

BARE DUNES HABITATS NARRATIVE

Habitat Description

Bare dunes habitats are characterized by bare rock, gravel, sand, silt, clay or other earthen material, with little or no "green" vegetation present. Vegetation, if present, is more widely spaced and scrubby than that in the "green" vegetated categories.

Problems affecting species and habitats

Species threats

The respondent cited "viable reproductive population size or availability" as a "critical threat" to wildlife in bare dunes habitat in Indiana (not ranked):

The respondent cited the following as "serious threat" to wildlife in bare dunes habitat (not ranked):

- Invasive/non-native species
- Predators (native or domesticated)
- Habitat loss (breeding range)
- Habitat loss (feeding/foraging areas)
- Near limits of natural geographic range

The respondent listed the following as "somewhat of a threat" to wildlife in bare dunes habitat (not ranked):

- Dependence on irregular resources (cyclical annual variations) (e.g., food, water, habitat limited due to annual variations in availability)
- Degradation of movement/migration routes (overwintering habitats, nesting and staging sites)

The respondent listed the following as "slight threat" to wildlife in bare dunes habitat in Indiana (not ranked):

- High sensitivity to pollution
- Bioaccumulation of contaminants
- Unintentional take/direct mortality (e.g., vehicle collisions, power line collisions, by-catch, harvesting equipment, land preparation machinery)
- Small native range (high endemism)
- Large home range requirements

The respondent listed no other threats to wildlife in bare dunes habitat:

The respondent summarized top threats to wildlife in bare dunes habitat in Indiana (not ranked):

- Quality of habitat
- Low population size/edge of range

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the threat to wildlife in bare dunes habitat. There were no responses.

Habitat threats

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The respondent cited the following as “serious threat” to bare dunes habitat in Indiana (not ranked):

- Commercial or residential development (sprawl)
- Counterproductive financial incentives or regulations
- Habitat degradation

The respondent listed the following as “somewhat of a threat” to bare dunes habitat in Indiana (not ranked):

- Invasive/non-native species
- Habitat fragmentation
- Successional change

The respondent listed the following as “slight threat” to bare dunes habitat in Indiana (not ranked):

- Residual contamination (persistent toxins)
- Point source pollution (continuing)
- Drainage practices (stormwater runoff)

The respondent listed no other threats to bare dunes habitat in Indiana.

The respondent listed top threats to bare dunes habitat in Indiana (not ranked):

- Specific dune habitat configuration
- Threats by gulls and human disturbance

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the threat to bare dunes habitat. There were no responses.

Additional research and survey efforts

Current body of research

Species research

The respondent stated that the current body of science for wildlife in bare dunes habitat in Indiana is adequate.

Respondents identified the following citations (title, author, date, publisher) that would give the best overview of wildlife in bare dunes habitat habitats in Indiana.

Title = Piping Plover Recovery Plan;
Author = USFWS;
Date = unknown;
Publisher = USFWS

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the current body of science for wildlife in bare dunes habitat. There were no responses.

Habitat research

The respondent stated that the current body of science for bare dunes habitat in Indiana is adequate.

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Respondents identified the following citations (title, author, date, publisher) that would give the best overview of wildlife in bare dunes habitat habitats in Indiana.

Title = see previous citation

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the current body of science for bare dunes habitat. There were no responses.

Research needs

Species research

The respondent listed no “urgently needed” or “greatly needed” research needs for wildlife in bare dunes habitat in Indiana. The respondent listed the following as “needed” research (not ranked):

- Limiting factors (food, shelter, water, breeding sites)
- Threats (predators/competition, contamination)
- Relationship/dependence on specific habitats
- Population health (genetic and physical)

The respondent listed the following research as “slightly needed” for wildlife in bare dunes habitat in Indiana:

- Distribution and abundance

The respondent listed no other research needs for wildlife in bare dunes habitat in Indiana.

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the research needs for wildlife in bare dunes habitat. There were no responses

Habitat research

The respondent listed no “urgently needed” or “greatly needed” research needs for bare dunes habitat in Indiana. The respondent listed the following as “needed” research (not ranked):

- Successional changes
- Distribution and abundance (fragmentation)
- Relationship/dependence on specific site conditions
- Growth and development of individual components of habitat

The respondent listed no other research needs for bare dunes habitat in Indiana.

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the research needs for bare dunes habitat. There were no responses.

Conservation actions necessary

Species actions

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The respondent listed no conservation efforts that address threats to wildlife in bare dunes habitat in Indiana “very well.” The respondent stated that the following conservation efforts address threats “somewhat” (not ranked):

- Habitat protection
- Population enhancement (captive breeding and release)
- Reintroduction (restoration)
- Threats reduction
- Native predator control
- Exotic/invasive species control
- Regulation of collecting
- Translocation to new geographic range
- Protection of migration routes
- Limiting contact with pollutants/contaminants
- Public education to reduce human disturbance

The respondent listed no other current conservation practices for wildlife in bare dunes habitat in Indiana.

The respondent recommended the following for more effective conservation of wildlife in bare dunes habitat in Indiana (not ranked):

- Protection of potential habitat
- Limiting disturbance by humans and predators if birds ever recolonize Indiana’s Lake Michigan shoreline

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the conservation practices for wildlife in bare dunes habitat. There were no responses.

