Last Update: February 2024

# Association of Fish and Wildlife Agencies
# Energy and Wildlife Policy Committee
# State Solar-Wildlife Working Group

## *State Mechanisms for Supporting Low-Impact Solar Siting*

**Background**

The Association of Fish & Wildlife Agencies (AFWA) convened a Solar Wildlife Working Group (SWWG) through the Energy and Wildlife Policy Committee in March 2021 to better understand State Fish and Wildlife Agency (SFWA) needs, concerns, and interests related to utility-scale solar siting. In December of that year, the SWWG surveyed the 50 state agencies to better understand state needs and concerns related to industrial solar development. The goals of this survey were to better assess the potential impacts of utility-scale solar development on wildlife and habitats, to share resources and information about existing state siting, monitoring, and permitting processes, to compile BMPs and/or certification standards, and to increase coordination and networking among members, non-governmental and industry representatives, and states.

The survey results were compiled into a publicly available final report with recommendations. The purpose of this paper is to address one of the report recommendations, specifically, to compile state policies relating to the authority of SFWA to influence decision-making related to industrial solar development. This report draws from the responses to the 2021 survey, as well as independent research. All the information provided in this document is publicly available. Note that this paper is not a comprehensive assessment of the policies that currently exist in all 50 states, nor does it purport to evaluate the effectiveness of existing policies in supporting low-impact solar development. This document does not replace the need to confer with state agencies, including SFWAs, to determine a state's required or recommended consultation processes.

**The mechanisms outlined in this document are organized into the following categories:**

- **Direct regulatory authority:** Regulatory requirement for solar developers to secure approval for facility siting or operation from a SFWA.
- **Indirect requirement to consult:** Requirement for solar developers to secure approval for facility siting or operation from an agency other than the SFWA (e.g., state board of public utilities, state facilities siting board) and a requirement for that agency to seek input from the SFWA.
- **Indirect authority to consult:** Requirement for solar developers to secure approval for facility siting or operation from an agency other than the SFWA (e.g., state board of public utilities, state facilities siting board) and the authority for that agency to seek input from the SFWA.
- **SFWA input on local siting standards**
- **Voluntary siting or operational guidelines**
- **Voluntary siting decision-support tools**
- **No SFWA Input/Regulation of Solar Development**

Some SFWAs have developed best management practices for solar siting and operation. While this document provides information on siting guidelines that have been developed or are under development by SFWAs, it does not summarize the best management practices that may be available in individual states.

Last Update: February 2024

An Appendix includes a link to The US Department of Energy Office of Energy Efficiency and Renewable Energy's *Solar Impacts on Wildlife and Ecosystem Appendix C Resources and Tools*, as well as general resources on state solar energy siting policy. The Appendix is not a definitive resource list, but rather a source of information for SFWAs on where they can find additional information and tools pertaining to this subject. Please see the State Fish and Wildlife Energy Link Repository which catalogues all published Solar BMPs from SFWAs and other sources, and will be updated more frequently.

This document has been prepared solely for general informational purposes, does not include an exhaustive or comprehensive compilation of state statutes, regulations, policy, or guidance, and is not intended to serve as a substitute for any form of agency consultation required by law. The information presented is not legal advice, is not to be relied upon as such, may become outdated, and is subject to updating without notice.

## Table of Contents

Last Update: February 2024

**Indirect Authority to Consult**

Arkansas
Idaho
Maine
New Jersey
South Dakota

**SFWA Input on Local Siting Standards**

Illinois

**Voluntary Solar Siting or Operational Guidelines**

Arizona
Georgia
Kentucky
Louisiana
Michigan
Missouri
Nebraska
New Mexico
New York
North Carolina
Oregon
Pennsylvania
Rhode Island
South Carolina
Texas
Wisconsin

**Voluntary Decision-Support Tools for Use in Siting**

Arizona
California
Connecticut
Delaware
Florida
Georgia
Hawaii
Illinois
Indiana
Louisiana
Maine
Maryland
Massachusetts
Minnesota
Nebraska
New Jersey

New Mexico
New York
Oregon
Rhode Island
South Carolina
South Dakota
Texas
Vermont
Wyoming

**No SFWA Input/Regulation of Solar Development**

Alaska
Indiana
Iowa
Michigan
Mississippi
Montana
Tennessee
Utah

**Appendix:** General Resources on State Renewable Energy Siting Policy

**Endnotes**

Last Update: February 2024

## Direct Regulatory Authority: Approval for Siting or Operation

Regulatory requirement for solar developers to secure approval for facility siting or operation from a SFWA.

**Florida** – If a solar facility will be 75MW or larger, it must follow the Power Plant Siting Act (PPSA), the state's centralized process for licensing large power plants. One license – a certification – replaces all local and state permits. Local governments and state agencies within whose jurisdiction the power plant is to be built participate in the process. Certification addresses permitting, land use and zoning, and property interests. A certification grants approval for the location of the power plant and its associated facilities. Certification is issued by the Siting Board (Governor and Cabinet) or by the Secretary of the Florida Department of Environmental Protection (DEP) in non-contested cases.[i] During the siting process "the Fish and Wildlife Conservation Commission shall prepare a report as to matters within its jurisdiction."

