

Appendix F: Glossary of Terms and Acronyms

This glossary is intended to clarify technical terms and acronyms and provide a context in which words with uncommon or multiple connotations are used.

Adaptive management: a formal, structured approach to dealing with uncertainty in natural resource management, using the experience of management as an ongoing, continually improving process; the underlying operating principle of the Wisconsin Statewide Karner blue Butterfly Habitat Conservation Plan.

Articles of Partnership: Partners' goals and operating rules and procedures. All Full HCP Partners agree to follow the Articles.

Audit (compliance): independent evaluation of various aspects of partner performance under their legally-binding conservation agreements.

Autecology: the ecology of a species or of individual organisms in relation to the environment. (see also "synecology")

Barrens: areas of sandy soil that are dominated by grasses, low shrubs, and small trees, and are subject to frequent disturbance. In general, the barrens community takes the form of pine barrens in northern and central Wisconsin and oak barrens in southern and west-central Wisconsin. Bracken grasslands are also part of the barrens community.

Biological opinion: a document which includes: (1) the opinion of the USFWS as to whether or not a federal action is likely to jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of designated critical habitat; (2) a summary of the information on which the opinion was based; and (3) a detailed discussion of the effects of the action on listed species or designated critical habitat.

Biological Recovery Zone: Biological Recovery Zones (BRZ's) are areas including and around recovery properties (all) which constitute and/or support the same metapopulation on and around the recovery property. This can include areas of known or high probability habitat such as dispersal corridors, living corridors, open habitat and forested land that has a Kbb probability class equal to or greater than 50% and that are spatially located and could likely support viable habitat associated with the recovery property metapopulation.

Biotope: a region with uniform environmental conditions, as well as populations of plants and animals.

Bivoltine: a species that completes two generations per year.

Broadcast Seeder: an implement for applying seed to the surface of a planting site. It consists of a hopper to hold the seed. Beneath the hopper is rotating disk. Seed is metered onto the rotating disk, which throws the seed in a circular pattern away from the device. Small broadcast seeders can be carried by a person and powered by a hand crank. Larger seeders are normally mounted on the rear of an ATV, tractor, or a pickup truck and powered by electricity or by a power take-off shaft.

Brush Disk: a heavy duty implement with circular, concave steel cutters mounted in series on a rotating shaft and pulled across the site by a prime mover. The discs cut into the sod and turn it over, exposing mineral soil. Disks can have one or two gangs (shafts with mounted disks).

Brush Hog: a heavy duty rotary mower, usually pulled behind a rubber tired tractor, and capable of chopping large diameter brush and saplings up to several inches in diameter at ground level.

Bulldozer: a prime mover fitted with a front-mounted steel blade that can be raised or lowered. It is used to push or excavate dirt, stumps, rocks, trees, and other items or materials.

Cable Plowing: Cable plows are commonly used by electrical utilities for installing underground electrical distribution cables along rights-of-way and to homes and businesses between transformers and electrical meters.

Compensatory mitigation: a form of mitigation in which impacts are compensated for by replacing or providing substitute resources or environments; land banking a particular habitat type; one of four conservation strategies being applied in the statewide HCP.

Canopy: the coverage of branches and foliage formed collectively by the crowns of trees or shrubs.

Canopy cover: the proportion of overstory (trees) or understory (shrubs) canopy that blocks out sunlight.

Cause and Effect Monitoring (C-E): used to assess the effects of a management activity.

Changed circumstances: changes in circumstances affecting a species covered by an HCP and ITP that can be reasonably anticipated by the plan developers during plan development and negotiation. (See also "unforeseen circumstances")

Congressional Federal Register (CFR): the official publication and proceedings of the United States Congress.

Conservation agreement: a legally-binding contract between the DNR and HCP partners outlining lands and activities included in the Karner blue butterfly conservation effort, public outreach and education efforts partners agree to implement, partner monitoring, reporting, and auditing responsibilities, the period for which the agreement binds the partners, and partner obligations to modify land management practices through adaptive management. Conservation agreements form the basis of the DNR's application for a statewide incidental take permit; also called a "species and habitat conservation agreement."

Conservative Forbs: prairie or barrens wildflowers that are indicative of high quality plant communities. These species are some of the first to disappear in the absence of natural processes, i.e., fire or heavy disturbances such as grazing or cultivating.

