2021-2022

RESEARCH + MANAGEMENT REPORT

Habitat Conservation and Management

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2021-22 RESEARCH & MANAGEMENT REPORT

Maine Department of Inland Fisheries and Wildlife protects and manages Maine's fish and wildlife and their habitats, promotes Maine's outdoor heritage, and safely connects people with nature through responsible recreation, sport, and science.

Habitat Conservation & Management

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» Bird Conservation & Management

» Reptile, Amphibian, and Invertebrate Conservation & Management

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Maine Department of Inland Fisheries & Wildlife

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The Department of Inland Fisheries and Wildlife receives Federal funds from the U.S. Department of the Interior.

Accordingly, all Department programs and activities must be operated free from discrimination in regard to race, color, national origin, age or handicap. Any person who believes that he or she has been discriminated against should write to The Office of Equal Opportunity, U.S.

HABITAT CONSERVATION & MANAGEMENT

What We Do

Habitat Group creates and maintains the Wildlife Division's database of wildlife observations and habitats. We provide this data to municipalities and organizations for numerous purposes including regulatory reviews, oil spill planning, species management, conservation planning, and education, and we also develop custom applications to make the data available to Department staff, other state agencies, conservation partners, and the public.

Each of these uses requires a different type of data, and often it's just a portion of what we have available. For example, regulatory maps are political/social compromises – they include only about half of the habitat in Maine and are based on legal definitions. In the regulatory world, an area is either regulated or unregulated, so while a habitat may in reality evolve or exist on a gradient, the maps remain black and white.

By contrast, oil spill response, species management, and conservation planning efforts focus on relative values, which vary with environmental gradients, proximity to other habitats, disturbances, and other elements of the landscape.

On a day-to-day basis, we provide a range of technical support, primarily with mapping and wildlife/habitat databases, but also with general network and server issues. Unlike other Wildlife Research and Assessment Section (WRAS) groups, which often work on numerous, specific projects with a beginning and an end, much of Habitat Group's work involves maintaining, enhancing, and creating new ways to leverage existing data sets.

Meet the Game Habitat Group

Donald Katnik, Ph.D.
Habitat Group Leader/Oil Spill Response Coordinator

Supervises Group activities and coordinates habitat-related projects with other Department staff and other state and federal agencies. Coordinates oil spill response planning efforts for the Department, including training, identifying and prioritizing sensitive areas, and developing spill response plans. Represents the Department in Natural Resource Damage Assessments.

Jason Czapiga
Wildlife Biologist and Senior Programmer Analyst

Maintains the Department's mapping applications and databases. Develops and manages online mapping and data collection applications. Represents the Department's GIS needs on the state GIS Council. Provides assistance to Department staff on a wide range of technical issues and data needs.

Amy McLaughlin
Wildlife Biologist and GIS Specialist

Collects wildlife habitat data from regional wildlife biologists and others. Creates and maintains computer databases. Conducts field inventories of wildlife habitat and provides Geographic Information Systems (GIS) support for a variety of projects.

MaryEllen Wickett, Ph.D.
Wildlife Biologist and Senior Programmer Analyst

Creates and maintains customized applications and tools for accessing and using the Department's fish and wildlife habitat data both within and outside the agency. Creates, analyzes, and maintains wildlife, habitat, and harvest databases. Provides technical support and habitat data analyses for landscape planning efforts and development of species' habitat models.

Becca Settele
Wildlife Biologist

Assists with creating and maintaining databases of wildlife observations and habitats, particularly significant wildlife habitats. This includes mapping wildlife observations and habitats based on mapping protocols developed with species specialists. Aids in vernal pool review and entry. Assists the Department's Environmental Review program with reviewing project applications filed under state, federal, and local regulatory jurisdictions. Coordinates project reviews among Department staff to ensure consistency with the Department's objectives.