**Massachusetts** – Large solar projects (over 110 KW or over 25 KW if required by the Energy and Environment Agency Secretary) are required to go through an environmental review (MEPA) process. In addition, the Secretary chairs the Energy Facilities Siting Review Board that is charged with permitting utility scale renewable energy development.[ii] The state also has a solar incentive program (the SMART program), which incorporates land use and siting criteria including site characteristics such as natural resources and endangered species, pollinator habitat, etc. Although this is technically a "voluntary" program, the incentive is significant enough that it makes solar developments economically viable for developers.[iii]

**Washington** – A new law (July 2023) on Clean Energy Project Siting gives the Department of Ecology and Fish and Wildlife seats on the Siting Council that oversees and approves energy siting. It also creates an optional fully coordinated project review for renewable energy projects deemed to have statewide significance, with the Department of Ecology conducting an initial assessment including a consultation with the Fish and Wildlife Agency to determine possible impacts and whether those adverse environmental impacts can be mitigated.

**West Virginia** – Certificate of Public Convenience and Necessity is contingent on receiving agency permits and other agency approvals.[iv]

**Vermont -** If during the permitting process a state threatened or endangered species or their habitats are identified within the limit of disturbance of a proposed project, the agency can require that the applicant get a threatened and endangered species take permit. Threatened & Endangered Species Takings Permits may be issued by the Secretary of the Agency of Natural Resources for the "taking" of plants or animals listed as Threatened or Endangered in Vermont pursuant to 10 V.S.A. § 5408 and 10 V.S.A. App. § 10 after obtaining the advice of the Endangered Species Committee.

## Indirect Requirement to Consult with State or Local Decisionmaker

Requirement for solar developers to secure approval for facility siting or operation from an agency other than the SFWA (e.g., state board of public utilities, state facilities siting board, county commission, etc.) and a requirement for that agency to seek input from the SFWA.

**Alabama** – State Natural Resources Agency does a review and gets input from the SFWA for solar projects within the coastal area.[v]

**Arizona** – The agency is a party by right to proceedings before the Arizona Power Plant and Transmission Line Siting Committee. The Committee has jurisdiction over solar thermal projects 100 MW and greater and the statute directs the committee to "give special consideration to the protection of areas unique because of biological wealth or because they are habitats for rare and endangered species."[vi] Arizona Game and Fish Department is given the opportunity to review solar projects through the county permitting processes or BLM federal processes.

**California** – A new 2022 California law gives the California Energy Commission (CEC) the authority to approve renewable energy facilities 50KW or greater and creates an expedited process that bypasses local regulations and supersedes most other state regulations. The CEC is required to consult with the Fish and Wildlife Agency as it develops its rules and "the commission shall also consult with the Department of Fish and Wildlife with respect to any proposed commission findings and actions regarding potential impacts to fish, wildlife, and plant resources and the habitats upon which they depend."[vii]

**Colorado** – Both the state siting board and local review boards can ask for Agency input. Rule 3668 -- Environmental Impacts – requires new renewable energy projects that are reviewed by the Public Utility Commission (PUC) to "conduct pre-development wildlife surveys, use these surveys to avoid, minimize and mitigate potential impacts to wildlife and their habitats, and work with Colorado Parks and Wildlife (CPW) in the design of their project."

**Connecticut** – The Siting Council process applies to solar developments that are 65 MW and greater. The Agency can provide testimony as to the environmental impacts of the project and the Department of Energy and Environmental Protection provides "determination letters" to the siting council. Note that starting in 2023, Connecticut has been rolling out its new Sustainable, Transparent and Efficient Practices (STEP) program for solar development to accelerate deployment of solar. Connecticut also rolled out draft guidance for developing solar on brownfields and agricultural land. There is more coming, as their goal includes "minimizing adverse impacts on natural resources and the environment."[viii]

**Delaware** – The Delaware Energy Act CT Title 29, Ch 80, effective August 2023, creates a State Energy Office within the Department of Natural Resources and Environmental Control and seeks "to reduce to the maximum extent possible, the environmental consequences of energy generation and use in the state." It also gives the DNR authority to intervene as a party in dockets before the Public Service Commission.

**Florida** – Solar projects in Florida are reviewed under the state's Environmental Resource Permitting or State 404 processes, which is led by the Florida Department of Environmental Protection. The Florida Fish and Wildlife Conservation Commission (FWC) participates in both processes, providing technical assistance to applicants aimed at avoiding, minimizing, or mitigating for impacts to listed species and their habitat through permit conditions or beneficial practices. "Take" of a state-listed species can only be authorized by an Incidental Take Permit

issued from the FWC. The specific rules and guidance that the agency follows can be found in Chapter 68a-27 of the Florida Administrative Code.[ix]

**Hawaii** – Renewable energy facility siting processes for large (over 200KW) projects require early consultation with state agencies and an Environmental Impact Statement approved by the Department of Business, Economic Development and Tourism.[x]

**Kansas** – Solar projects are statutorily subject to KDWP regulatory purview if they are publicly funded, state or federally assisted, or require a permit from another state or federal government agency (including Construction Stormwater Permits issued by Kansas Department of Health and Environment) to protect species listed as threatened or endangered as designated by the Kansas Nongame and Endangered Species Conservation Act of 1975[xi]. Kansas statutes and regulations require the issuance of special action permits from KDWP for activities that affect listed species before such activities may proceed.