Construction: any action that involves grading, building, excavation, or other heavy disturbance activity.

Contiguous: "contiguous" Karner blue breeding habitat is the total extent of an area supporting wild lupine (even if patchy and scattered) that is occupied by the Karner blue and uninterrupted by obvious barriers to adult butterfly dispersal (usually very dense forest or urban areas). Dispersal distances vary by the nature of the habitat between sites, especially canopy cover. Presume adults to be quite capable of dispersing at least 370 meters in a mostly closed canopy (greater than 90 %) forested matrix (Dunn 2006) and 500 meters over more open habitat e.g., roadway and utility corridors (Fuller 1998) so include such areas as "contiguous".

DATCP: the Wisconsin Department of Agriculture, Trade and Consumer Protection, a state agency; and a HCP partner.

Disk Trencher: an implement consisting of two large diameter concave, toothed steel disks mounted on opposite sides at the rear of a prime mover. As the prime mover proceeds across the site, the disks gouge the soil surface and create a continuous shallow furrow of mineral soil.

Dispersal: both the movement of individuals between and within habitat sites.

Dispersal Corridor: a pathway in the landscape that Karner blue butterflies follow during their movement from one area of suitable habitat to another. A dispersal corridor may include unoccupied suitable habitat. Dispersal corridors might be useful for connecting habitat sites that are separated by unsuitable habitat. Characteristics that might improve suitability as a dispersal corridor include: a linear aspect, dominated by grasses, substantial number of flowering nectar plants, essentially canopy-free at least down the middle, having a dense wall of trees or shrubs along the sides, and being sunny for a significant part of the day. Presence of lupine in corridors is not essential, but is highly recommended (KBB Recovery Plan).

Dispersal Distance: Dispersal of Kbbbs between sites (subpopulations) varies depending on the nature of the habitat, especially canopy cover between habitat sites (refer to KBB Recovery Plan, 2003, p. 27 and Appendix G, Table G1; see also definition of "Contiguous."

Disturbance: activities, such as burning, mowing, or tree harvesting, that interrupt natural plant succession and allow for early successional species to persist or colonize an area.

DNR: the Wisconsin Department of Natural Resources, a state agency; a HCP partner and the lead applicant for an incidental take permit.

Driftless Area: a region that includes southwestern Wisconsin, and immediately adjacent parts of Illinois, Iowa, and Minnesota. Continental ice sheets during the Pleistocene Epoch surrounded this area, but did not cover it.

Early to mid-Summer: pertains to growing-season burning and the timeframe beginning after June 21st through August 15th.

Easement: a right, such as a right-of-way, to make use of the real property of another.

Ecosystem: a biotic community and its abiotic environment, considered together as a unit. Ecosystems are characterized by energy flow that leads to trophic structure and material cycling (exchange of matter between living and nonliving parts); short for ecological system.

Ecosystem management: a system to assess, conserve, protect, and restore the composition, structure, and function of ecosystems, to ensure their sustainability across a range of temporal and spatial scales and to provide desired ecological conditions, economic products, and social benefits; a management philosophy adopted by the DNR.

Element occurrence (EO): a discrete record of occupation as tracked by the DNR's Natural Heritage Inventory database; some occurrences may be combined into single populations or metapopulations pending further research on dispersal and behavior.

Emergency Response: any action taken to remedy a facility or property emergency situation, or other unforeseen occurrence.

Endangered species: under federal law, any species or subspecies which is in danger of extinction throughout all or a significant portion of its range; under Wisconsin law, any species whose continued existence as a viable component of the state's wild animals or plants is determined by the DNR to be in jeopardy on the basis of scientific evidence.

Endangered Species Act (ESA): a law enacted by the U.S. Congress in 1973 to protect plant and animal species that are in danger of, or threatened with, extinction.

Environmental assessment (EA): a public document that briefly provides evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact; a document prepared to comply with the Wisconsin Environmental Policy Act.

Environmental impact statement (EIS): a public document that provides an analysis of potential impacts of actions which potentially significantly affect the human environment; a document required by Section 102(2)(C) of the National Environmental Policy Act or by the Wisconsin Environmental Policy Act.

Exotic species: flora or fauna that are imported or not naturally occurring in a particular region, such as Wisconsin.

Extent of Site Disturbance: the amount of the surface area (in percent) of the site that is impacted by a site preparation activity.

