

# Sleeping Bear Dunes National Lakeshore Powerless Flight Notice to Pilots

## WHERE TO OBTAIN A PERMIT

No flight of a powerless device shall take place in the National Lakeshore without a permit issued by persons designated by the Superintendent. Permits may be obtained only from the National Park Service at the Lakeshore Visitor Center 9922 Front Street Empire, MI 49630.

The powerless flight permit must be in possession of the pilot when launching or landing on Sleeping Bear Dunes National Lakeshore land. Permits are issued for the calendar year. A photo of the permit saved to your phone is acceptable.

## HOW TO OBTAIN A PERMIT

Pilots must have a current US Hang Gliding & Paragliding Association (USHPA) proficiency rating meeting the standards listed below, to fly from any SBDNL site.

Pilot USHPA ratings can be viewed by sending a text to 719-387-4571.

This will return the current ratings, a link to the full record is also provided in the returned text.

The rating system for hang glider and paraglider pilots is now the same, both types being governed by the USHPA.

- H1 or P1 (Student)
- H2 or P2 (Novice)
- H3 or P3 (Intermediate)
- H4 or P4 (Advanced)
- H5 or P5 (Master)

Hang glider pilots and paraglider pilots must have an H2, P2 rating or higher to fly at the Pierce Stocking *Lake Michigan Overlook*.

Paraglider pilots may fly at *Empire Bluff* with a P2 or higher. Hang glider pilots must have an H3 or higher.

Hang glider pilots and paraglider pilots must have an H3, P3 or higher to fly at *Pyramid Point*.

Hang glider pilots and paraglider pilots must have a minimum rating of H2, P2 to fly at the *Dune Climb*. Flights are only allowed from November 1st to March 31st of each year.

Identification will be required to obtain a permit. Each permittee must sign an affidavit acknowledging that such flights may present a serious hazard to his/her personal safety, that his/her equipment is in safe operating condition and that he/she is in good physical condition.

## **Safety Information and Recommended Site Protocol for the Sleeping Bear Dunes National Lakeshore Flying Sites**

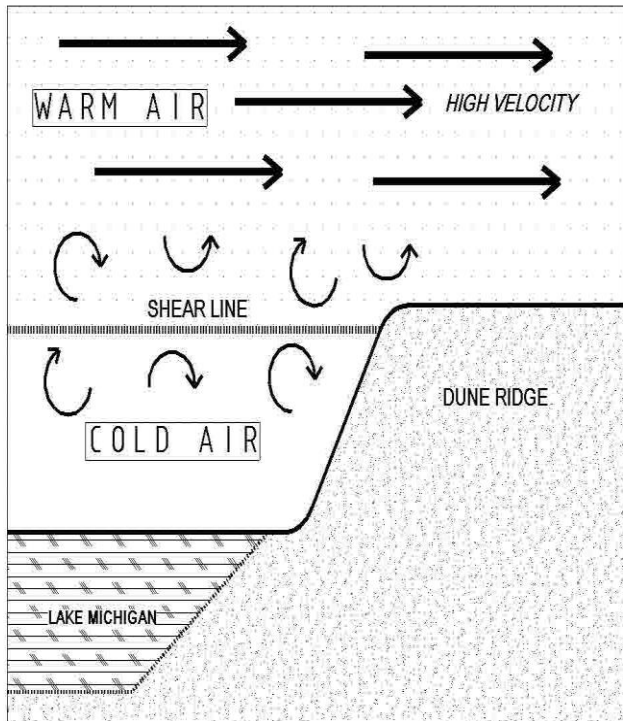
### **Recommended Site Protocol**

1. Pilots new to these flying sites (and landing areas) should be checked out for hazards, conditions, and proper use of these sites by knowledgeable local pilots before flying. Information about the local flying club is available on the USHPA website.
2. Pilots should review and understand the USHPA 'Rules of the Ridge' before flying.
3. All pilots must wear a helmet and have a reserve parachute.
4. All flight activities must comply with USHPA protocols and FAA FAR part 103.
5. Tandem flights must comply with current USHPA and FAA regulation. All conditions of the current USHPA tandem exemption must be met.
6. Pilots planning to fly the Sleeping Bear Dunes National Lakeshore sites must apply for a special use permit at the park visitor center in Empire before flying.