Habitat actions

The respondent stated that “restrict[ing] public access and disturbance” addresses threats to bare dunes habitat in Indiana “very well.” The following conservation practices address threats to bare dunes habitat in Indiana “somewhat” (not ranked):

- Habitat protection through regulation
- Habitat protection on public lands
- Habitat protection incentives (financial)
- Habitat restoration on public lands
- Habitat restoration incentives (financial)
- Succession control (fire, mowing)
- Corridor development/protection
- Pollution reduction
- Protection of adjacent buffer zone
- Land use planning
- Technical assistance
- Cooperative land management agreements (conservation easements)

The respondent cited no other current conservation practices for bare dunes habitat in Indiana.

The respondent recommended “habitat protection and management” for more effective conservation of bare dunes habitat in Indiana.

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Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the conservation practices for bare dunes habitat. There were no responses.

Proposed plans for monitoring

Current monitoring

Species monitoring

The respondent was aware of no state agency monitoring efforts for wildlife in bare dunes habitat in Indiana.

The respondent was aware of the following monitoring efforts by other organizations for wildlife in bare dunes habitat in Indiana:

- Regional or local year-round monitoring

The respondent listed no "crucial" monitoring efforts by state agencies for conservation of wildlife in bare dunes habitat in Indiana.

The respondent listed no "very crucial" monitoring efforts by other organizations for conservation of wildlife in bare dunes habitat in Indiana. The respondent listed "regional or local year-round monitoring" as "somewhat crucial."

The respondent listed the following regional or local monitoring efforts by state agencies for wildlife in bare dunes habitat in Indiana:

- Awareness of reports by bird watchers

The respondent noted regional or local monitoring by other organizations for wildlife in bare dunes habitat in Indiana:

- Indiana Dunes National Lakeshore biologists stay abreast of sightings along Lake Michigan

The respondent listed the following organizations that monitor wildlife in bare dunes habitat in Indiana (not ranked):

- Bird watchers
- USGS Biologists

The respondent listed the following monitoring technique as "frequently used" for wildlife in bare dunes habitat in Indiana:

- Mark and recapture

The respondent listed the following monitor monitoring techniques as "occasionally used" for wildlife in bare dunes habitat in Indiana:

- Reporting from harvest, depredation or unintentional take (road kill, by-catch)
- Professional survey/census

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- Volunteer survey/census
- Probabilistic sites

The respondent listed the following monitoring techniques as “not used but possible with existing technology and data” for wildlife in bare dunes habitat in Indiana (not ranked):

- Radio telemetry and tracking
- Modeling
- Spot mapping
- Driving a survey route
- Trapping (by any technique)
- Representative sites

The respondent listed no techniques as “not economically feasible” for wildlife in bare dunes habitat in Indiana.

The respondent listed no other monitoring techniques for wildlife in bare dunes habitat in Indiana.

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the monitoring techniques for wildlife in bare dunes habitat. There were no responses.

Habitat inventory and assessment

The respondent was aware of the following inventory and assessment efforts by state agencies and other organizations for bare dunes habitat in Indiana:

- Occasional regional or local (less than once a year and not regularly scheduled) inventory and assessment

The respondent listed “occasional regional or local inventory and assessment” by state agencies and other organizations as “somewhat crucial” to conserve bare dunes habitat in Indiana. The respondent listed no methods as “very crucial.”

The respondent listed the following regional or local inventory and assessment by state agencies for bare dunes habitat in Indiana (not ranked):

- Lake Michigan shoreline
- Gibson Lake

The respondent listed this regional or local inventory and assessment by other organizations for bare dunes habitat in Indiana:

- Lake Michigan shoreline

The respondent was not aware of other organizations that conduct inventory and assessments of bare dunes habitat in Indiana.

The respondent did not indicate that any inventory and assessment techniques that are “frequently used.” The respondent listed the following as “occasionally used” (not ranked):

- GIS mapping

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- Aerial photography and analysis

The respondent listed this inventory and assessment technique as “not used but possible with existing technology and data” for bare dunes habitat in Indiana:

- Systematic sampling

The respondent listed no techniques as “not economically feasible” for bare dunes habitat in Indiana.

The respondent noted no other inventory and assessment techniques for bare dunes habitat in Indiana.

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the inventory and assessment techniques for bare dunes habitat. There were no responses.

Recommended monitoring

Species monitoring

The respondent recommended the following monitoring technique for effective conservation of wildlife in bare dunes habitat in Indiana:

- Because the Piping Plover rarely occurs in Indiana, keep track of all reports by birders and have Indiana Dunes personnel systematically survey appropriate habitat along Lake Michigan

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the monitoring techniques for effective conservation of wildlife in bare dunes habitat. There were no responses.

Habitat inventory and assessment

The respondent recommended this inventory and assessment technique for effective conservation of bare dunes habitat in Indiana:

- Aerial photography and ground visits to determine habitat suitability

Technical experts and conservation organizations reviewed the above results and were asked if these were a reasonable representation of the inventory and assessment technique for effective conservation of bare dunes habitat. There were no responses.