Extirpation: the elimination of a species from a particular area.

Federally-listed species: a plant or animal species listed as endangered or threatened by the USFWS under the federal ESA.

Final harvest: a final cutting of trees from a forest stand that extracts salable trees.

Fire Return Interval (FRI): the timeframe in which prescribed fire is returned to a landscape/unit that has been burned in the past.

Fixed Return Interval: as it relates to prescribed fire, A FRI (above) that occurs at a predetermined period of years. For example, a land manager may choose to burn a site once every three years regardless of whether the site requires a burn at this frequency.

Flail Chopper: an implement mounted on the front of a prime mover with a horizontal spinning drum. Attached to the drum are hardened steel cutting hammers that shred woody debris upon contact.

Forest land: an area of which at least one acre in size and contains at least ten percent tree cover.

Fragmentation: the breaking up of large and continuous ecosystems, communities, and habitats into smaller areas surrounded by altered or disturbed land or aquatic substrate.

Fuel Loading: a buildup of fuels, especially easily ignited, fast-burning fuels.

Full Partner: land owners and managers that enter into an SHCA that do not meet the criteria for being a Limited Partner or the Voluntary (unregulated) Category.

Furrowing Plow: an implement mounted to the front or rear of a tractor that can be raised or lowered to control plowing depth. The plow is V-shaped and rolls sod, roots and debris to both sides as it moves through the ground, leaving an exposed strip of mineral soil.

Geographic information system (GIS): a system of computer hardware and software that can input, manipulate, and analyze large amounts of geographically referenced data to support decision making processes.

Habitat Conservation Plan (HCP): a formal plan, prepared pursuant to Section 10 of the federal Endangered Species Act, that specifies what the effects of landowner activities are likely to have on listed species, the measures that will be taken to minimize and mitigate these effects, the funding available to implement the measures, the alternatives that the applicant considered and reasons why such alternatives were not implemented, and any other measures the USFWS may require; Chapters I and II of this document.

Harass: an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.

Harm: an act which actually kills or injures wildlife.

Harvesting: the process of gathering a timber crop. It includes felling, skidding/forwarding, on-site processing, and removal of products from the site.

HCP: Habitat Conservation Plan; a plan prepared under Section 10(a) of the Endangered Species Act. (See "habitat conservation plan")

Herbicide: a chemical used to control unwanted plants.

High Potential Range (HPR): the region of Wisconsin containing all Karner blue butterfly documented element occurrences and extending beyond the documented range to include areas with similar habitat, soils, and climate, where the Karner blue butterfly is most likely to occur; land in the High Probability Range that is within 5 miles of known Kbb occurrences; also referred to as the regulatory range.

High Probability Range: lands in the KBB Probability Model that fall into 50% and greater probability classes.

Hydroaxe: a very heavy duty rotary mower mounted on the front of a rubber-tired prime

mover and powered by a hydraulic motor. Hydroaxe is a brand name of the Pettibone Corporation.

Implementing Agreement (IA): legally-binding agreement between the USFWS and the applicant for an incidental take permit under Section 10(a) of the Endangered Species Act; in this conservation effort, an agreement between the USFWS and the WDNR.

Implementation Oversight Committee (IOC): a subset of HCP partners and non-partner cooperators, which primarily exists to represent the partners' interests during the permit period; an institutional structure that advises the WDNR, makes decisions on behalf of the HCP Partners, actively plans and provides services, and makes HCP-related recommendations to the partnership and the WDNR.

Improvement Cutting: the removal of less desirable trees of any species in a stand of poles or larger trees, primarily to improve composition and quality.

Incidental take: take of a federally-listed species which occurs incidental to, and is not the purpose of, other legal activities.

Incidental take permit (ITP): a permit issued by the USFWS, under Section 10 of the ESA, which allows the incidental take of an endangered species.

Incidental take statement (ITS): an authorization by the USFWS to a federal agency for a determined amount of take of a federally-listed species.

Inclusion: the process, outlined in the HCP, of obtaining Incidental Take Permit coverage.

Intensity of site disturbance: the level of impact to vegetation at the point of disturbance. (Virtually all site preparation practices have a high level of impact, in that vegetation is removed and mineral soil is exposed at the point of application).