### **Evaluating Flying Conditions**

The geography of NW Michigan appears to be perfect for flying hang gliders and paragliders and there are occasions when the conditions here are very user-friendly. However, during spring months and sometimes well into the summer there can be a temperature differential that occurs between the water and the air that creates what local pilots call 'spring conditions'. Warm land air coming across from Wisconsin rides up and over the colder dense air of Lake Michigan. This condition can occur when the temperature difference is as low as 5-10 degrees. The larger the temperature difference, the greater the flying risk. As shown in the diagram below, the resulting shear line generally has turbulence below and significantly stronger winds above. Sometimes this 'line' is positioned just below launch so that on launch it can feel soarable, but the lift vector is small because only a small portion of the bluff is in the lift zone. In this situation a launching pilot will quickly find himself/herself in sinking turbulent air. If the shear line is lower on the bluff, the pilot may be able to soar but may

also be quickly lifted into much stronger wind velocity than what was measured at launch. It is important to watch soaring birds to help evaluate to possibility of the temperature difference. If the wind is straight in and the birds below launch height are flapping or being rocked by turbulence while birds above launch are easily soaring, then it can be assumed that the dreaded 'spring condition' exists. The water texture is another clue. If the wind on launch is 12+ mph and yet there are no whitecaps on the lake surface or wind lines on the surface near shore, this also indicates a greater possibility of a significant temperature difference between the water and the air. This 'spring condition' does not just offer a quick sled ride to the beach, but often the turbulent air.



**Diagram 1: Cross section of a typical 'spring condition' at Lake Michigan dune ridge sites**

(The shear line may not be stable. It can migrate upward or downward within a short period of time)

### **Flying the Sleeping Bear Dune Park Sites**

The flying privileges at the Sleeping Bear Dunes National Lakeshore sites are very sensitive due to the launch sites being located within the spectator viewing areas and the landing zones being located on populated beaches. The SB Park sites have additional requirements regarding USHPA rating qualification, launch/landing locations and the number of pilots allowed in the air at one time. All pilots planning to fly the SB sites must check in at the SB Park Visitor Center in Empire and apply for the SB Park's special use permit before flying.

1. The SBDNL Park sites can be very crowded with spectators during the summer months especially on weekends and even more so during the major holidays. Pilots should not aerially perform for the spectators or increase risk in any manner.
2. For Lake Michigan Overlook, hang glider pilots are encouraged to set up in the grass zones near the parking area, hook into their glider and then walk their glider along the sidewalk to the launch location. HG and PG pilots should not leave their equipment unattended at any time.
3. PG pilots should not practice kiting at the SB Park launch sites. PG and HG pilots should launch as quickly and safely as possible after setup is complete.
4. During some years the beaches can be minimal or non-existent. Pilots should evaluate the landing area physical conditions before launching.
5. Use alternate landing areas only when people are occupying the primary landing zones. Or water levels are too high for a safe landing.
6. Any wind streamer or tell-tale placed in a launch area should be removed by ground crew shortly after launching.
7. Since the visitor numbers at the SB Parks sites are increasing each year it is recommended to consider not flying during the busy holidays. On Memorial Day weekend, July 4<sup>th</sup> and Labor Day weekend there can be 150+ spectators at the launch area (Lake Michigan Overlook especially) and it can be difficult to clear the launch area for a safe launch.
8. Safety first!

## HANG GLIDING/PARAGLIDING RULES

### General:

A maximum of 5 aircraft are allowed in the air at one time when conditions allow for safe separation between aircraft. Limit this number when conditions are less than optimal for maintained separation.

Transporting hang gliders by wheeled cart is allowed at Pyramid Point and Empire Bluff on established trails. The cart is to be removed by the launch assistant and is not to be left unattended. Transporting equipment to or from the Lake Michigan Overlook and the Dune Climb site will be done by hand carry, **No wheeled carts allowed.**

Standards established by the USHPA Hang Gliding & Paragliding Association shall apply as well as all applicable laws and regulations imposed by Federal and other governmental agencies.