**Maryland** – Every project over 2 MW is reviewed by the PSC and requires the State Planning Department to provide consolidated input from state agencies including the natural resource agency. This is a model approach insofar as it has been very effective in ensuring that developers design projects with wildlife and habitats in mind.[xii]

**Minnesota** – The SFWA is a party to proceedings to develop ground mounted solar projects that are over 40KW and state law also includes specific site management criteria. New 2023 Solar Siting Guidance ensures that solar developers know what the agency expects of the developer and ensures that developers consult with the agency early in the process.[xiii]

**Nevada** – Energy development applicants must file a notification and pay a fee to the Department of Wildlife. The Department forwards the notification to the Office of Energy along with an analysis of its potential impacts on wildlife and habitat. The Agency's environmental review must be accepted and incorporated into the decision of the Public Utilities Commission.[xiv]

**New Hampshire** – The law says that the State Siting "committee shall consider . . . the analyses and recommendations, if any, of the department of fish and game, the natural heritage bureau, the United States Fish and Wildlife Service, and other agencies authorized to identify and manage significant wildlife species, rare plants, rare natural communities, and other exemplary natural communities**."**[xv]

**New York** – Recent (2021) rules require early consultation with the Department of Environmental Conservation (SFWA). The agency can require the developer to conduct studies. Note that these rules apply to regulated species and habitats and not more broadly to other natural resource considerations.[xvi] There is also a new Office of Renewable Energy that is charged with expediting the permitting of new industrial scale renewables.[xvii]

**North Dakota** – The North Dakota Energy Conversion and Facility Siting Act gives authority to the Public Service Commission to site energy facilities.[xviii] The Commission must give deference to the comments of the Fish and Wildlife Agency Commission about whether the proposed development conforms with Agency rules.

**Ohio** – The Ohio Siting Board reviews projects over 50MW and requires consultation with Ohio Department of Natural Resources (ODNR). Conditions for mitigation/avoidance/siting known at time of application are written into the approval certificate. ODNR provides siting guidance for applicants to follow.[xix]

**Oregon** – Solar siting decisions are made either at the state or the county level, and in either permitting scenario, consultation is required with the Department of Fish and Wildlife. In addition, the applicant is required to conduct a habitat assessment of the site and develop a mitigation plan to address significant fish and wildlife habitat impacts. In some instances the Agency and applicant do not come to an agreement, and thus a third-party consultant is brought in to assess the issues and make recommendations to the county board.[xx]

**Vermont** – The Agency of Natural Resources (ANR) is a statutory party to proceedings before the Public Utility Commission (PUC). The PUC is an independent, three-member, quasi-judicial commission that regulates the siting of electric and natural gas infrastructure and supervises the rates, quality of service, and overall financial management of Vermont's public utilities. As a statutory party, the Vermont Fish and Wildlife Department under the ANR, reviews all projects and can submit testimony on environmental and natural resource criteria, relative to whether a project "will have an undue adverse effect on . . . the natural environment, or the use of natural resources" [xxi] as well as require a project obtain a state Threatened and Endangered species take permit from the ANR, if warranted.

**Virginia** – Department of Wildlife Resources (DWR) reviews applications for solar development and offers its assessment to the decision-making agency. In addition, solar developments are eligible for a "permit by rule," but need to conduct an environmental assessment and consult with the DWR prior to submitting their application.[xxii] Solar projects are required to develop a mitigation plan if they will impact more than 50 acres of contiguous forest, forest enrolled in land use taxation, or more than 10 acres of prime agricultural soil. The DWR issued a comprehensive Solar Energy Facility Guidance document for developers to follow.[xxiii]

**Wisconsin** – Joint Department of Natural Resources (DNR) and Public Service Commission (PSC) pre-application consulting process is required of applicants for projects >100MW. The two agencies proceed separately but need to follow a common review timetable.[xxiv] The DNR has published a solar siting website that walks developers and other interested parties through the environmental review process, environmental requirements, including resources to help avoid problematic locations, and information about opportunities/requirements for public engagement before and during the siting review process.[xxv]

**Wyoming** – There is county review of solar installations under 30 MW and/or less than 100 acres (unless the County Board decides to refer the matter to the state siting board).[xxvi] A 2020 law governing wind and solar development sets minimum standards for county decisions and requires consultation with the Fish and Wildlife Agency. The Fish and Wildlife Agency published the "Wyoming Game and Fish Department Guidelines for Wind and Solar Energy Development" which provides detailed information about solar siting considerations and the department's review process. [xxvii]

## Indirect Authority to Consult with State or local Decisionmaker

Requirement for solar developers to secure approval for facility siting or operation from an agency other than the SFWA (e.g., state board of public utilities, state facilities siting board, county commission, etc.) and the authority for that agency to seek input from the SFWA.

