

# COOKING UP

# CONSERVATION SUCCESS

Recipes across the  
U.S. Important Bird Areas Network



## ABOUT AUDUBON

Audubon's mission is to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity.

[www.audubon.org](http://www.audubon.org)

## ABOUT IMPORTANT BIRD AREAS

Coordinated by BirdLife International, the Important Bird Areas (IBA) Program is a global initiative that aims at identifying and conserving the most important places for bird populations. The foundation of the Important Bird Areas Program is its emphasis on science-based identification, assessment, and conservation of birds and the habitats they need to survive. As the United States partner of BirdLife International, the National Audubon Society administers the Important Bird Areas Program in the U.S., in coordination with local entities.

[www.importantbirdareas.org](http://www.importantbirdareas.org)



# Local Stewardship is Critical to Conservation

Representing the most effective places for targeting protection of birds and their habitats, Important Bird Areas serve as the foundation for many of Audubon's landscape level and regional initiatives and have been integrated into broader planning efforts across the matrix of bird conservation partners. Since the U.S. program was initiated in 1995, Audubon and partners have identified over 2,600 Important Bird Areas across all fifty states, encompassing over 380 million acres of critical habitat for threatened birds, birds with small ranges, birds requiring unique habitat types, and birds that are highly concentrated in particular areas. These sites join a network of over 12,000 Important Bird Areas scientifically identified worldwide, through the coordination of BirdLife International. Collectively, these places serve as the roadmap for protecting birds throughout their life cycle, in breeding, wintering, and in migration.

As Important Bird Areas consist of a mix of private and public lands, varied strategies are called upon to conserve these places. Science is critical to the identification of these places; however, the true power of the program is in the engagement of people and the collaboration across partnerships. Over 230 stewardship groups and hundreds of volunteers are actively engaged in conservation at over 400 Important Bird Areas, and these numbers continue to grow. Stewardship groups have been involved in inventory and monitoring of birds and habitats, restoration and enhancement, conservation planning, education and outreach, policy and advocacy efforts, fundraising activities, and more. As we consider the multitude of pressures these birds and habitats face and Audubon's 2014 Birds and Climate report, forecasting that half of our bird species may be in trouble as a result of climate change, there is an intensified need for awareness and action. With local attention focused on these critical places across this network, we can achieve global impact.

With this sampling of conservation recipes, we highlight the innovation, dedication and achievements of the many volunteers, Audubon staff and partners championing the network of Important Bird Areas. We hope this compilation will guide and inspire other groups and individuals to develop their own recipes for success, considering the unique mix of ingredients involved in caring for the birds and their critical places.



Let's get cooking!

*Connie Sanchez*

Constance Chen Sanchez  
Director, Important Bird Areas Program  
National Audubon Society

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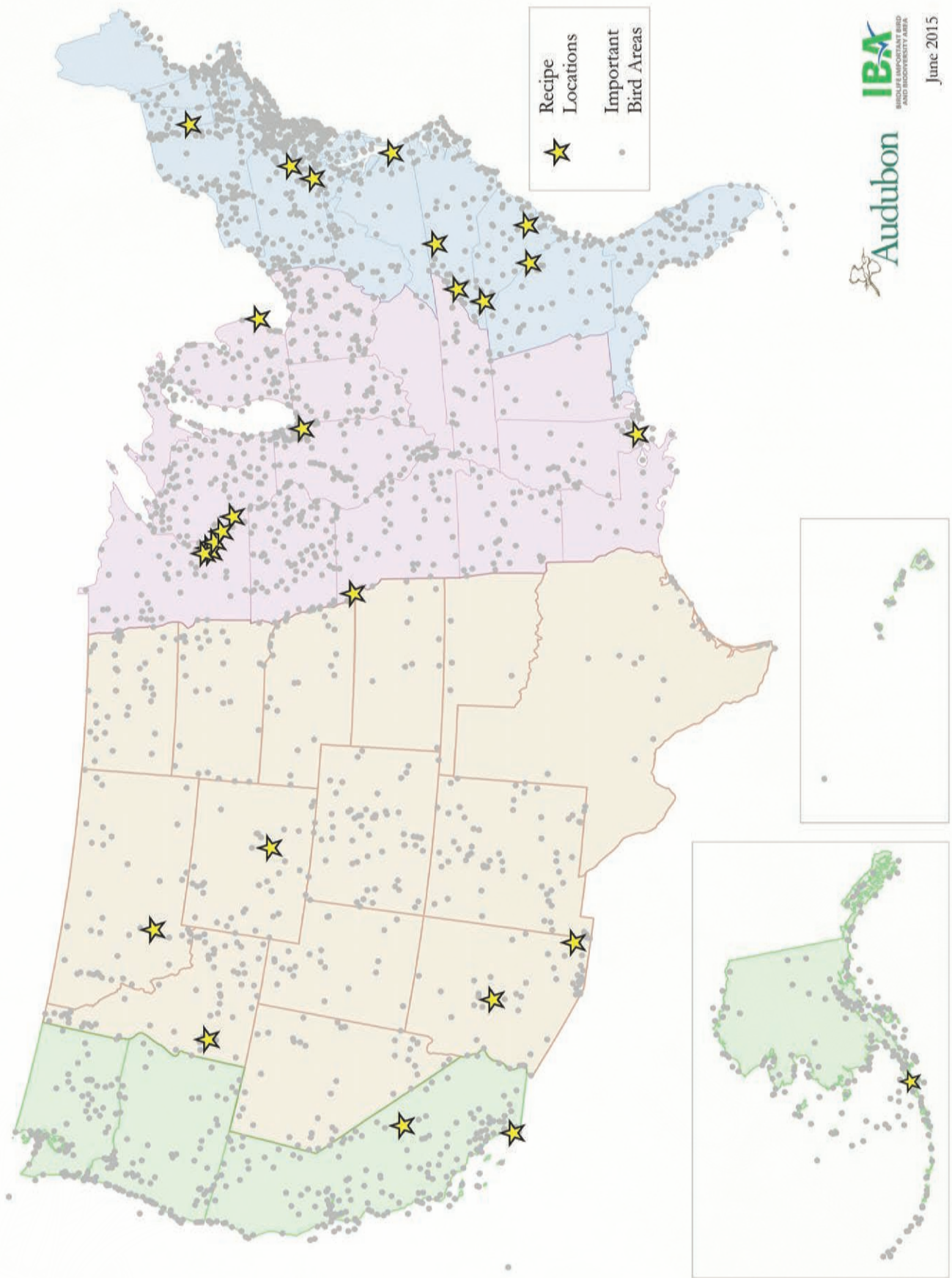
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# Important Bird Areas Recipes Across the United States



## Notes from the Network



“We can’t forget that the little things matter—the actions we take in our daily lives, at work, and in our communities that benefit birds, all add up to a better world for birds and people.”