These include but not limited to:

1. FAA part 103 regulations.
2. Wear a safety helmet.
3. Have launch assistance.
4. Consider the safety of everyone in the area.
5. Do not fly if five gliders are already in the air.
6. Report all accidents resulting in injury and/or damage to property to the National Park Service and the USHPA.
7. Land only in designated landing zones.

### Pyramid Point 44°58'03.9"N 85°55'25.6"W

1. **H3-P3 / Intermediate required.**
2. **Winds PG ideal 8-10, max 18 mph. direction 325 to 35 degrees**
3. **Winds HG ideal 10-14, max 25 mph. direction 325 to 35 degrees**

### HG launch assistants

- |                    |   |
|--------------------|---|
| A) Winds 8-10 mph  | Recommended <u>one</u> launch assistant.          |
| B) Winds 10-17 mph | Minimum of <u>one</u> launch assistant required.  |
| C) Winds 18-25 mph | Minimum of <u>two</u> launch assistants required. |

All flights at Pyramid Point will be initiated from the Pyramid Point Overlook / blowout

Landing on west beach zone: wind direction should be from north - northwest.  
A north-east wind will cause rotor from the trees on the east side of this LZ,

Pilots should place a temporary wind direction indicator in the field landing zones prior to hiking to launch. The last pilot to exit the park shall retrieve the indicator.

landing in the field LZs over the back can be turbulent with the higher winds at launch consider using the beach landing zones. Use the beach landing zone west of launch when wind is from the north / northwest, land directly below the launch or to the east if the wind is from the northeast.

Klett Farm landing zone is 2.4 miles south of the ridge, depending on glider performance to reach this LZ you may need approximately 2000 ft. altitude gain over launch or thermal lift enroute.

Pilots landing on the beach below or east of Pyramid Point will exit the area via the trail that ends at the east end of the dune area. The face of the bluff will be avoided and shall not be climbed.

Exit is also possible walking west to the west beach landing zone. When exiting in this direction stay on the wet sand of the beach to avoid private property.

### **Lake Michigan Overlook Pierce Stocking Scenic Drive**

44°51'28.5"N 86°04'00.3"W

1. H2-P2 / Novice required.
2. Winds PG ideal 8-10, max 18 mph, direction 260 to 280 degrees.
3. Winds HG ideal 10-14, max 25 mph. direction 260 to 280 degrees.
4. Wind direction marginal at lower velocity, usable at higher velocities are 235 to 260 and 280 to 290 deg.

#### **HG launch assistants**

- |                    |   |
|--------------------|---|
| A) Winds 0-10 mph  | Recommended <u>one</u> launch assistant.          |
| B) Winds 10-17 mph | Minimum of <u>one</u> launch assistant required.  |
| C) Winds 18-25 mph | Minimum of <u>two</u> launch assistants required. |

Flights at Lake Michigan Overlook will originate in the blowout area to the south of the viewing platform (see maps). Flights may originate north of the viewing platform ONLY when cross winds or visitors at the primary blowout area make launching hazardous.

When landing in the North Bar Lake area, please respect the privacy of cottage owners along the beach north and south of North Bar Lake.

Use the alternate North Bar Lake landing zone only if visitors or water levels make the primary zone unusable.

Top landings may be made north of the Lake Michigan Overlook viewing platform only when park visitors are clear of this area and landing presents no hazard to visitors or the pilot.

**Dune Climb** 44°52'58.1"N 86°02'33.1"W

Hang gliding or paragliding is only allowed on the east face of the Dune Climb from November 1st to March 31st of each year. Activities will be limited to the sand areas of the dune that do not have vegetation.

Landings will take place either on top of the Dune Climb or in the flat sand / grassy area below the Dune climb.

1. **H2-P2 / Novice required.**
2. **Winds PG ideal 0-10, max 18 mph 75 to 110 Deg.**
3. **Winds HG ideal 0-14, max 20 mph 75 to 110 Deg.**

**HG launch assistants are encouraged to assist in managing the gliders when climbing the dune and launching.**

**Empire Bluff** 44°48'05.0"N 86°04'17.3"W

All flights at Empire Bluff are to be initiated south of a point where the trail comes to the bluff edge. Take off is to be no more than 15 feet (4.57 meters) from the trail. climbing vertically up or down the bluff face is limited to the 15ft distance.