**Arkansas** – Projects over 50 KW require an environmental impact statement. State agencies are invited to comment on the adequacy of this filing.[xxviii]

**Idaho** – The Fish and Wildlife department is empowered to review and comment on the potential effects of solar developments on all fish and wildlife species and their associated habitat as well as options to avoid or mitigate a project's potential for detrimental effects. [xxix]

**Maine** – Solar developments over 20 acres or impacting certain natural resources require a Site Location Development permit from the Maine DEP. When a Site Location approval is required, developers generally also need to get a Natural Resources Protection Act permit. This permit is in addition to required local approval, if any.[xxx] In these processes the Fish and Wildlife Agency serves in an advisory role.

**New Jersey** – New Jersey's solar siting rule lists several prohibited locations for solar development, including, for example "forest land," "land within the preservation area of the Pinelands area," "land preserved under the "Green Acres Program," "land designated as freshwater or coastal wetlands," etc. If a developer seeks an exemption from these rules, the public utility board can only permit the development after consulting with the state agency and determining if it is in the best interest of the state to allow the development.[xxxi]

**South Dakota** – Energy Facility Siting Rules require applicants to address environmental issues**,** and the PUC expects developers to consult with the Fish and Wildlife Agency. These rules only apply to solar developments 100MW and greater.[xxxii]

## SFWA Input on Local Siting Standards

**Illinois** – A new 2023 law requires county decisionmakers to use the Illinois DNR Ecological Compliance Assessment tool and consult with the Natural Resources Agencies and comply with the agency's concerns before a permit can be issued.[xxxiii]

## Voluntary Solar Siting or Operational Guidelines

**Arizona** – In 2010, the Arizona Game and Fish Department issued *Guidelines for Solar Development in Arizona***.**[xxxiv] This comprehensive voluntary guide encourages early consultation with the department and the avoidance of habitat fragmentation and includes information about all the applicable regulations and tools for ecological assessment and environmental review.

**Georgia** – Consulting with the SFWA is voluntary, but often is required by the major utilities for proposed commercial projects. The SFWA and the Environmental Protection Division produced a voluntary guidance document: *2023 Recommended Practices for the Responsible Siting and Design of Solar Development in Georgia*.[xxxv]

**Kentucky** – Solar development is permitted either locally or through the State Siting Board, but in both cases the SFWA has no formal or informal role. The SFWA produced a model ordinance that encourages local governments to consider natural resource impacts.[xxxvi]

**Louisiana** – The Louisiana Division of Wildlife's Wildlife Diversity Program encourages developers to avoid impacts on natural resources as they design solar projects, and the SFWA will conduct a review when requested.[xxxvii]

**Michigan** – There is municipal jurisdiction over solar siting. The Department of Environment, Great Lakes, and Energy has a solar resources webpage for local governments that includes model ordinances and master plans that incorporate natural resource considerations.[xxxviii]

**Missouri** – Solar developments can be denied "Renewable Energy Standard" certification if they do not have a "low impact certification." A low impact certification can be denied if, among other things, "the facility has significant and unresolved violations of existing federal or state air, water, or land environmental regulations; or . . . the facility has not adhered to forestry or agricultural best management practices consequently resulting in undue adverse air, water, or land use impacts, and that agreement cannot be reached on actions that the utility or generation facility will undertake that are sufficient to offset or mitigate the adverse impacts." There also is voluntary guidance for pollinator habitat.[xxxix]

**Nebraska** – The Nebraska Game and Parks Commission developed statewide recommendations designed to help developers minimize potential environmental impacts that could result from development and operation of utility scale photovoltaic project.[xl]

**New Mexico –** The New Mexico Department of Game and Fish offers voluntary guidance for developers to encourage incorporation of conservation measures into the development project. While it has specific guidance for wind development, there is no guidance specific to solar.[xli]

**New York** – There is municipal jurisdiction over solar developments that are under 25 MW. New York State Energy Research & Development Authority (NYSERDA) has published a 2023 Solar Siting Guidebook for local governments.[xlii]

**North Carolina** – The North Carolina Wildlife Commission produced a Preferred Siting Guidance Document, and there are some additional best management practices related to pollinator habitat [xliii]

**Oregon-** Oregon Department of Fish and Wildlife has developed solar siting guidance[xxxviia] to assist with project development and review in relation to potential impacts to habitat and wildlife. This document was designed to highlight the typical permit review process in the state, whether through the state or a county pathway.