Intentional take: an activity which results in the take of a federally-listed species which is not incidental to other legal activities (i.e. a violation of Section 9 of the ESA).

Intermediate Treatment: any treatment or tending designed to enhance growth, quality, vigor, and composition of the stand after establishment of regeneration and prior to final harvest.

Known habitat: those areas that have been surveyed and in which wild lupine has been found in an abundance, which can support Karner blue butterflies.

Known-occupied habitat: an area that currently supports Karner blue butterflies in

association with wild lupine.

Land conversion: the change of land from rural or low intensity uses to urban or high intensity uses, such as agricultural land developed for a subdivision.

Landscape: an area composed of adjacent and interacting ecosystems that are related because of geology, land forms, soils, climate, biota, and human influences.

Landscape planning: planning at the landscape scale to allow for analysis and improvement of management activities that sustain ecosystem capability and achieve ecosystem management objectives.

Larvae: the wingless, early stage of a newly hatched insect before undergoing metamorphosis; caterpillar.

Limited Partner: county Highway Departments and townships engaging in road ROW management activities that become HCP Partners by signing a SHCA.

Local population: a group of individuals living in the same habitat patch, a continuous area of resources specific to the species surrounded by unsuitable habitat.

Management to feature and enhance: a level of conservation focus in which the biological goal is for Karner blue butterfly habitat gains to equal or exceed losses. Additional measures are taken, however, to promote viable Karner blue butterfly populations despite potential economic costs.

Management with consideration: a level of conservation focus in which the biological goal is for Karner blue butterfly habitat gains to equal or exceed losses occurring through natural succession or otherwise.

Metapopulation: a population of populations; each individual population within a metapopulation is referred to as a local population. Several metapopulation models have been suggested (e.g., Boorman and Levitt 1973, Gilpin and Hanski 1991, Thomas 1995).

Metapopulation Management: the management of large-scale properties or barrens landscapes that supports Kbb populations. Metapopulation management requires that a conscious effort be made to coordinate management efforts on the landscape to ensure the perpetuation of the metapopulation and are within dispersal distance of other Kbb subpopulations.

Mitigation: methods of reducing adverse impacts of a project by: (1) limiting the degree or magnitude of the action and its implementation; (2) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (3) reducing or eliminating the impact

over time by preservation and maintenance operations during the life of the action; or (4) compensating for the impact by replacing or providing substitute resources or environments.

Morphology: the form and structure of an organism or any of its parts.

Mowing and Brushing: for the purpose of this protocol mowing and brushing includes the use of mowers, trimmers, choppers, and other mechanized equipment or hand tools to control woody vegetation, forbs and grasses as a vegetation management practice.

National Hierarchical Framework of Ecological Units: an information system defining the landscape as ecological units with particular physical and biological components.

Natural Heritage Inventory (NHI): an integrated system of computer databases, maps, and manual files that document the historical and current occurrence of rare plants, animals, and natural communities in Wisconsin. The Natural Heritage Inventory is maintained by the DNR's Bureau of Endangered Resources.

National Environmental Policy Act (NEPA): a federal law, enacted by the U.S. Congress in 1969, which establishes the nation's environmental policy, sets goals, and provides means for carrying out the policy. (PL 91-190, 42 USC 4321-4347 [January 1, 1970] as amended by PL 94-52 [July 3, 1975], and PL 94-83 [August 9, 1975]).

Native species: flora or fauna naturally occurring in a particular region, such as Wisconsin.

Natural Resource Conservation Service (NRCS): the Federal agency that works in partnership effort to help America's private land owners and managers conserve their soil, water, and other natural resources.

Nongame species: any species of wild animal not classified as a game fish, game animal, game bird, or furbearing animal in s. 29.01, *Wis. Stats.* Nongame animals include a wide variety of protected and unprotected species.

Non-point source pollution: pollution occurring in which the sources cannot be traced to a single point such as a discharge pipe. Non-point water pollution sources include soil erosion from farmland, forestry, and construction sites, chemicals from urban streets, and nutrients from storage piles and barnyards.

Non-voluntary coverage: non-partner landowners and land users involved in activities and in locations that may significantly affect the Karner blue butterfly are required to obtain coverage for their actions by acquiring a Certificate of Inclusion as either a single project or as a partner.