All pilots landing on the beach below Empire Bluff are to exit via the beach wet sand margin north to the Empire Beach Park or south to Esch Road. The face of the bluff is to be avoided and shall not be climbed.

The area south of the bluff outlook and boardwalk is a wilderness area, do not use this area for takeoff or landings.

1. **H3-intermediat P2 - Novice required.**
2. **Winds PG ideal 8-10, max 18 mph 250 to 330 degrees,**
3. **Winds HG ideal 11-14, max 25 mph 250 to 330 degrees**

## **RADIO-CONTROLLED MOTORLESS MODEL AIRCRAFT RULES**

1. Permits may be issued for the calendar year.
2. The number of radio-controlled aircraft in the air at any one time and location is limited to ten.
3. Locations for flights are the same as for paragliding and hang gliding:
  - a. Pyramid Point
  - b. Lake Michigan Overlook see map for RC area.
  - c. Dune Climb (November 1 - March 31 only)
  - d. Empire Bluff
1. When more than one permit is issued for the same area, it is the responsibility of the RC flyers to reconcile any radio frequency problems.

**THE FLYING OF ANY POWERED MODEL AIRCRAFT WITHIN THE LAKESHORE IS PROHIBITED BY FEDERAL REGULATIONS**



# Pyramid Point Landing Zones Main



Flying Permit Required.  
See powerless flight notice to pilots.  
Minimum H3 - P3 required  
Stay clear of people.  
Do not leave equipment unattended.  
No paragliding kiting practice

Stay clear of private property.  
Check LZs before flying.

Caution rotor likely in north east wind on west beach landing zone.

Caution rotor likely in landing zone, maintain speed.