—**Dr. Gary Langham,**  
**Vice President and Chief Scientist,**  
**National Audubon Society**



“The one truly effective way of protecting Important Bird and Biodiversity Areas, and the key fauna and flora they contain, is through the commitment of local people working for the sites they know and care about. This applies everywhere across the BirdLife Partnership and is essential to the long-term future of majority of the 12,000 or so IBAs recognized worldwide.”

—**Dr. Lincoln Fishpool,**  
**Global Science Coordinator (IBAs), BirdLife International**

“Audubon’s education and outreach programs are among our most effective tools in helping young people as well as older citizens to become exposed to and directly experience the value of our Important Bird Areas through STEM and action-based conservation projects. Each point of engagement that we make with an IBA through education and outreach is with people from diverse backgrounds and communities who are or will be future landowners, consumers, voters, lawmakers, scientists, engineers and will be inspired possibly to become community conservationists as well.”

— **Dr. Chandra Taylor Smith, Vice President,**  
**Community Conservation and Education,**  
**National Audubon Society**



## The Basics: Questions to Ask

Why is the Important Bird Area (or other priority place) important?

Key birds and habitats at this place?

Threats these birds and habitats face?

Who owns the land?

Types of activities already happening?

What partners are already involved?

What am I interested in doing?

What skills, expertise can I or my group offer?

What am I best suited to do? How can I help?



# The Basics of **Monitoring**

**DEFINITION:** *Observing and checking quality and quantity over a period of time. Bird monitoring specifically refers to tracking changes in bird numbers. With Important Bird Areas, we encourage assessment, which not only tracks changes in bird numbers but also monitors threats and site conditions at Important Bird Areas as well.*

## **GOALS:**

1. Provide initial inventory of birds, habitat conditions, and threats places are facing.
2. Increase understanding of trends and how birds and site conditions are changing to inform conservation decisions and adaptive management.

Periodic evaluation of birds, habitats, and threats is critical to the long-term conservation and management of sites and species. Data collected through assessment and monitoring help track changes and trends in bird numbers, pressures these birds and places are facing, and condition of site. Information collected can help in determining what conservation actions may be appropriate to take and in evaluating the success of previous conservation activity.

## **WHAT TO CONSIDER IN MONITORING:**

**Step 1** Goal of your specific monitoring/assessment project?

**Step 2** What are you monitoring—what species, habitat, threat, etc.?

**Step 3** Existing protocols?

**Step 4** Who is monitoring/conducting assessment?

**Step 5** How will information be compiled?

**Step 6** What types of results are you seeking?

## **TOOLS NEEDED:**

- ◆ Monitoring Plan—What are your goals, timeline, methods and resources?
- ◆ Observers/Citizen Scientists—Who will be doing the monitoring?
- ◆ Technology—How will you collect, manage, and share the data? Consider tools such as eBird, an online database for reporting bird observations.
- ◆ Individuals with good communication skills.
- ◆ Social media training and skills.

# The Basics of Restoration



**DEFINITION: Restoration\*:** *Management of the physical, chemical, or biological characteristics of a site with the goal of repairing or returning natural/historic functions to pre-degraded conditions. Restoration is a broad category for on-the-ground conservation actions which includes establishing areas of new habitat, protection of existing habitat, habitat enhancement and ongoing maintenance.*

## GOALS:

1. The recovery of an ecosystem that has been degraded, damaged or destroyed.
2. Repair ecosystem services and increase habitat connectivity.
3. Enhance and protect biodiversity.

Habitat restoration is typically the implementation phase of considerable conservation planning efforts. The conservation planning process outlines the threats, focal species to protect/monitor and actions needed in order to mitigate or avoid the threat. In the scope of conservation planning, habitat restoration and on the ground activities are only one part of the entire plan. It should be noted that habitat protection, enhancement and restoration activities are intricately linked to and informed by monitoring.

## WHAT TO CONSIDER IN RESTORATION:

- Step 1** What is the habitat type most in need of restoration activities for birds and wildlife in your area?
- Step 2** What are the goals of your specific restoration project: species based, population based, habitat structure based?
- Step 3** Research Best Management Practices and existing protocols; what will work best for your project area?
- Step 4** Are there existing plans that outline habitat restoration activities for the habitat type of interest?
- Step 5** Who are the project partners and what are their roles?
- Step 6** Where is the work going to occur and under what kind of timeframe?
- Step 7** Who is conducting the restoration work?
- Step 7** Are permits required?
- Step 8** How will this project be monitored?
- Step 9** Is there a maintenance schedule needed for this work?
- Step 10** How and when do you define project success and completion?

## TOOLS NEEDED:

- ◆ Project plan—outlining need, threats, goals, objectives, resources, actions, and timeframe.
- ◆ Access to site area either through direct ownership or partnerships with public agencies, allied non-governmental organizations or private landowners.
- ◆ Staff with expertise in restoration techniques.
- ◆ Access to labor either through direct employment or contracts.
- ◆ Access to restoration equipment either through direct ownership or contracts.
- ◆ A monitoring plan to help direct and complement project activities.

\*source EPA: generalized federal agency definitions



# The Basics of Outreach/Engagement

**DEFINITION:** *Outreach and engagement refers to meaningful and mutually beneficial collaborations with members of the public and partners.*

## GOALS:

To raise awareness and inspire people to celebrate birds and wildlife, leading to participation in habitat protection efforts. A constituency built around the need for conservation will ensure a balanced ecosystems and a healthy environment for future generations.