**Pennsylvania** – Solar development is regulated by local government. There is a model ordinance that includes natural resource considerations**.** The Pennsylvania Department of Environmental Protection also has published a webpage with its grid-scale solar siting policy. **[xliv]**

**Rhode Island** – Solar development is regulated by local government. There is a model ordinance that includes natural resource considerations, and the state energy office has a program to

incentivize certain solar development. More work is being done to include natural resource siting criteria.[xlv]

**South Carolina** – The Department of Natural Resources provides technical guidance for the development of wildlife and pollinator habitat at solar farms and provides voluntary solar best practices including a siting suitability tool.[xlvi]

**Texas** – The SFWA provides technical guidance to developers through interaction with staff and program webpages and they are in the process of drafting renewable energy development guidelines. [xlvii]

**Wisconsin** – The DNR has published Solar Siting guidelines and requirements that are voluntary for projects that are under 100 MW and subject to local permits, and are required for larger projects, which are reviewed by the state Public Service Commission. [xlviii]

***** *Note that there are also Voluntary Best Management Practices for Solar Development Compatible with Conservation of Gopher Tortoises that were developed by USFWS and apply to developments in Alabama, Georgia, Florida, Louisiana, Mississippi, and South Carolina.*[xlix]

Last Update: February 2024

# Voluntary Decision-Support Tools for Use in Siting
(GIS, databases, lists)

Please see the State Fish and Wildlife Agency Energy Resources Link Repository for additional and updated links.

**Arizona** – **Arizona Online Environmental Review Tool and the Arizona Wildlife Conservation Strategy.**

**California** – General GIS tools are available.

**Connecticut** – Solar Environmental Permitting Fact Sheet with links to tools. [l]

**Delaware** – General GIS tools are available.

**Florida** – General GIS tools are available.

**Georgia** – Low Impact Solar Siting tool[li] and Recommended Practices for Responsible Siting and Solar Design with links to applicable tools.[lii]

**Hawaii** – State Renewable Mapping and Proposed Energy Project Tools**.** [liii]

**Illinois** – EcoCat and Solar Site Pollinator Scorecard tool.[liv]

**Indiana** – General GIS tools are available.

**Kansas** – General GIS tools are available.

**Louisiana** – The Southern Great Plain Crucial Habitat Assessment Tool.[lv]

**Maine** – Technical guidance document for utility scale solar development on agricultural, forested, and natural lands [lvi] and general GIS tools.

**Maryland** – Energy Siting Tools[lvii]

**Massachusetts** – Biomap 2[lviii]

**Minnesota** – State Commercial Solar Siting Guidance document and the Minnesota Conservation Explorer tool.[lix]

**Nebraska** – General GIS tools are available.

**New Jersey** – General GIS tools are available.

**New Mexico** – New Mexico Environmental Review Tool

**New York** – New York DEC's Nature Explorer and the Environmental Resource Mapper.

**Oregon** – Oregon Renewable Energy Siting Assessment and Compass – Oregon's conservation strategy tool.[lx]

**Rhode Island** – General GIS tools are available.

**South Carolina** – SCDNR Solar Siting Tool

**South Dakota** – General GIS tools are available.

**Texas** – Wildlife Habitat Assessment databases, lists and tools [lxi]

**Vermont** – Natural Resources Atlas and the BioFinder [lxii]

**Wyoming –** Natural Resource and Energy Explorer[lxiii]

## No SFWA Input/Regulation of Solar Development

**Alaska** – No regulation of solar development and the SFWA plays no formal or informal role.

**Indiana** – Solar is regulated by local government, but a 2022 law creates default standards for solar siting. These standards included suggested vegetation requirements. They do not reference any habitat or wildlife requirements, or any need to consult with the SFWA.[lxiv]

**Iowa** – All utility scale solar is regulated at the county level. A couple of NGOs produced Local Government Solar Toolkits with model ordinance language that would require early consultation with the SFWA but there is no requirement in law to do so.[lxv]

**Michigan** – No regulation of solar development. General local zoning rules apply, but the SFWA has no formal or informal role.

**Mississippi** – No regulation of solar development. General local zoning rules apply, but the SFWA has no formal or informal role.

**Montana** – Solar facilities are specifically exempted from state permits/review – although bonding is required for decommissioning.[lxvi]

**Tennessee** – No regulation of solar development. General local zoning rules apply, but the SFWA has no formal or informal role.

**Utah** – No regulation of solar development. General local zoning rules apply, but the SFWA has no formal or informal role.

Last Update: February 2024

# Appendix: General Resources on State Renewable Energy Siting Policy

State Fish and Wildlife Energy Link Repository which catalogues all published Solar BMPs from SFWAs and other sources, and will be updated frequently.

For an excellent list of state and NGO resources and tools related to solar energy and wildlife, see Appendix C of The US Department of Energy Office of Energy Efficiency And Renewable Energy's *Solar Impacts on Wildlife and Ecosystem Appendix C Resources and Tools*

US Office of Energy Efficiency & Renewable Energy – Large-Scale Solar Siting

DOE Solar Power in Your Community Guidebook for Local Governments

US Fish & Wildlife Voluntary Best Management Practices for Alabama Solar Industry

Pollinator-Friendly Solar Scorecards, Center for Pollinators in Energy

Solar Energy Development in the Western Mojave Desert, The Nature Conservancy

How to Solar Now, Scenic Hudson

Iowa Solar Siting Resources Guide – a Roadmap for Counties by the Center for Rural Affairs and the Iowa Environmental Council

Voluntary Best Management Practices for Solar Development Compatible with Conservation of Gopher Tortoises: Alabama, Georgia, Florida, Louisiana, Mississippi, South Carolina

Model Solar Ordinances Developed for Five Midwestern States by the Great Plains Institute

Thoughtfully Sited Solar – by Maine Audubon with a link to Best Practices for Low Impact Solar Siting, Design, and Maintenance and a Model Site Plan Regulations and Conditional Use Permits to Support Solar Energy Systems in Maine Municipalities.