## Pyramid Point Klett Farm Landing Zone

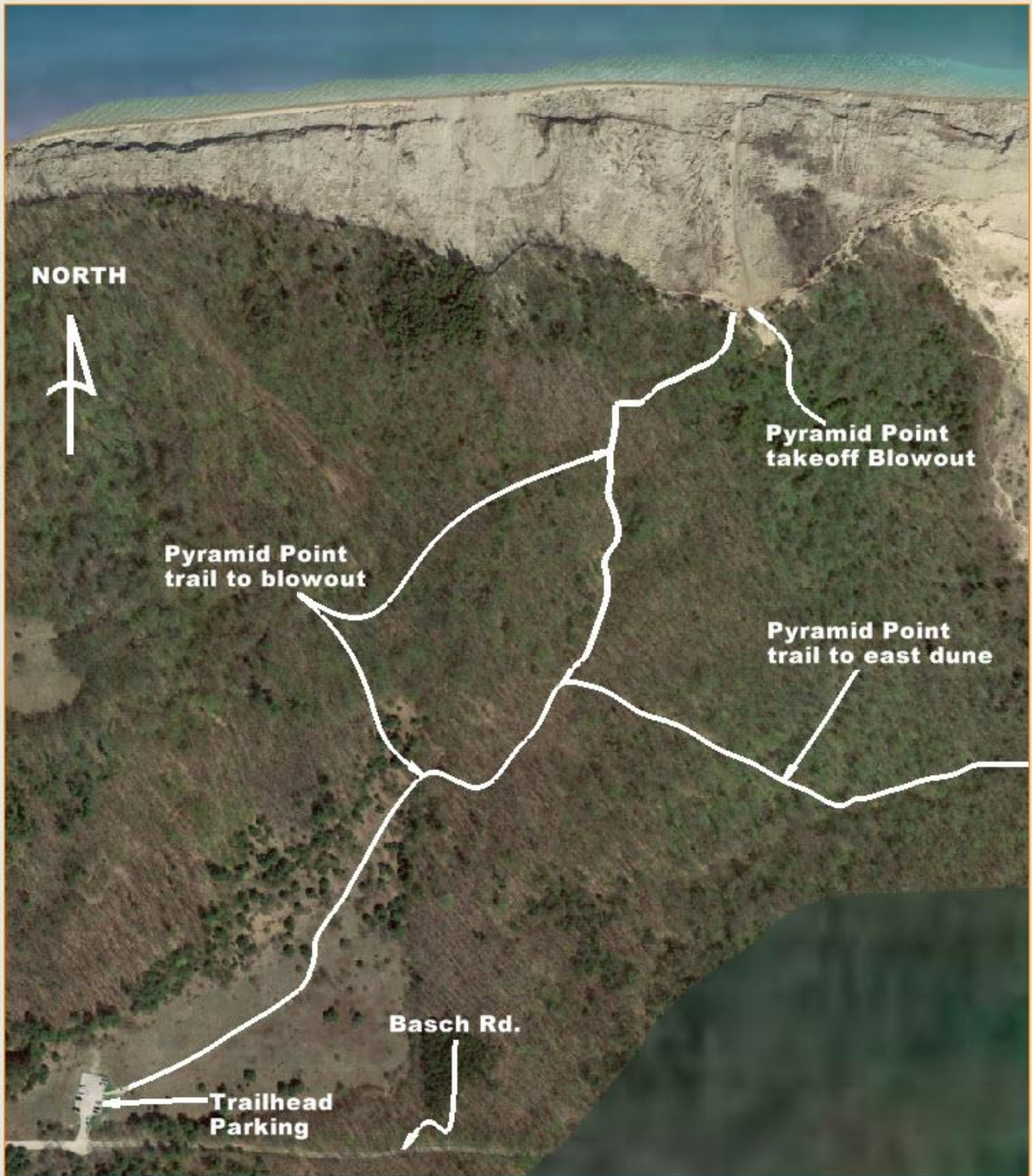


Klett Farm LZ is 2.4 miles south of the ridge, To reach this LZ you will need 2000 ft. altitude gain over launch or thermal lift enroute.





## Pyramid Point Takeoff Blowout



All flights at Pyramid Point will be initiated from the Pyramid point Takeoff / Blowout