## WHAT TO CONSIDER IN ADVOCACY:

**Step 1** Determine the GOAL of outreach/engagement effort.

**Step 2** Identify how you'll EVALUATE SUCCESS of your outreach/engagement effort and put in place necessary steps. Determine metrics—tracking and reporting number of people engaged.

**Step 3** Decide WHO YOU ARE TRYING TO INFLUENCE:

- ◆ Identify decision-makers you are trying to influence and potential leverages for each.
- ◆ Strategies must always be tailored to the decision maker or makers (sometimes multiple).

**Step 4** BUILD ALLIANCES: Determine entities that might share your goal that you could possibly partner with, either publically or behind the scenes. Be sure to consider creative collaborations with other local entities that have common concerns.

**Step 5** COME TOGETHER: Hold a strategy meeting with relevant partners to discuss concerns and develop proposed solutions.

- ◆ Be sure everyone is in agreement on objectives/goals and meaning of “success”.
- ◆ Be clear about groups' strengths and limitations.
- ◆ Go through facts, determine information gaps and how to address them.

**Step 6** ENGAGE DECISION-MAKERS:

Are there existing opportunities to engage the decision-makers (i.e. Public meetings or events with decision-makers)?

Seek a meeting with decision-maker with clear agenda and specific asks and arguments.

**Step 7** ENGAGE THE PUBLIC: Mobilizing the public for a common purpose is valuable, through outreach and awareness building. Be sure your goal is clear. Increase social participation— develop a list of ways people can help out and make it easy.

**Step 8** ENGAGE THE MEDIA: Media is the maker and shaper of images, their role is then very important in making outreach/engagement successful. Utilize the three types of media: Print media, Electronic media, Social media. Consider strategies whereby media can be used to build awareness and change public opinion on an issue. Be sure to consider your target audience and find the



specific media that will best reach that audience or a number of different audiences. Media strategy should specify what action is needed.

**Step 9** REVIEW & ADJUST: As outreach/advocacy efforts proceed, review objectives, facts needed, and participants. Adjust accordingly. Maintain communication with participants to maintain energy/momentum.

### **TOOLS NEEDED:**

- ◆ Individuals who possess the following qualities: passionate, diplomatic, persuasive, sensitive, tactful, resilient, credible, dependable, knowledgeable, resourceful, strategic, pleasant.
- ◆ Individuals with good communication skills.
- ◆ Social media training and skills.



# The Basics of **Grassroots Advocacy**

**Definition:** *Grassroots advocacy is communicating concerns and information about birds and bird conservation to decision makers, with an emphasis on how policies and programs impact conservation in the community or at the state level.*

Audubon, with its distributed network of chapters and grassroots activists across the country, science-based positions and thoughtful approach to conservation, is ideally suited to be a best in class grassroots advocacy organization.

## **GOALS:**

1. Encourage and nurture activism for all. Imbue a sense of activism as a key conservation strategy. Identify the risks of not undertaking activism and enable more activism by sharing basic tools.
2. Identify and train individuals who will assume a leadership role in key districts and states.
3. Provide a community of support for chapters interested in policy and advocacy.
4. Use a system of indexed metrics to track and record advocacy across the network. Share success stories and lessons learned.
5. Create a program to move chapters up the index ladder and support top tier advocacy chapters.

## **WHAT TO CONSIDER IN ADVOCACY:**

- Step 1** What are key local, state or federal issues of interest? Start with what you know. Start with what is local.
- Step 2** Identify and recruit core members interested in advocacy. There are many roles and many levels of actions people can take.
- Step 3** Find allies from other sectors of the community. Work in coalition when it works.
- Step 4** Get help from Audubon's national policy office and use Audubon Works as a resource.
- Step 5** Create a plan for forming and maintaining key relationships with decision makers.
- Step 6** Provide expertise to decision makers on how issues affect the community.

## **TOOLS NEEDED:**

- ◆ Materials, fact sheets and other information on identified issues.
- ◆ Communication and organizational skills.
- ◆ Telephone, computer, internet access.

# The Basics of Conservation Planning



**DEFINITION:** *A process by which conservation practitioners define and map out objectives, targets, needs, actions, strategies, and desired outcomes considering a particular site or species.*

The Audubon approach to conservation planning is based on the principles of adaptive management. Adaptive management is a feedback loop which requires conservation practitioners to develop specific actions that are aimed at reducing threats or improving the condition of specific targets, as part of objectives of larger conservation goals. In the process, it is critical that the success of conservation actions be examined using a method of assessment that adequately evaluates their effectiveness and encourages modification over time, as needed. Monitoring, restoration, and other defined actions are integral to this adaptive management process.

## Goals:

1. Define targets, objectives and outcomes to shape specific project activities leading toward overall condition improvements and threat reduction.
2. Develop overarching strategies and approach for improving conditions and reducing threats with respect to species or site.
3. Develop a road map to implementing and evaluating project activities, including means by which impact can be measured.

## WHAT TO CONSIDER IN CONSERVATION PLANNING:

**Step 1** What are your target species or target sites?

**Step 2** What are the direct threats and indirect pressures these species and places are facing?

**Step 3** What are our objectives as we consider these species/sites? What are we trying to accomplish?

**Step 4** What strategies/actions will help reduce threats and improve conditions? What will help us accomplish our objectives?

**Step 5** How can these actions be evaluated? What are indicators of change/improvement? How do we monitor and track?

## TOOLS NEEDED:

- ♦ A team with expertise and understanding of particular species, sites, needs, and strategies for conservation outcomes.
- ♦ Framework for adaptive management in conservation developed by the Conservation Measures Partnership (CMP)—Open Standards for the Practice of Conservation. See <http://www.conservationmeasures.org>.
- ♦ Miradi—project management software that guides planners through the Open Standards for Practice of Conservation.
- ♦ Important Bird Areas Assessment Manual available for download at [www.importantbirdareas.org](http://www.importantbirdareas.org).
- ♦ Important Bird Area stewards can request help with GIS and Miradi or gain access to these tools by emailing [GIS\\_help@audubon.org](mailto:GIS_help@audubon.org).