"No Surprises" rule: USFWS rule, titled "Habitat Conservation Plan Assurances" and dated February 23, 1998 (CFR 63(35):8859-8873), intended to provide economic and regulatory certainty for non-federal property owners with approved and properly implemented HCPs in the event of "unforeseen circumstances." (See also "changed circumstances" and "unforeseen circumstances")

No-till Drill: a heavy duty seed drill that exerts downward force on the seeding disks, allowing penetration through sod, corn stubble, and other debris on the ground. These drills are normally used after herbicide applications to eliminate grasses and unwanted forbs from competing with the planting. Several makes of no-till drills are modified to accept "fluffy" prairie and barrens seeds. Currently those makes are Truax, Tye, and certain models of Brillion no-till drills.

One-time Permittee: non-partners who do not manage land and only seek incidental take authority for permanent take for a single project.

Overstory: the layer of vegetation in the woodland setting that consists of the tree cover.

Participant: any parties desiring involvement in the Wisconsin Statewide Karner Blue Butterfly HCP process, but not wishing to be partners.

Partner: a landowner or user desiring to be included into the Karner blue butterfly conservation strategy for the term of the ITP; more than likely, a landowner or user intending to engage in various uses or activities over time on larger land holdings (e.g., large forest owner or entity engaged in right-of-way construction or maintenance). A partner is responsible to abide by the HCP Articles of Partnership, enter into a conservation agreement with the DNR, and perform duties and responsibilities as required of other partners.

Partner group: a subdivision of the general partnership of this HCP in which those included have similar characteristics, such as land management practices or conservation strategies (e.g., forest industry, utilities, etc.).

Partnership: the public and private entities involved in the application to renew the incidental take permit, as well as future entities applying for and obtaining partner status.

Patch Scarifier: a forestry implement that, when pulled across the landscape, gouges out patches of sod at periodic intervals, exposing mineral soil. These patches can be used as micro-sites for planting or seeding of trees or other vegetative species.

Permanency of Habitat (POH): Permanency of Habitat is a category of management strategies whereby a habitat site receives periodic disturbance on a short enough rotation schedule that the site is maintained at a successional stage where it is continuously in a state of viable habitat for Kbb. Management strategies include savanna/barrens management, roadside

and utility corridor right-of-way maintenance, recreational trail maintenance, etc.

Permanent take: an impact to Karner blue butterfly habitat, through land management or land use activities, that precludes Karner blue butterfly occupation of the site for a minimum of five years. Such long-term impact involves taking that does not allow for the restoration and reoccupation of the site for a minimum of five years. Activities or projects that may fall within the definition of permanent take include, but are not limited to:

- construction of roadways and parking lots;
- construction of buildings or structures and associated facilities;
- other construction or development projects that cover or replace the habitat in a permanent manner (at least 5 years), such as an airport or a flowage; and
- residential housing developments. [Note: This category does not include a permanent or second home and associated structures that are owned or built by the owner for his or her own use. This provision applies only to those housing developments approved after the date of permit issuance.]

Pesticide: a chemical used to control unwanted insects or plants.

Pesticide Application: For the purpose of this protocol pesticide application includes the use of any Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) approved chemical used to control both woody and herbaceous vegetation as a vegetative maintenance practice. Pesticides can be applied with hand held sprayers, or boom sprayers mounted on any type of vehicle.

Potential range/habitat: habitat that will meet certain biotic and abiotic conditions to support wild lupine at any point in time, but not currently doing so.

Pruning: the removal, close to the branch collar or flush with the stem, of side branches and multiple leaders from a standing tree.

Prime Mover: a motorized tractor with either steel tracks or rubber tires.

Pupae: the inactive stage of metamorphosis of many insects, following the larval stage and preceding the adult form.

Recolonization: the emigration of Kbb's from refugia to suitable habitat where populations have been reduced due to management activities or that are unoccupied.

Recovery: activities, under the provisions of Section 4 of the ESA, engaged in with the intent of recovering a population of an endangered or threatened species.

Recovery plan: a plan developed under Section 4 of the ESA for the conservation and

recovery of a federally-listed species; a federal responsibility.

Refugia: Kbb occupied, unburned lupine (2/3 of total lupine on site) that is adjacent to or within 350 meters (\leq 200 meters is preferable) of the burn unit (see dispersal distance).

Release: a treatment designed to free young trees (not past the sapling stage) from undesirable, usually overtopping, competing vegetation.