Mapping Hunting Boundaries

Maine is a beautiful state, with its vast forested landscape interspersed with rugged mountains, thousands of water bodies, and an extensive coastline. Maine is also one of the country's most privately owned states, with 94% of its land under private ownership. The voluntary access permitted by many landowners is an incredible gift to recreationists, including hunters and trappers; and it's also vital for the preservation and management of Maine's wildlife.

HUNTING BOUNDARY GIS FILES NOW AVAILABLE TO THE PUBLIC

In 2021, aiming to make the process of boundary identification more user-friendly and accessible, the Habitat Group completed a review of the Department's hunting boundary files and made them available to the public. We started by comparing the existing mapped boundary files with the written descriptions in the law for accuracy, and then editing one or the other where necessary so they would match.* Once the mapped areas and written descriptions were fully aligned and documented, we published them to ArcGIS Online and shared them via the **Maine Geolibrary data catalog** for public use. The completed hunting boundary files include:

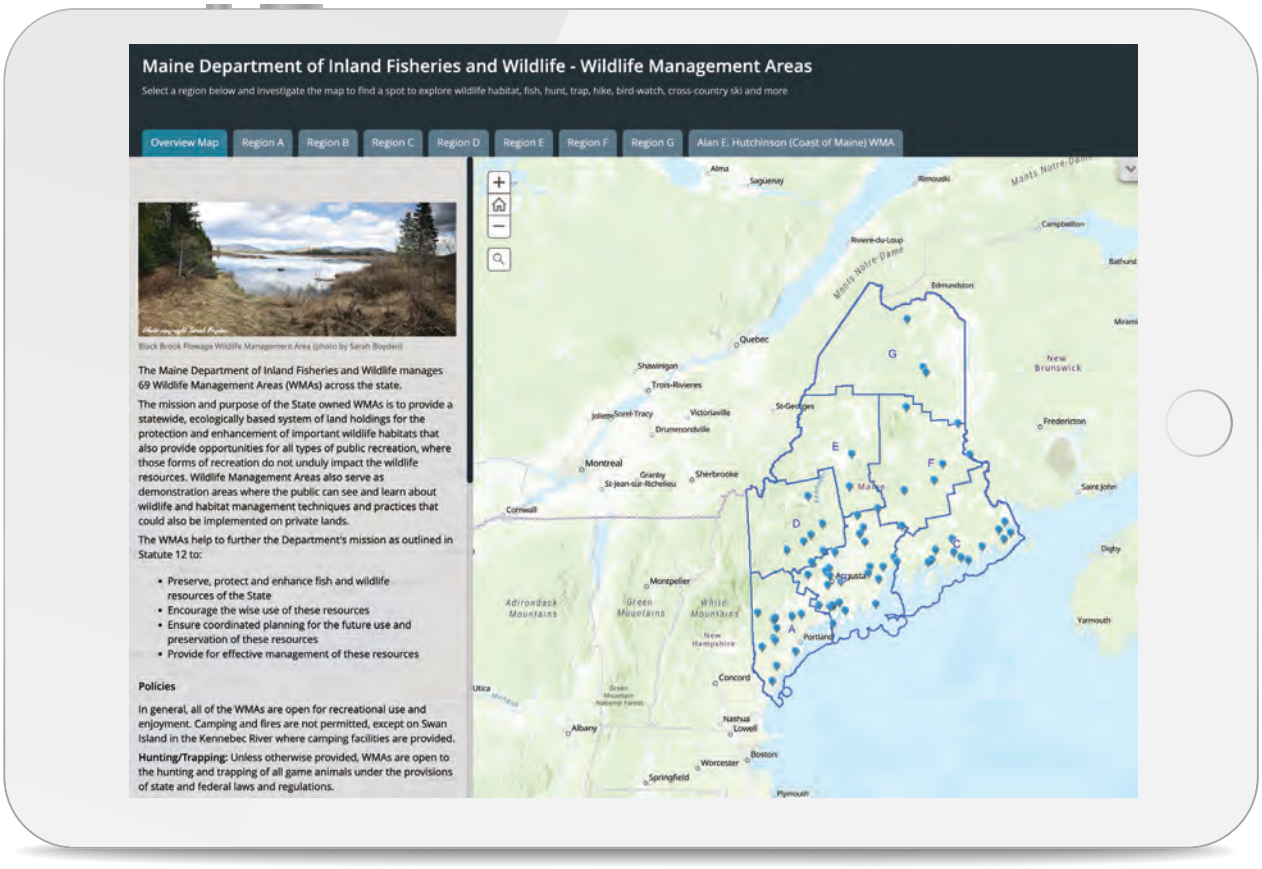
- **Wildlife Management Districts (WMDs)**
- **Expanded Archery Areas**
- **Waterfowl Hunting Zones**