Principals of Low Impact Siting and Design, The Nature Conservancy in North Carolina

Georgia Low Impact Solar Siting Tool, The Nature Conservancy

Planning & Zoning for Solar Energy Systems: A Guide for Michigan Local Governments, Michigan State University

Siting Renewable Energy in Oregon – Voluntary Guidelines, Natural Resources Defense Council

Texas Model Ordinance Guidelines for Municipalities, North Central Texas Council of Governments

State, Local, & Tribal Governments Best Practices for Solar, National Renewable Energy Laboratory

Last Update: February 2024

## Endnotes

[i] Sections 403.501-.518, Florida Statute (F.S.)
[ii] https://www.mass.gov/regulations/301-CMR-1100-mepa-regulations#11-05-enf-preparation-and-filing; https://malegislature.gov/Laws/GeneralLaws/PartI/TitleXXII/Chapter164/Section69H
[iii] https://www.mass.gov/info-details/solar-massachusetts-renewable-target-smart-program; https://ag.umass.edu/clean-energy/services/pollinator-friendly-solar-pv-for-massachusetts
Solar impacts on wildlife and habitat report - https://www.energy.gov/sites/default/files/2021-11/Solar%20Impacts%20on%20Wildlife%20and%20Ecosystems%20Request%20for%20Information%20Summary.pdf
[iv] Rule §150-39-1. https://apps.sos.wv.gov/adlaw/csr/readfile.aspx?DocId=53522&Format=PDF WV §24-1-1,24-2-10 and 24-2-11c.
[v] Siting, Construction and Operation of Energy Facilities within the coastal area Ala Admin Code r335-8-2-.10 https://casetext.com/regulation/alabama-administrative-code/title-335-alabama-department-of-environmental-management-land-division-solid-waste-program/coastal-area-management-program/chapter-335-8-2-provisions-related-to-coastal-activities/section-335-8-2-10-siting-construction-and-operation-of-energy-facilities
[vi] §40-360.01. Organization and membership of the committee. "D. The commission shall establish such procedures as provide for expeditious review of the proposed siting plans and necessary consultation with the person proposing the facilities, for noticing and conducting the hearing provided by §40-360.04, and for a timely decision regarding the issuance of a certificate of environmental compatibility of the proposed site." §40-360.06. "Factors to be considered in issuing a certificate of environmental compatibility . . . 2. Fish, wildlife and plant life and associated forms of life on which they are dependent. B. The committee shall give special consideration to the protection of areas unique because of biological wealth or because they are habitats for rare and endangered species."
[vii] CPRC 25545.5 (2022)
[viii] https://portal.ct.gov/DEEP/Planning/Steps-for-Solar-Development; https://portal.ct.gov/-/media/DEEP/Permits_and_Licenses/Factsheets_General/Solar-Permitting-Factsheet.pdf
[ix] FLA §403.507
[x] https://www.capitol.hawaii.gov/sessions/session2008/bills/HB2863_CD1_.htm.
[xi] K.S.A § 32-957 through 32-963, 32-1009 through 32-1012, 32-1033 and K.S.A. § 32-960a and 32-960b, and amendments thereto
[xii] https://planning.maryland.gov/Pages/OurWork/envr-planning/solar-siting/solar-siting-overview-review-approval-process.aspx
[xiii] Minn. Stat. § 216B.1642: Solar Site Management: An owner of a ground-mounted solar site with a generating capacity of more than 40 kilowatts may follow site management practices that (1) provide native perennial vegetation and foraging habitat beneficial to gamebirds, songbirds, and pollinators…. Minn. Stat. § 216E.03: Designating Sites and Routes . . . Subd. 5. Environmental review. a) The commissioner of the Department of Commerce shall prepare for the commission an environmental impact statement on each proposed large electric power generating plant or high-voltage transmission line for which a complete application has been submitted. Subd. 7. Considerations in designating sites and routes. . . (a) The commission's site and route permit determinations must be guided by the state's goals to conserve resources, minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the state's electric energy security through efficient, cost-effective power supply and electric transmission infrastructure.
[xiv] NRS §701.610-NRS §701.640, NRS 701.600, NRS §701-620
[xv] New Hampshire Statutes CH 162-H; Energy Facility Evaluation, Siting, Construction and Operation (2016). The statute has very strong language for the Siting Board: Section Site §301.14 – "Criteria Relative to Findings of Unreasonable Adverse Effects . . . (e) In determining whether construction and operation of a proposed energy facility will have an unreasonable adverse effect on the natural environment, including wildlife species, rare plants, rare natural communities, and other exemplary natural communities, the committee shall consider: . . . (4) The analyses and recommendations, if any, of the department of fish and game, the natural heritage bureau, the United States Fish and Wildlife Service, and other agencies authorized to identify and manage significant wildlife species, rare plants, rare natural communities, and other exemplary natural communities.