## Pyramid Point East Beach Landing Zone



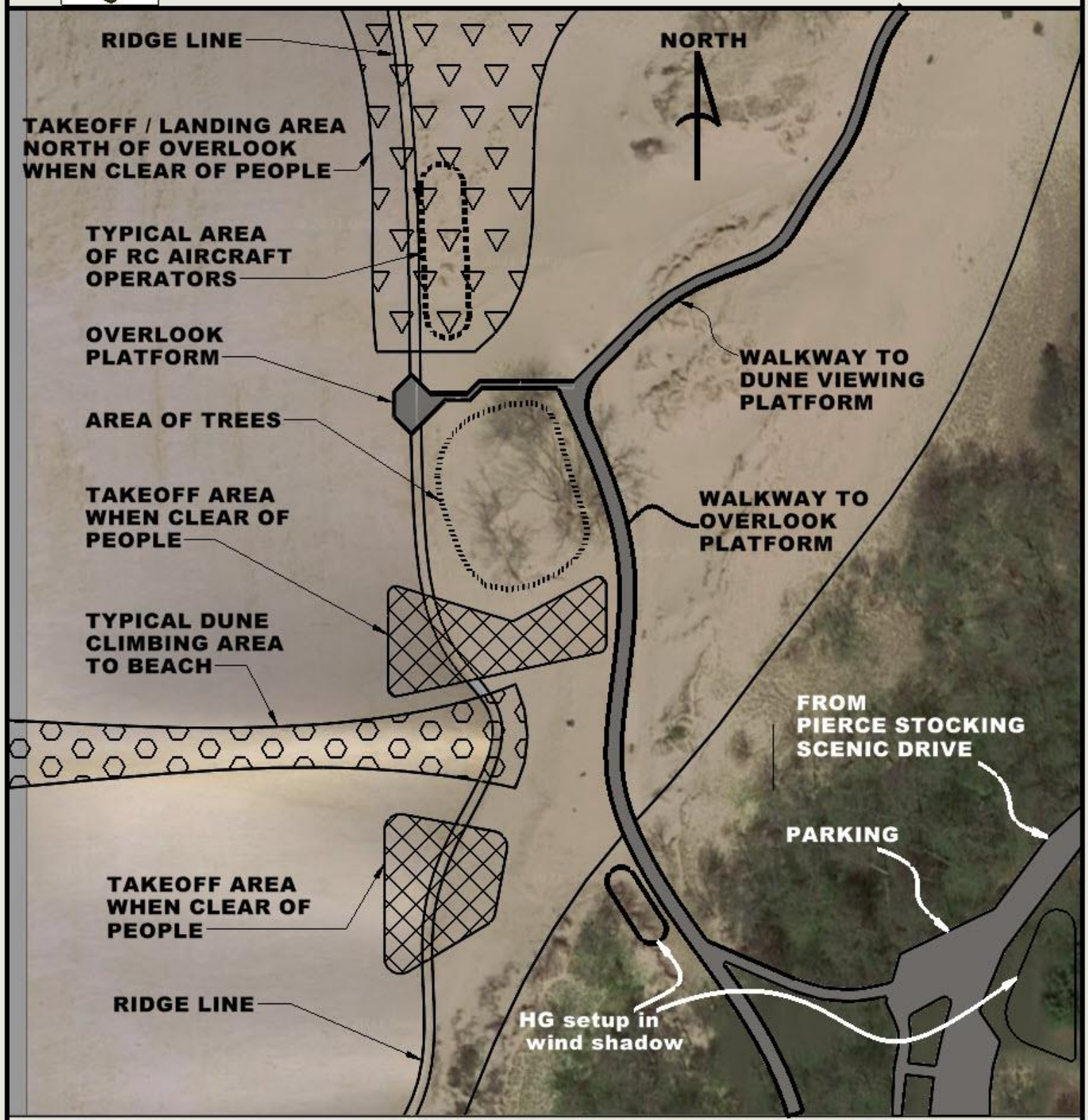
Pilots landing on the beach below or east of Pyramid Point will exit the area via the trail that ends at the east end of the dune area. The face of the bluff will be avoided and will not be climbed.