Having these digital boundary files available to use on their devices in the field will make it easier for hunters to stay within their hunt's legal boundaries and will help to ensure respectful and appropriate use of private land.

Chapter 16 (09-137c16) of the MDIFW Rules contains the written descriptions of these boundaries. Refer to the following sections for written descriptions of each specific area:

Wildlife management districts – section 16.15
Expanded archery – section 16.07.7
Waterfowl hunting zones – section 16.11.12

**Mapped boundaries are for reference purposes only. For precise boundary delineation, please refer to the written boundary description. Boundaries and imagery may not overlay precisely due to digitizing errors, differences in projections, and the scale at which these boundaries were drawn. Where any discrepancies occur between a mapped feature and the written description, the written description takes precedence.*



NEW GIS STORYMAP PROVIDES IN-DEPTH INFO ON WILDLIFE MANAGEMENT AREAS

In addition to making these boundaries available, the Habitat Group produced a **Wildlife Management Area ArcGIS StoryMap**. MDIFW owns 61 Wildlife Management Areas (WMAs) covering roughly 106,000 acres of land. WMAs provide statewide, ecologically based land systems for the protection and enhancement of important wildlife habitats; and they also create opportunities for all types of public recreation including hunting and trapping. This StoryMap provides information on each WMA, including its purpose, management strategy, wildlife, habitat, and recreational opportunities, as well as access points and boundaries. You can find the WMA StoryMap at **mefishwildlife.com/wma.**

You can also view **Maine's Wildlife Management Areas** and **WMA Access Points** via the Maine Geolibrary data catalog.

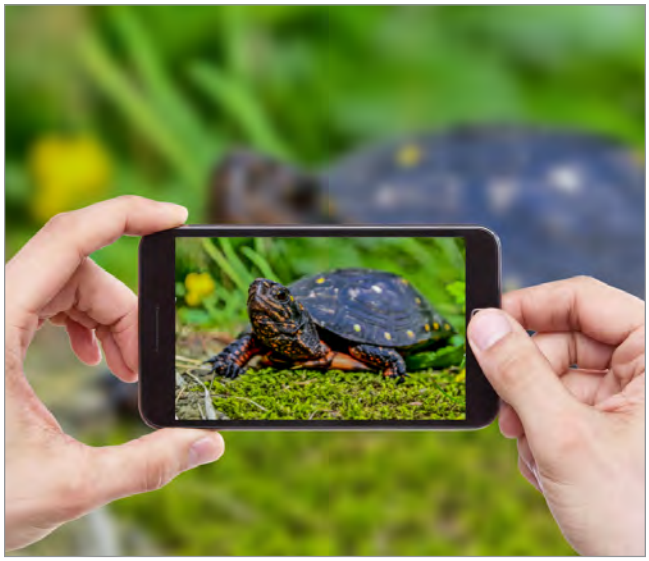
MORE MAPPING TOOLS COMING SOON

The Department is currently working on a webmap of hunting boundaries compatible with the ArcGIS Explorer mobile application. If you have ArcGIS Explorer, or plan to install it on your mobile device, look for the Maine Hunting Boundaries Webmap in Fall 2022. Future plans also include a dashboard/interactive mapping application for the web including hunting boundaries; and eventually, an MDIFW mobile app for hunters.