[xvi] https://ores.ny.gov/system/files/documents/2021/03/chapter-xviii-title-19-of-nycrr-part-900-subparts-900-1-through-900-15.pdf
[xvii] https://ores.ny.gov/
[xviii] Ch 49-22 (2017)
[xix] https://ohiodnr.gov/static/documents/real-estate/ODNR-Guidance_for_ProposedSolarEnergyFacilities_in_Ohio.pdf
[xx] §215.466 For a renewable energy development, the county must require the applicant to consult with the Department of Fish and Wildlife prior to submitting its final application, and conduct a habitat assessment of the site, and develop a mitigation plan to "address significant fish and wildlife habitat impacts consistent with the administrative rules adopted by the State Fish and Wildlife Commission for the purposes of implementing ORS §496.012. In addition, the law requires that, "(F) If a photovoltaic solar power generation facility is proposed to be developed on lands that contain a Goal 5 resource protected under the county's comprehensive plan, and the plan does not address conflicts between energy facility development and the resource, the applicant and the county, together with any state or federal agency responsible for protecting the resource or habitat supporting the resource, will cooperatively develop a specific resource management plan to mitigate potential development conflicts." In certain cases, "If the applicant's site-specific assessment shows that adverse effects cannot be avoided, the applicant and the appropriate wildlife management agency will cooperatively develop an agreement for project-specific mitigation to offset the potential adverse effects of the facility. Where the applicant and the resource management agency cannot agree on what mitigation will be carried out, the county is responsible for determining appropriate mitigation, if any, required for the facility."
[xxi] 30 VSA §248. https://legislature.vermont.gov/statutes/section/30/005/00248
[xxii] https://www.deq.virginia.gov/laws-regulations/renewable-energy
[xxiii] https://dwr.virginia.gov/wies/environmental-services/; https://dwr.virginia.gov/wp-content/uploads/media/Solar-Energy-Facility-Guidance.pdf
[xxiv] "An applicant must consult with both the PSC and DNR prior to submitting its application under Wis. Stat. § 30.025(1m) and Wis. Admin. Code § PSC 4.70(1). This pre-application consultation process is a series of discussions with the staff of these two agencies. Each agency has its own requirements, but the two agency reviews interrelate. A proposed project may require wetlands, waterway, construction storm water, and any other applicable permits from DNR. DNR Office of Energy staff can help determine permitting requirements during pre-application discussions." https://psc.wi.gov/SiteAssets/2022SolarPowerAFR.pdf
[xxv] https://dnr.wisconsin.gov/topic/Sectors/SolarInstallations
[xxvi] The board of county commissioners can refer to the Siting Board a permit for wind or solar over which they would otherwise have jurisdiction under W.S. §18-5-509 (County referral)
[xxvii] WY §18-5- 503 (G)"provide a detailed summary of any significant adverse environmental, social or economic effects that the proposed facility may have together with any preliminary plans developed to alleviate any of the adverse effects."
https://www.fishwildlife.org/application/files/6816/2878/3902/WGFD_Wind_and_Solar_Energy_Development_Guidelines_Final_January2021.pdf
[xxviii] A "major utility facility" but provide an environmental impact statement that fully develops 6 factors including its impact on "the ecology of the land, air, and water environment" and whether there are "adverse environmental effects that cannot be avoided." The Arkansas Public Service Commission must invite comments from all state agencies who are parties by right to the proceedings. AR Code § 23-18-510 – 514 (2020).
[xxix] "The Idaho Department of Fish and Game is entrusted with the responsibility to preserve, protect, perpetuate, and manage the fish and wildlife resources of the State for its citizens. This requires the Department to review and comment on a broad spectrum of development projects throughout the State regarding the potential effects on all fish and wildlife species and their associated habitats. The Department provides comments to the permitting entities and decision makers to assist with decisions related to various proposals. The Department also suggests options to avoid or mitigate a project's potential for detrimental effects. The Department is responsible for issuance of scientific banding, collecting or possession permits for fish and wildlife pursuant to Idaho Code §36-106 e.5. These may be required for project studies and require four to six weeks for approval and issuance. Energy Infrastructure Projects could also be impacted by the Idaho State Wildlife Action Plan, 2015, Idaho Department of Fish and Game and Sage Grouse Conservation and Management, Idaho Department of Fish and Game."
https://oemr.idaho.gov/energy-infrastructure/agencies/