Right-of-way (ROW): the strip of land over which facilities such as highways, railroads, or power lines are built that is usually a leased right of passage over the property of another.

Roller Chopper: a large diameter steel drum with horizontal steel blades set perpendicular to the circumference of the drum and parallel to each other. The drum is mounted within a steel frame and is pulled across the site by a motorized prime mover. As the drum rolls along the ground, the steel blades cut into the sod and chop brush and woody debris lying on the surface. Roller choppers often have a tandem arrangement, with two chopper drums mounted within the frame for more effective chopping in a single pass.

Root Rake: a front-mounted implement that attaches to a prime mover. The implement consists of a horizontal steel bar that can be raised and lowered. It is fitted with vertical teeth that can be lowered into the ground to “root out” stumps and brush. It can also be pushed along the surface to collect woody debris for deposit in piles.

Roundwood: logs, bolts, and other round sections cut from trees (including chips from roundwood).

Salvage Cutting: the removal of dead trees or trees damaged or dying because of injurious agents other than competition, to recover economic value that would otherwise be lost.

Sampling: the process of selecting a set of elements to estimate the characteristics of a population.

Sand prairie: a community consisting of xeric prairie vegetation that is dominated by sandy soils.

Sanitation Cutting: the removal of trees to improve stand health by stopping or reducing the actual or anticipated spread of insects or diseases.

Savanna: a community that was historically part of a larger ecotone complex bordered by the prairies of the west and the deciduous forests of the east. This ecotone was a mosaic of plant community types that represented a continuum from prairie to forest. Savannas were the communities in the middle of this continuum. Characteristically, savannas have less than fifty percent crown cover.

Saw logs: the central stem between the stump and the top portion of a tree; saw logs are harvested for industrial roundwood products.

Seed Drill: a farm implement that is towed behind a tractor. It consists of one or more wide bins to hold seed. A metering system drops seeds into tubes that lead to paired sets of discs spaced closely together beneath the seed bins. The disks penetrate the soil and open a slit into which the seeds drop. The slit in the soil closes behind the disks covering the seed.

Senescent: a plant at the stage from maturity to dormancy or death.

Shifting mosaic (SM): a land management strategy where, for this HCP, habitat patches appropriate for the Karner blue butterfly are shifted across the broader landscape to allow for colonization from older patches as they are lost to natural succession. Land management activities would plan disturbance patterns in accordance with this concept.

Silviculture: the theory and practice of controlling the establishment, composition, growth, and quality of forest stands in order to achieve management objectives.

Short-term take: is an impact to occupied Karner blue butterfly habitat resulting from land management or land use activities, which results in habitat disturbance that renews declining habitat and/or restores habitat to replace habitat lost to succession or as a result of a land use activity. Short-term take is conducted following approved conservation measures in the HCP in a manner to avoid and/or minimize harm to the KBB (e.g. through appropriate timing of activities, selective routing and siting of projects, etc.) and maintain, enhance, and/or restore KBB habitat.

Such short-term impacts allow Kbb survival and/or the restoration and reoccupation of the site within five years. Activities or projects that may fall within the definition of short-term take include, but are not limited to:

- mowing of roadside rights-of-way
- repairing roadside ditches to restore proper drainage
- roadside ROW improvements
- brush removal along utility corridors
- forest management practices
- conservation management, e.g. mowing and brushing for wildlife management, herbicide applications, prescribed burning, etc.
- pipeline and road construction, electrical and cable installations, and other construction and development projects that DO NOT cover or replace the habitat in a permanent manner (see definition of permanent take) and allow for habitat restoration and Kbb re-occupation within 5 years.

Single project permittee (aka one-time permittee): a landowner or user confronted with the presence of Karner blue butterflies regarding a project, but not expecting to address the issue on a long-term basis or on other lands or regarding other activities (e.g., development of a commercial establishment).

Site: a spatially explicit, relatively homogeneous portion of land characterized by specific physical and chemical properties that affect ecosystem functions, and where a more or less homogeneous vegetative type may be expected to develop or persist.

Site Preparation: hand or mechanized manipulation of a site, designed to enhance the success of regeneration. Treatments may include bedding, burning, chemical spraying, chopping, disking, raking, and scarifying and are designed to modify the soil, litter, or vegetation and to create microclimate conditions conducive to the establishment and growth of desired species.