Going Paperless and Capturing Volunteer Effort

Don Katnik

Like many government agencies, Maine Department of Inland Fisheries and Wildlife has a lot of different forms that we use to collect information from the public. Some are for hunters and anglers to report their success, while others are for citizen scientists submitting biological data to the Maine Amphibian and Reptile Atlas Project (MARAP), New England Cottontail sightings, and more.

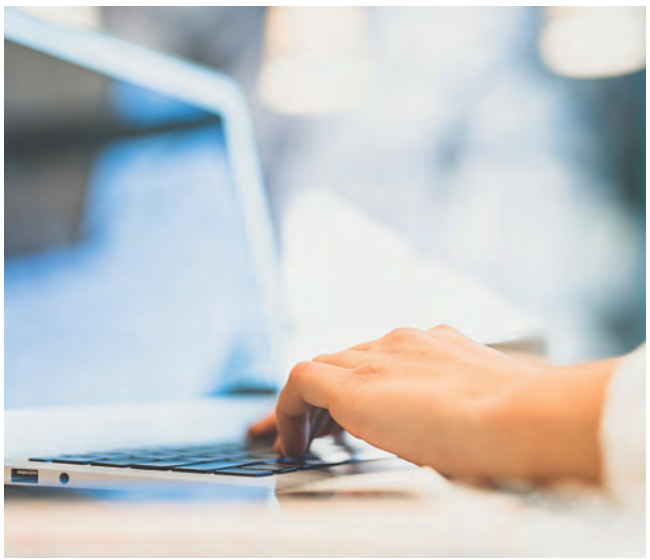


Traditionally, these forms have all been paper documents that had to be distributed, filled out, collected, and manually entered into a database before we could use the information. We are now working to replace them with electronic (web-based) forms to save paper and to improve efficiency. In most cases, a web "form" is just a web page that has text boxes and drop-down lists to capture information. We use them all the time to do things like purchasing airline tickets, buying stuff online, or ordering take-out food. The user just needs a web browser to access the form, and the information is automatically saved into the database with no need to distribute or collect the form or to key data in manually.

ARE YOU A BIOLOGIST, OR A WEB PROGRAMMER?

Web programming, as the name implies, is the process of creating a web page and all the content on it. Some types of content, like text and images, are static. Other types, like web forms, are dynamic – they do things when the user interacts with them. There is computer code behind the web page that makes all this magic happen. If you want to see what it looks like, go to any web page and right click your mouse button, then select the option, "View Source" (in Chrome) or "View Page Source" (Microsoft Edge). What you will see behind the web page is probably a mix of web programming languages like JavaScript, HTML, and CSS. There are many other languages. It can get complicated, and the technologies involved are constantly evolving.

When I was in graduate school learning to be a wildlife biologist, the Internet existed (sort of), but Microsoft Windows/Office did not. Flash drives had not been invented yet and phones were not mobile. Needless to say, there were no web programming courses in the wildlife curriculum (I doubt there are now). So most biologists consider web programming "outside their wheelhouse." And for those of us tasked with doing it, we have to learn it on the job.



CAPTURING VOLUNTEER EFFORTS

Some of the work that the Department does, like conducting wildlife surveys, is beyond what we can accomplish with existing permanent staff. Volunteer assistance from the public not only allows us to do this valuable work; it also helps with our funding, much of which comes from Federal grants that require matching funds from the state. Our volunteers' efforts essentially allow the Department to accomplish more without adding more permanent staff, and that cost savings can be used as stateside match for Federal grants. But we have to document those efforts.

We used to use paper forms to document volunteer efforts — a process that was slow and inefficient. This past year, the Department launched a web form to replace those paper ones. The new web form allows volunteers to register with the Department for a particular project, submit a timesheet documenting the hours they worked, or both. It's a work in progress — right now we are only using it for one project— but we plan to expand it to many of our projects that rely on volunteers.