# The Basics of Land Protection and Stewardship

**DEFINITION:** *Land protection with respect to land owner stewardship involves a legally binding arrangement between a land owner and an entity focused on the conservation of natural resources.*

Stewardship, which involves responsible management of natural resources through education and monitoring, is critical to land protection. Land protection as described here can come in the forms of land acquisitions, conservation easement, or restoration activities.

## GOALS:

1. To engage and educate land owners in understanding the benefits of responsible land management and implementing those practices.
2. To ensure that lands are managed in an environmentally sustainable manner that considers natural resources and benefits to wildlife.

## WHAT TO CONSIDER IN LAND PROTECTION AND POLICY:

- Step 1** Identify targeted landowners. What habitat is most important and who owns it?
- Step 2** Education and conversation—the awareness building step. Contact land owners with information that will intrigue or inspire a conversation.
- Step 3** Provide the options for considering protection and stewardship of land, such as land registry programs. Engage owners in formal land stewardship.
- Step 4** Continue long-term education efforts, with provision of new and better practices that land owners and public agencies can consider.
- Step 5** Seek sustainable funding, including endowments and annual fundraising.

## TOOLS NEEDED:

- ♦ Assessment and understanding of target habitats and land owners—via mapping and analyses.
- ♦ Familiarity with resources to help educate and engage landowners.
- ♦ Expertise in negotiating agreements and land deals or partnership with those that have the skills and capacity.

# The Basics of Land Protection and Policy



**DEFINITION:** *Land protection with respect to policy is focused on bird and habitat conservation at scale through influencing policy decisions at the federal, state, and local level.*

## GOALS:

1. Look for opportunities to shape policy decisions that influence conservation for birds and habitat or block efforts that will undermine protections.
2. Create relationships with decision-makers at all levels of government. Use those relationships to influence policy outcomes that are favorable for birds and habitat or provide expertise in the formulation of policy that positive affects birds and habitat.
3. Form partnerships with NGOs, other stakeholders, including non-traditional allies, to strengthen our ability to shape sound policy.

## WHAT TO CONSIDER IN POLICY AND LAND PROTECTION:

**Step 1** What are key opportunities that allow for conservation at scale, be it local initiatives, state or federal efforts.

**Step 2** Who are key stakeholders, who are key opinion leaders?

**Step 3** What relationships are important to cultivate to get a positive outcome or decision?

**Step 4** Who else is working on the issue? Does it lend itself to a coalition effort?

**Step 5** What are the information gaps, and how do you fill those?

**Step 6** What is your bottom line when compromise becomes inevitable?

## TOOLS NEEDED:

- ◆ When looking at land-based issues, mapping using GIS tools can be critical.
- ◆ Information on the pros and cons of the issue.
- ◆ Power-mapping—who are the decisionmakers and how do you influence them?
- ◆ What is the process—local zoning, state agencies, federal laws or policies?



# The Basics of Climate Communication

**DEFINITION:** Bringing attention to the gradual warming of the earth's atmosphere to increase demand for solutions, including both mitigation (limiting the greenhouse gases driving the warming) and adaptation to climate impacts.

The scientific consensus is clear: human activities are increasing global temperatures, and this warming raises sea levels, increases the risks for some types of extreme weather and threatens wildlife worldwide. Yet the political will for action is lacking. Understanding how climate change is and will affect an individual's life is critical to spark the action needed to create positive change at personal, community, and political levels.

## GOALS:

1. Connect climate change to birds and other wildlife, places, and spaces that people value and love.
2. Reinforce that although impacts are already underway, we can lessen their magnitude and protect beloved species. Conservation—including stewarding Important Bird Areas and other critical habitat—as well as mitigation are more urgent than ever before. There is hope, but we have to get started.

When it comes to taking personal or political action for climate change, people don't need more scientific evidence: they need to connect climate change to what they love and value. Enthusiastic bird-lovers are particularly well-placed to host the personal conversations about global warming that make a difference. You don't need to be a scientific expert; focus on the basics—the earth is warming, our actions are driving it, impacts are here, but there is much we can do.

## WHAT TO CONSIDER FOR A CLIMATE CONVERSATION:

- Step 1** Consider your audience: What does this person value? Birds? Community green spaces? Grandchildren? Climate change threatens all of this, but focus on what matters to him/her.
- Step 2** Keep it local: Although impacts are happening worldwide, hone in on changes you are already seeing in your backyard, in the IBAs you monitor and elsewhere your community.
- Step 3** Make it personal: Share why you are worried about climate change—your favorite bird could no longer breed here, the land you monitor could be forever altered for future generations.
- Step 4** Avoid a debate: You don't have to convince someone to be a climate advocate with one conversation. Try first to help them connect climate to birds and show them how they can make a difference.
- Step 5** Double down on conservation: The climate threat makes work at IBAs and other critical habitat even more urgent. Share with them your work there, and connect it to part of the climate solution.
- Step 6** Have a positive example on hand: It's important to show that positive momentum exists, so remind him/her of a success story.
- Step 7** Encourage them to learn more or get involved: Share a web site, local action group or other resources with actions they can take—plant a bird-friendly



garden, make small changes to lower emissions at home, or talk to others about climate change.

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### **TOOLS NEEDED:**

- ◆ A few examples of local impacts from global warming—What species and ecosystems near you are already threatened by climate change?
- ◆ One positive example of climate action—It could be a local carbon emissions inventory, a solar project nearby, or a law in the state to limit emissions or incentivize clean energy.
- ◆ An opportunity for follow-up action—Where can folks go for more information? How can they help with monitoring and stewardship at critical habitats nearby? Have a few resources on hand.

## Reading Important Bird Area Recipes

**RECIPE COURTESY OF**—Contributing organization(s).

**BASICS CATEGORY**—Categories of conservation strategies and activities implemented as part of the Important Bird Areas project.



**RECIPE SUMMARY**—Overview of the Important Bird Areas project.

**PREP TIME**—Planning time involved.

**COOK TIME**—Project implementation time.

**YIELD**—Results or outcomes resulting from project activities.

**LEVEL**—Referring to skill or expertise level and/or capacity of implementing organization.

- Easy = easily implemented; requiring minimal skills and experience. Project can be implemented by chapters or entities with little capacity.
- Medium = average level of skill or experience or medium capacity required in implementing project or project requires a mix of basic and advanced skills and experience or capacity levels.
- Advanced = advanced skill and expertise required for project implementation. Project would be more suited for implementation by a staffed chapter or organization with high capacity.