Special concern species: species that appear to be threatened because they are uncommon, restricted to unique or highly specialized habitat, or vulnerable to loss for various reasons; a classification used by the DNR for management purposes, but which is not defined in state statute or administrative code and therefore has no regulatory significance.

Species and habitat conservation agreement (SHCA): a legally-binding agreement between the Wisconsin DNR and an HCP partner outlining the specific conservation strategies which the partner will undertake as a condition of the statewide incidental take permit coverage. Referred to in this HCP as a conservation agreement. (see also "conservation agreement")

Spring flight: the first and smaller of the two Karner blue butterfly flight periods in Wisconsin. Karner blue butterfly eggs overwinter and hatch in the spring; adults emerge in late spring to early summer (between May and late June).

State-listed species: a plant or animal species listed as endangered and threatened by the Wisconsin DNR under the state endangered species laws.

Subpopulation (local population): a self-reproducing population of Karner blue that is associated with a site / area (KBB Recovery Plan).

Succession: progressive changes in species composition, organic structure, and energy flow of a natural community over time.

Summer flight: the second and larger of the two Karner blue butterfly flight periods in Wisconsin, occurring between early July and mid-August.

Synecology: the study of the environmental interrelationships among communities or organisms. (see also "autecology")

Take: to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.

Tension zone: the most pronounced environmental gradient in Wisconsin; located in a narrow band that runs from northwestern to southeastern Wisconsin. Many species of plants and animals reach the limit of their ranges in this zone. Although climate is a major reason for the tension zone, soil type and other factors also play a role.

Thinning: a cultural treatment made to reduce stand density of trees primarily to improve growth, enhance forest health, or recover potential mortality.

Timber Harvest: the process of gathering a timber crop. It includes felling, skidding/forwarding, on-site-processing, and removal of products from the site.

Timber Stand Improvement (TSI): for the purposes of this HCP TSI means a non-commercial intermediate treatment made to improve stand composition, structure, condition, health and/or growth.

Threatened species: under federal law, any species or subspecies which is likely within the foreseeable future to become endangered throughout all or a significant portion of its range; under Wisconsin law, any species which appears likely, within the foreseeable future, on the basis of scientific evidence to become endangered.

Timberland: forest lands capable of growing at least 20 cubic feet of commercial wood per year.

Understory: vegetative growth under the canopy layer on a woodland site.

Unforeseen circumstances: changes in circumstances affecting a species or geographic area covered by an HCP that could not reasonably have been anticipated by the plan developers, at the time of the HCP's negotiation and development, and that result in a substantial and adverse change in the status of the covered species; generally, catastrophic events of unprecedented nature. (See also "No Surprises" rule and "changed circumstances")

Unit: a defined management area incorporating a portion of or the entire property of an occupied Kbb site.

U.S.D.A.: the United States Department of Agriculture, a federal agency.

USFWS: the United States Fish and Wildlife Service, a federal agency; the agency with responsibility for implementing and enforcing provisions of the Endangered Species Act.

U.S.G.S.: the United States Geological Survey, a federal agency.

Viable population (VP): a population that is of sufficient size and distribution to be able to persist for a long period of time in the face of demographic variations, random events that influence the genetic composition of the population, and fluctuations in environmental conditions, including catastrophic events.

Vehicle miles of travel (VMT): a measure of traffic and highway use; the total number of miles traveled in one year.

Voluntary coverage: those non-partner landowners that are not required to obtain a Certificate of Inclusion and are covered in the Wisconsin Statewide Karner Blue Butterfly HCP and ITP without further process.

Watershed: the land area that drains into an individual lake or river.

Weeding: a release treatment in stands not past the sapling stage that eliminates or suppresses undesirable vegetation (including shrubs and herbs) regardless of crown position.

Wisconsin Environmental Policy Act (WEPA): a state law designed to encourage environmentally sensitive decision making by state agencies (s. 1.12, *Wis. Stats.*). This law describes Wisconsin environmental policy and requires state agencies to consider the environmental effects of their proposed action to the extent possible under their other statutory authorities.

Wis. Adm. Code: Wisconsin Administrative Code; a compilation of rules made by state agencies having rule-making authority; a component of Wisconsin state law.

Wis. Stats.: Wisconsin Statutes; Wisconsin's state laws.