[xxx] Maine Solar Energy Act Title 35-A, § 3473 (2019). Natural Resources Protection act. 38 M.R.S. §§ 480-A to 480-JJ.
[xxxi] https://casetext.com/regulation/new-jersey-administrative-code/title-14-public-utilities/chapter-8-renewable-energy-and-energy-efficiency/subchapter-12-siting-rules-for-grid-supply-and-large-net-metered-solar-facilities
[xxxii] https://sdlegislature.gov/api/Rules/20:10:22.html.
[xxxiii] Ill County Code § 5-12020.
[xxxiv] https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/FinalSolarGuidelines03122010.pdf
[xxxv] https://georgiawildlife.com/sites/default/files/wrd/pdf/GA%20Recommended%20Practices%20for%20Solar-%20Fall%202023%20-%20V1.0.pdf
[xxxvi] https://apps.legislature.ky.gov/CommitteeDocuments/261/13556/KRC%20Model%20Solar%20Zoning%20Ordinance%202.3.pdf
[xxxvii] https://www.wlf.louisiana.gov/resources/category/landowner-assistance#1; https://www.wlf.louisiana.gov/page/request-wildlife-diversity-project-review-or-digital-data
[xxxviii] https://www.michigan.gov/egle/about/organization/materials-management/energy/communities/series/solar-energy-webinars
[xxxix] §393.1030 RS Mo. https://dnr.mo.gov/energy/energy-resources/renweable-energy-standard-res-certification; The Missouri Pollinator Habitat Planning Scorecard for Solar Sites
[xl] https://outdoornebraska.gov/wp-content/uploads/2023/03/NGPC-Solar-Energy-Guidelines-Updated-2022.pdf
[xli] https://www.wildlife.state.nm.us/conservation/habitat-handbook/
[xxxviia] https://www.dfw.state.or.us/habitat/solar/siting_guidance.asp
[xlii] https://www.nyserda.ny.gov/All-Programs/Clean-Energy-Siting-Resources/Solar-Guidebook with a model ordinance for local adoption.
[xliii] https://www.ncwildlife.org/Portals/0/Conserving/documents/GGT/Manual/Solar%20facilities%20Green%20Growth%20Toolbox%20recommendations%20factsheet_NC%20Wildlife%20Commission_1.pdf
[xliv] Model ordinance for local adoption: https://www.dvrpc.org/energyclimate/modelordinance/solar/pdf/2016_dvrpc_solar_reof_reformatted_final.pdf; https://www.dep.pa.gov/Citizens/solar/Pages/Solar-Siting-Policy.aspx
[xlv] http://www.energy.ri.gov/renewable-energy/solar/model-ordinance.php; https://energy.ri.gov/sites/g/files/xkgbur741/files/documents/renewable/Solar_Siting_Information_Public_PPT_Feb_2019.pdf; https://energy.ri.gov/renewable-energy/wind/renewable-energy-growth-program-reg-program
[xlvi] https://www.dnr.sc.gov/solar/assets/pdf/solarHabitatGuide.pdf; https://www.dnr.sc.gov/solar/
[xlvii] https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/habitat_assessment/;
[xlviii] https://dnr.wisconsin.gov/topic/Sectors/SolarInstallations
[xlix] https://www.fishwildlife.org/application/files/3216/2878/3832/GTC_Solar_Developer__BMPs.pdf
[l] https://portal.ct.gov/-/media/DEEP/energy/IRP/2020-IRP/Appendix-A5--Siting-Solar-Fact-Sheet.pdf
[li] https://www.arcgis.com/apps/webappviewer/index.html?id=f989b93ec9e54488ba925b478b7dab9e
[lii] Recommended Practices for the Responsible Siting and Design of Solar Development in Georgia
[liii] https://energy.hawaii.gov/information-center/project-development-center-tools/renewable-energis-mapping-tool/; https://energy.hawaii.gov/information-center/project-development-center-tools/proposed-energy-projects/
[liv] https://dnr.illinois.gov/programs/ecocat.html; https://dnr.illinois.gov/conservation/pollinatorscorecard.html
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[lvi] https://www.maine.gov/dacf/ard/resources/docs/dacf-solar-guidance-182021.pdf
[lvii] https://dnr.maryland.gov/pprp/Pages/Energy-Siting-Tools.aspx
[lviii] https://www.mass.gov/info-details/biomap-the-future-of-conservation-in-massachusetts
[lix] https://files.dnr.state.mn.us/publications/ewr/commercial_solar_siting_guidance.pdf; https://mce.dnr.state.mn.us/
[lx] https://compass.dfw.state.or.us/visualize/#x=-120.50&y=44.09&z=6&logo=true&dls%5B%5D=true&dls%5B%5D=0.5&dls%5B%5D=549&basemap=ESRI+Satellite&tab=data&print=false

[lxi] https://tpwd.texas.gov/huntwild/wild/wildlife_diversity/habitat_assessment/preproject.phtml
[lxii] https://anrmaps.vermont.gov/websites/anra5/;
https://anr.vermont.gov/maps-and-mapping/biofinder
[lxiii] https://nrex.wyo.gov/
[lxiv] https://www.in.gov/oed/files/IC-8-1-42.pdf
[lxv] https://betterenergy.org/wp-content/uploads/2016/08/Iowa-Toolkit-May2020.pdf;
https://www.iaenvironment.org/webres/File/Solar%20Siting%20Guide%202_20_20.pdf
[lxvi] Title 69 MCA Chapter 8 (2020) https://deq.mt.gov/energy/assistance