**INGREDIENTS**—Numbers of partners, volunteers, funding dollars, and other components of the project.

**DIRECTIONS**—Step by step instructions describing the basic actions throughout the project.

**KEY PARTNERS, SPECIES, THREATS, ACTIONS**—What entities were involved in the project? What were the focal species for the project and/or for the Important Bird Area? What kinds of pressures are the species/site facing? What actions were taken as part of this project?

**LESSONS LEARNED**—Tips from the recipe contributors based on what they learned through implementing these projects.

**MORE ABOUT THE IMPORTANT BIRD AREA AND PROJECT**—Additional information about the Important Bird Area or project, provided by contributors. Details may include significance of the Important Bird Area, history of project or conservation efforts, or other information for context related to the project recipes.

**CONTACT**—Individual(s) to contact to find out more about these efforts or how to get involved.

## Notes from the Network

“We never win a fight that matters in Washington, DC without our grassroots. From defending the Arctic National Wildlife Refuge to defending the Endangered Species Act to passing the RESTORE Act that will drive billions of dollars to restoring bird habitat on the Gulf Coast, each time tens of thousands of Auduboners and dozens of partner organizations stepped up to fight for our birds and our shared environment. It is the combined strength of Audubon’s presence in communities and congressional districts across the country that gives us the power to save and protect our natural world.”

—**Mike Daulton, Vice President, Government Relations and Director of National Programs, National Audubon Society**



From the beginning, Chapter leaders and volunteers have been integral to the IBA program. Their passion for protection, deep curiosity about lives of birds, and dedication to sharing these special places with the public have woven into our country’s contributions to a worldwide tapestry of critical protected habitats for birds. These recipes for IBA success demonstrate the energetic creativity, willingness to partner, and plain hard work that have helped protect America’s most important habitats for birds.

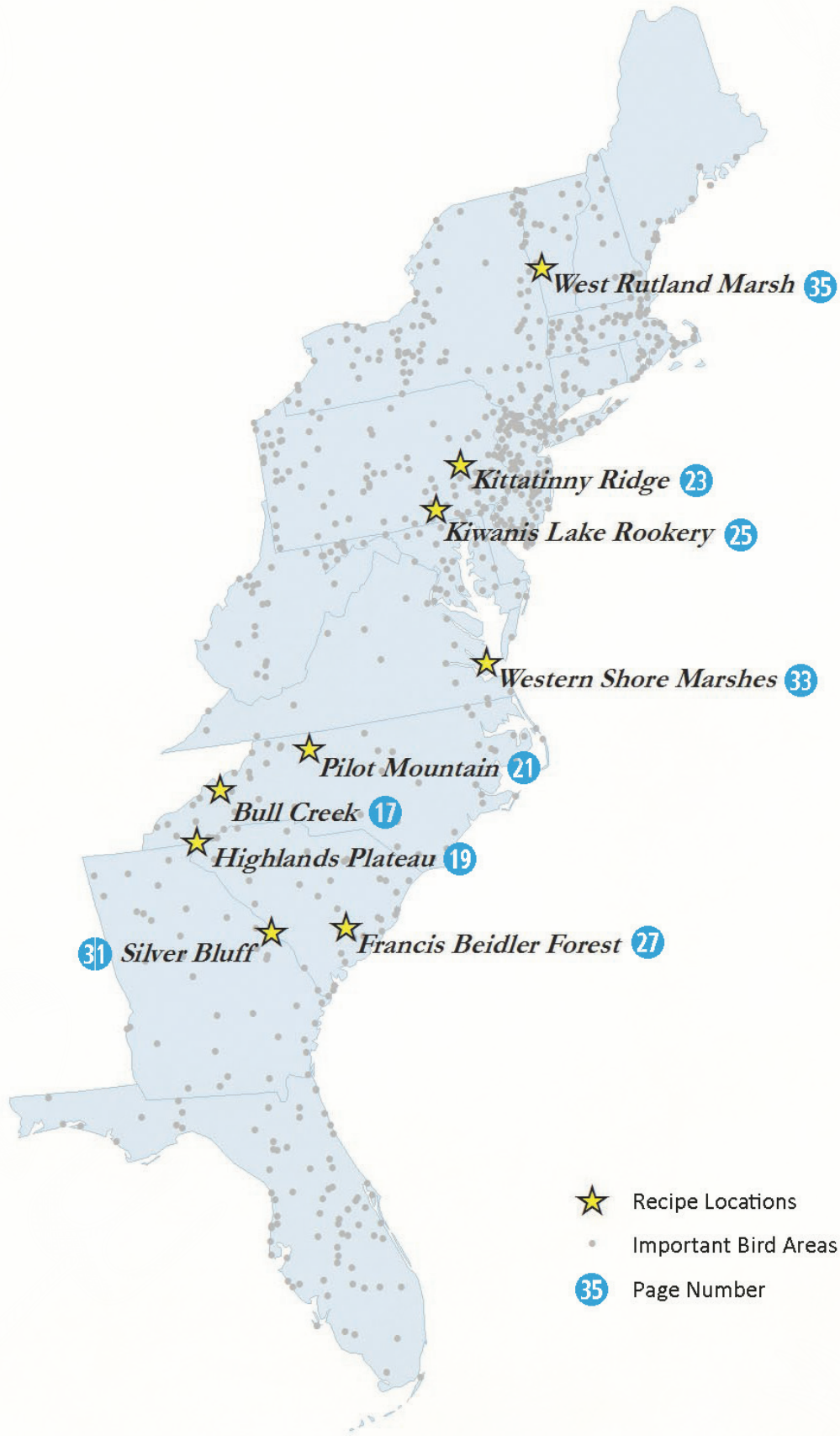
—**Lynn Tennefoss, Vice President for State Programs and Chapter Services, National Audubon Society**



“On-the-ground stewardship is absolutely essential for the IBA network. More than ever, IBA Caretakers working at local sites are making a difference globally.”