Exit is also possible walking west to the west beach landing zone. When exiting in this direction stay on the wet sand of the beach to avoid private property.





# Lake Michigan Overlook Pierce Stocking Scenic Drive Powerless Flight Zones



OPTIONAL  
TAKEOFF  
TOP LANDING



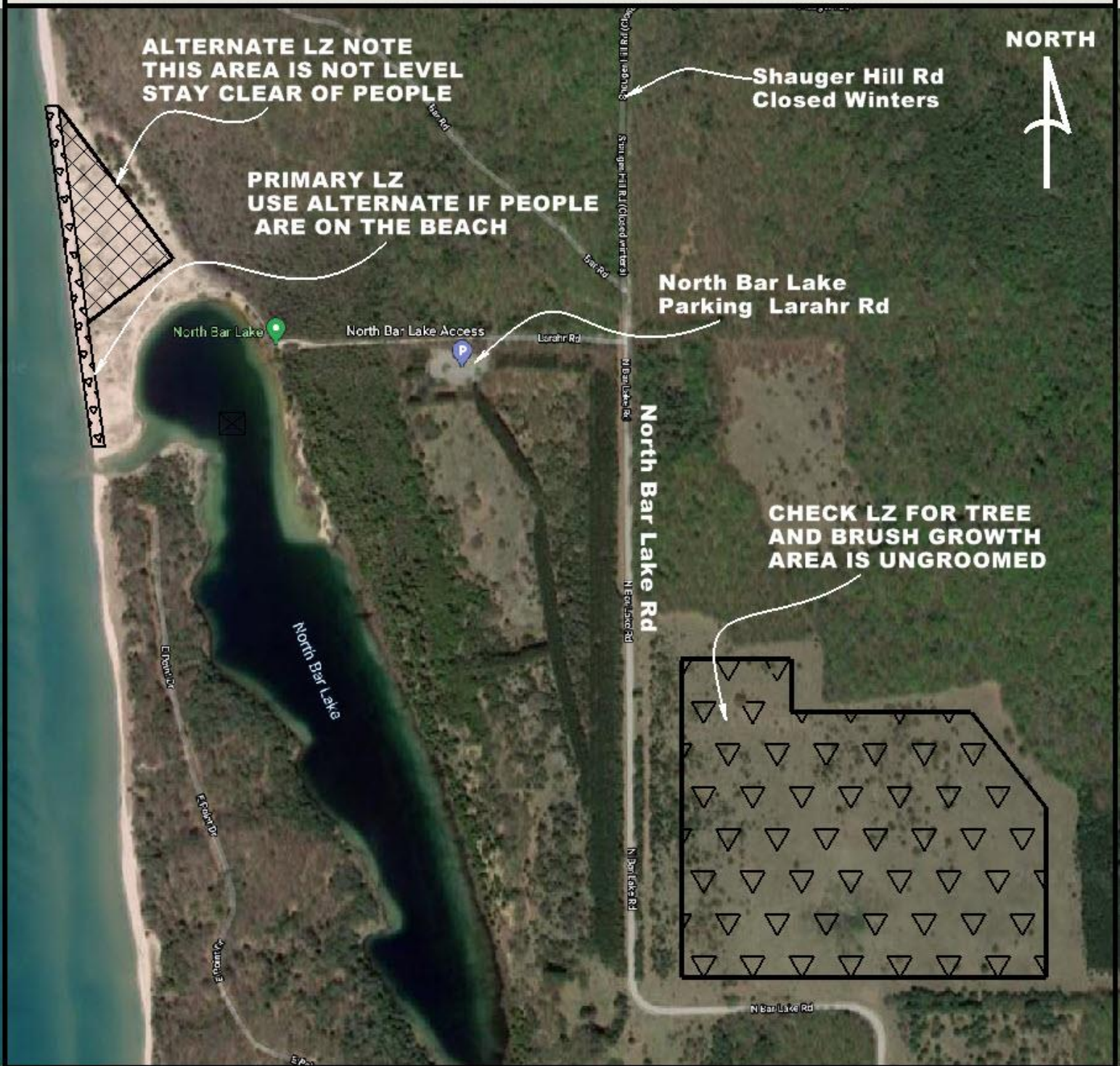
TAKEOFF  
WHEN CLEAR  
OF SPECTATORS

Flying Permit Required.  
See powerless flight notice to pilots  
H2 - P2 required, stay clear of people.  
Do not leave equipment unattended.  
No PG kiting practice.  
See Landing zone map, check LZ before flying.





