentrated areas of migrants especially along lakeshores.