—**Andrew Couturier, Senior Analyst, Bird Studies Canada**

# Recipes from the Atlantic Flyway



# Recipe: Cerulean Warbler Research and Conservation

Recipe Courtesy of Elijah Mitchell Audubon Society  
Bull Creek, North Carolina

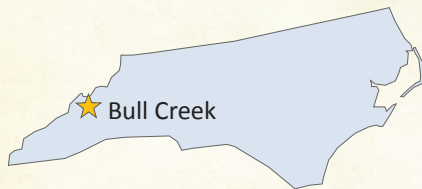


\*Research



## Ingredients:

Partners	6
Volunteers	20
Funding	\$28,000
Passionate volunteers	



## Key Partners:

- Elijah Mitchell Audubon Society
- Audubon North Carolina
- Blue Ridge Parkway (NPS)
- Ventures Inc.,
- ProAves
- American Bird Conservancy

**Recipe Summary:** A long-term project, led by chapter leader Charlotte Goedsche, to monitor Cerulean Warblers and spot map territories has led to successful fundraising and a partnership with ProAves in Colombia for a land purchase to help the species on its wintering grounds.

**Prep Time:** Not long for the research, a couple years of planning to get the land protection strategy going

**Cook Time:** 10 years

**Yield:** To date we have the most robust monitoring of any Important Bird Area priority species in Bull Creek and fundraising efforts have netted more than \$28,000 for land purchases in Colombia protecting another 30 acres plus.

**Skill Level/Expertise:** ✓ Average

**Recipe Description:** This project began as a sophisticated research project by chapter member Charlotte Goedsche to monitor Cerulean Warblers using individual song types to spot map territories, which she has done for ten years now. The chapter has begun raising money annually through their bird-a-thon to partner with ProAves in Colombia to purchase land in the Cerulean reserve in that country.



Top right: Cerulean Warbler / Tom Benson  
CC BY-NC-ND 2.0\*

Right: Bull Creek / Kevin Schraer CC BY-NC 2.0\*

## Important Bird Areas Project Recipes

### Recipe: Cerulean Warbler Research and Conservation

**Key Species:**

Cerulean Warbler

**Key Threats:**

Loss of wintering habitat

**Key Actions:**

Research and monitoring in IBA for breeding and land protection for wintering

**Directions:**

**Step 1** Adopt the IBA.

**Step 2** Monitor the priority species.

**Step 3** Identify opportunities for conservation.

**Step 4** Raise funds.

**Step 5** Form partnerships to deliver the habitat.

**Step 6** Celebrate!!

**Lessons Learned:** A chapter can make a huge difference for a priority species and its full life cycle by being passionate and creative.

**Contact:** Curtis Smalling, [csmalling@audubon.org](mailto:csmalling@audubon.org)

# Recipe: Nest Box Project

Recipe Courtesy of Highlands Plateau Audubon Society  
Highlands Plateau, North Carolina



\*Research and direct aid to cavity nesters

## Ingredients:

Partners	5
Volunteers	15
Funding	\$2500



## Key Partners:

Various local landowners, golf courses, and developments, Audubon North Carolina, Mountain Garden Club

**Recipe Summary:** Highlands Plateau Audubon Society initiated and implemented a research project to better understand cavity nesting of Brown-headed Nuthatches at high elevations, monitoring reproductive success at different sized nest boxes placed on volunteer properties.

**Prep Time:** 6 months

**Cook Time:** 3–5 years

**Yield:** Better understanding of cavity nesting birds and their use of supplied boxes as well as a great outreach opportunity to the community.

**Skill Level/Expertise:** ✓ Average

**Recipe Description:** In response to our statewide Bird Friendly Communities Brown-headed Nuthatch efforts, the Highlands Plateau Audubon Society decided to do their own research and project since they are higher in elevation than Brown-headed Nuthatches occur in our state. They are co-locating large hole and small hole boxes on volunteer properties and monitoring the response and reproductive success of the species using the boxes.



Top right: Carolina Chickadee / Will Stuart, ANC

Right: Eastern Bluebird / Brian E. Small, NAS

## Important Bird Areas Project Recipes

### Recipe: Nest Box Project

*Notes*

**Key Species:** Eastern Bluebird, Carolina Chickadee, Red-breasted Nuthatch

**Key Threats:** Loss of cavities, residential development

**Key Actions:** Installation of nest boxes per experimental design and recruiting volunteer monitors

#### Directions:

**Step 1** Design experiment.

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**Step 2** Fundraise.

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**Step 3** Identify Partners and Landowners.

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**Step 4** Install boxes.

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**Step 5** Monitor results.

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**Step 6** Report results.

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**Lessons Learned:** People are happy to do something with a purpose.

**Contact:** Curtis Smalling, [csmalling@audubon.org](mailto:csmalling@audubon.org)

# Recipe: Wood Thrush Connectivity Project

Recipe Courtesy of Forsyth Audubon

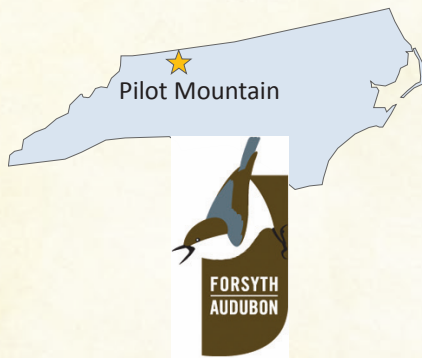
Pilot Mountain State Park, North Carolina



\*Research

## Ingredients:

Partners	6
Volunteers	15
Funding	\$16,500



## Key Partners:

Audubon's International Alliances Program (IAP), Audubon North Carolina, Smithsonian Migratory Bird Center, Belize Audubon, North Carolina State Parks, Historic Bethabara Park

**Recipe Summary:** Through this project, a new generation of geotags were placed on Wood Thrush to research wintering ground connectivity.

**Prep Time:** 2 years

**Cook Time:** 2 years

**Yield:** Forsyth Audubon initially supported IAP and their Belize project, raising funds themselves from their own membership and local community. Eventually they raised \$15,000 in support of the geotag project and provided volunteers for attachment and recapture efforts. To date 2 of 22 geotags have been recovered.

**Skill Level/Expertise:** ✓ Average

**Recipe Description:** This project attached a new generation of geotags to Wood Thrush to discover their wintering grounds connectivity, but was built on chapter engagement with Audubon's International Alliances Program and Belize Audubon.