# Lake Michigan Overlook Pierce Stocking Scenic Drive Powerless Flight Landing Zones



**PRIMARY**  
Landing Zone  
when clear of  
people



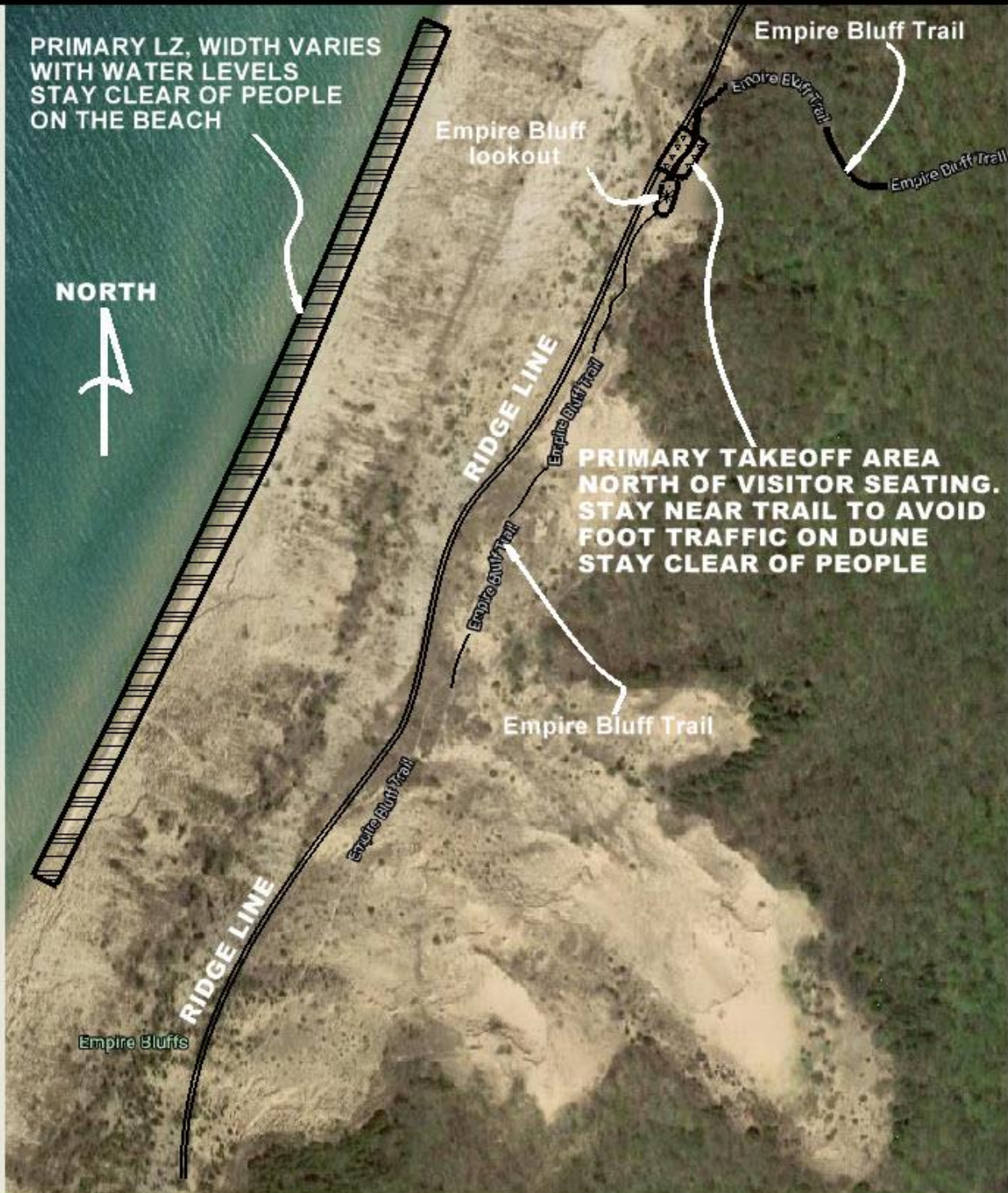
**OPTIONAL**  
Landing Zone  
to stay clear  
of people

Flying Permit Required.  
See powerless flight notice to pilots  
H2 - P2 required, stay clear of people.  
Do not leave equipment unattended.  
No paragliding kiting practice.  
Check LZ before flying.  
Alternate LZ area only when primary LZ has obstructions.





# Empire Bluff Outlook Takeoff and Landing Zones



PRIMARY Landing Zone when clear of people and beach width allows



PRIMARY TAKEOFF when clear of people

Flying Permit Required.  
See powerless flight notice to pilots.  
H3 - P2 required, stay clear of people.  
Do not leave equipment unattended.  
Check LZ before flying.

Area south if the primary takeoff / lookout is a designated wilderness area. do not use for flying stay off.





# Empire Bluff Over the Back Landing Zone



Over the back  
Landing Zone

Flying Permit Required.  
See powerless flight notice to pilots.  
H3 - P3 required for over the back landing.  
Stay clear of people.  
Do not leave equipment unattended.  
NO Paragliding kiting practice  
Check LZ before flying.





# Sleeping Bear Dunes National Lakeshore Dune Climb



Flying Permit Required.  
See powerless flight notice to pilots.  
Flying only allowed on the east face of the Dune Climb from  
November 1st to March 31st of each year

## Revisions

Added page numbers 6/29/2022

A photo of the permit saved to your phone is acceptable. 6/29/2022

Change overlook site back to a limit of 5 pilots in the air at one time until approved. 6/29/2022

Use alternat landing areas only when people are occupying the primary landing zones. Or water levels are too high for a safe landing.  
---- Use the alternate north bar lake landing zone only if visitors or water levels make the primary zone unusable.  
6/29/2022

Updated name of park to include "Dunes" 6/29/2022

Changed Park headquarters to visitor center, sleeping bear overlook to Lake Michigan Overlook, fixed spacing and punctuation and capitalization, 6/30/2022

Revised some spelling and punctuation 7/6/2022