Top right: Wood Thrush wearing geotag 2014 / David Shuford

Right: Katherine Thorington with Wood Thrush 2015 / Tim Guida

## Important Bird Areas Project Recipes

### Recipe: Wood Thrush Connectivity Project

**Key Species:** Wood Thrush

**Key Threats:** Overwinter survival

**Key Actions:** Determine wintering linkages

#### Directions:

**Step 1** Reach out to IAP for priority species.

**Step 2** Meet with and build partnerships.

**Step 3** Schedule field work.

**Step 4** Recruit volunteers.

**Step 5** Report results.

#### Lessons Learned:

- Cutting edge science with land birds is hard and expensive but very rewarding when you get your desired information.
- Good example of “One Audubon” with chapter, state and national partners actively engaged in project.
- Used ArcGIS Collector app developed by national GIS staff to record field observations of Wood Thrush, to inform trapping efforts. More than 90 chapter members made a donation to support this project in response to a mailing to all 900 members and also during a house party in which the project leader asked guests to make a \$500–1000 contribution. Most funding was through these private donations by chapter members; partial funding was from Birdathon proceeds and from existing chapter funds earmarked for conservation projects.

**Contact:** Curtis Smalling, [csmalling@audubon.org](mailto:csmalling@audubon.org)

# Recipe: Kittatinny Ridge Preserve

Recipe Courtesy of Audubon Pennsylvania  
Kittatinny Ridge, Pennsylvania



## Ingredients:

Partners	7
Volunteers	15
Funding	\$430,000



## Key Partners:

Wildlands Conservancy, Berks Conservancy, Lebanon Valley Conservancy, Manada Conservancy, Central Pennsylvania Conservancy, The Nature Conservancy, Pocono Heritage Land Trust

**Recipe Summary:** In an effort to permanently protect high priority parcels along the Kittatinny Ridge, Audubon Pennsylvania, in partnership with land conservancies, has been reaching out to landowners to educate them about the importance of their land and provide options on how to protect it.

**Prep Time:** One year

**Cook Time:** Three years

**Yield:** TNC will contact 350 priority landowners of the highest priority parcels in the Kittatinny Ridge corridor, explore conservation options with them, and ascertain their conservation interest. Audubon Pennsylvania will contact priority landowners to promote Forestry For The Birds and provide technical assistance.

**Skill Level/Expertise:** ✓ Advanced. Partnership development, GIS expertise, and landowner outreach experience needed.

**Recipe Description:** In 2014, with assistance from Audubon Pennsylvania and The Nature Conservancy (TNC) GIS staff, the Kittatinny Coalition identified priority parcels along the Ridge. There are 707 top-tier parcels along the Ridge, totaling over 98,000 acres. TNC recently received a PA Department of Conservation and Natural Resources grant to reach out to 350 priority landowners in partnership with other land conservancies along the Ridge to educate them about the importance of their land to the Kittatinny Ridge and options for working with the conservancies to protect it. The project's ultimate goal is to achieve permanent protection of high priority parcels along the Kittatinny Ridge through acquisition or gifts of land or conservation easements. Audubon PA will educate priority landowners about Forestry For The Birds, also in partnership with the conservancies.



Top right: Golden Eagle / Lee Jaffe  
CC BY-NC-SA 2.0\*

Left: Outcrop west of WIC property, Kittatinny Ridge.

## Important Bird Areas Project Recipes

### Recipe: Kittatinny Ridge Preserve

**Key Species:** Cerulean Warbler, Golden Eagle, Bald Eagle

**Key Threats:** Development, energy sprawl, climate change, local land use control, public's lack of awareness

**Key Action:** Communication with key landowners for donation or purchase of priority lands

#### Directions:

**Step 1** Develop criteria for determining priority parcels and run analysis.

**Step 2** Map and summarize parcel data, e.g. total parcels and acres.

**Step 3** Communicate results to partners and funders.

**Step 4** Develop goals and objectives for outreach program.

**Step 5** Implement, track, and communicate results.

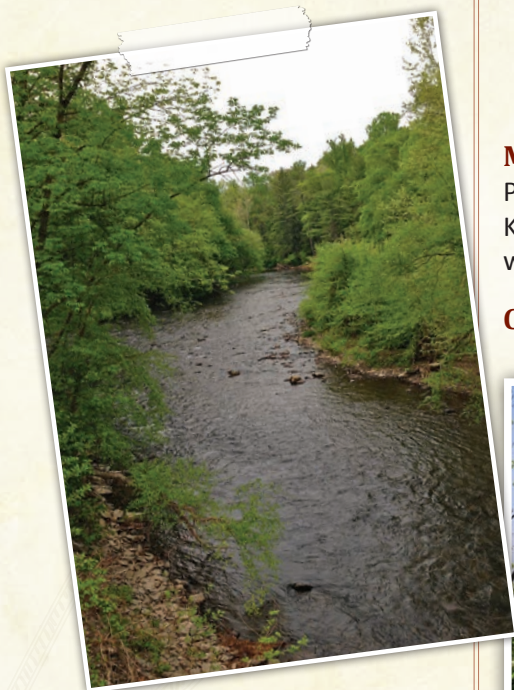
**Step 6** Update maps and outreach program as needed.

#### Lessons Learned:

- Keep the priority parcel analysis straightforward and easy to defend. Resist overanalyzing. Also, the parcel analysis is mostly objective, i.e. not completely "black and white". Some subjective judgment required when determining priority parcels, e.g. when looking at lot lines.
- The land conservation piece is only one component of a multi-faceted Kittatinny Ridge project. The Coalition also is pursuing municipal outreach, community engagement, scientific research, and water protection with several partners, including land trusts, state and federal agencies, environmental organizations, schools, universities and colleges.

**More about the Important Bird Area and Project:** Audubon Pennsylvania and the Appalachian Trail Conservancy co-manage the Kittatinny Ridge and Appalachian Trail Conservation Project in partnership with the Kittatinny Coalition.

**Contact:** Jeanne Ortiz, [jortiz@audubon.org](mailto:jortiz@audubon.org)



# Recipe: Learn, Explore & Restore Kiwanis Lake Important Bird Area

Recipe Courtesy of Audubon Pennsylvania  
Kiwanis Lake, Pennsylvania



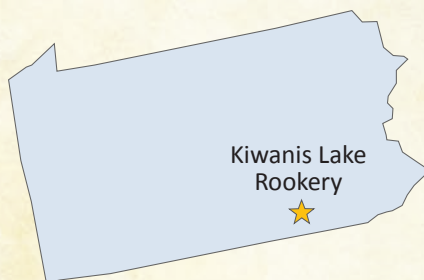
### Ingredients:

Partners—at least 3

Volunteers—15

Funding—We received funding from NOAA to be able to provide Audubon staff time to implement the program, but it could be all volunteer run

Need some equipment—binoculars for the students, scopes can be borrowed, field guides, clipboards, datasheets, plants, garage bags and gloves



### Key Partners:

Local Audubon chapter, Park and Rec Department and schools

**Recipe Summary:** Engage residents in understanding the importance of the watershed to birds and themselves, and empower them to improve their local environment.

**Prep Time:** Variable. Program prep required to provide in-class programs and field experiences at the Important Bird Area.

**Cook Time:** About 5-hour field trip. In addition, provide in class programs leading up to field trip to educate and prepare students in advance of field trip.

**Yield:** Annual count of the birds; enhance habitat at the IBA; and increase stewardship of the IBA and the birds.

**Skill Level/Expertise:** ✓ Average

**Recipe Description:** Audubon Pennsylvania, in partnership with York Audubon Society, has been working to engage York residents in understanding the importance of the watershed to the birds and to themselves—ultimately empowering them to care for and improve their local environment. Since 2007, Audubon has engaged the community in habitat creation and restoration projects. Hundreds of students have assisted in planting native trees and shrubs in city parks and on school grounds to provide better shelter for the birds and improve the overall habitat. The goal of our work is to engage local community members and schools in improving habitat in York.



Top right: Great Egret / Ken Slade CC BY-NC 2.0\*

Right: Students counting the herons and egrets on their nest at Kiwanis Lake IBA / Amy Weidensaul

## Important Bird Areas Project Recipes

### Recipe: Learn, Explore & Restore Kiwanis Important Bird Area

**Key Species:** Black-crowned Night-Heron, Yellow-crowned Night-Heron, Great Egret

**Key Threats:** Nesting sites, predators, food source

**Key Actions:** Monitoring; increase quality of the watershed; increase habitat; increase community's care for the Important Bird Area



Above: York Audubon Society member helps show students the herons and egrets in the spotting scope / Amy Weidensaul

#### Directions:

- Step 1** Partner with local school or community group.
- 
- Step 2** Organize volunteers—birders who will work with the students to identify and count the birds.
- 
- Step 3** Organize the event and implement it.
- 

**Lessons Learned:** The community feels a tremendous amount of pride for their Important Bird Area (and their community) when they learn that the birds are endangered and have chosen to nest in their local city park. Kids are excited about the birds and have a greater connection to the park. Many of the students express interest in bringing their families to see the birds over the weekend. The park is heavily used, but the students don't connect with the birds or even really notice them before we do the program. After our field trips the students have a much stronger connection and stewardship of the Important Bird Area, which is in their neighborhood.

**More about the Important Bird Area and Project:** In 2005, York's Kiwanis Lake was designated an Important Bird Area for the critical habitat it provides for Yellow-crowned Night-herons, Black-crowned Night-herons, and Great Egrets. All three species have been steadily declining in numbers due to habitat degradation throughout Pennsylvania, yet they have chosen Kiwanis Lake, a manmade water source within a York City park, to nest and raise their young.

The project protects and increases habitat options for nesting herons and egrets; improves watershed health within York and the Codorus Creek region; and provides new learning opportunities for underserved youth. Every May students take field trips to Kiwanis Lake to participate in an all-day program at the IBA. Students help York Audubon Society members count the number of adult and young herons and egrets, and they participate in an action project. Audubon Pennsylvania provides a series of in-class programs for the students so that they learn about the birds, their habitat and why they are endangered. In addition, the students build a relationship with Audubon staff, making the learning experience of the field trip much more effective—the students are already familiar with Audubon staff and the goals for the day.

**Contact:** Amy Weidensaul, [aweidensaul@audubon.org](mailto:aweidensaul@audubon.org)

# Recipe: Beidler Forest Watershed Scale Conservation of an Important Bird Area

Recipe Courtesy of Audubon South Carolina

Audubon Center and Sanctuary at Francis Beidler Forest, South Carolina



## Ingredients

Partners	20
Volunteers	0
Funding	>\$10,000,000

*not including matching funds used to secure federal North America Wetlands Conservation Act (NAWCA) grants*

Strong interpersonal skills to work with partners and landowners, GIS and a passionate vision for what's possible



**Audubon**  
CENTER & SANCTUARY  
AT FRANCIS BEIDLER FOREST

**Key Partners:** Charleston Audubon & Natural History Society, Columbia Audubon Society, Land Trusts—Lowcountry Open Land Trust, Edisto Island Open Land Trust, Lord Berkeley Conservation Trust, US Fish and Wildlife Service, private and corporate landowners, Ducks Unlimited, The Nature Conservancy, US Army Corps of Engineers, Natural Resources Conservation Service, private foundations, SC Conservation Bank, Dorchester and Charleston County

**Recipe Summary:** Through careful planning and participation by diverse partners and funding sources, Audubon South Carolina successfully increased the area protected within Francis Beidler Forest and surrounding areas.

**Prep Time:** Six months of initial planning, followed by an annual assessment of protection, funding and partnership opportunities.

**Cook Time:** Two years to get the first big partnership funded, which then generated a self-sustaining momentum that continues to grow today, 15 years later.

**Yield:** We started with 11,000 acres protected in 2 core tracts with 14 miles of riparian habitat protected in Four Holes Swamp. As a result of efforts, we have protected 34 additional tracts, adding over 6,500 acres to Beidler expanding it to over 17,000 acres that are owned, managed and restored by Audubon South Carolina. Our engagement of our non-profit, state, federal, local and county partners, who have worked with private landowners, have successfully protected an additional 25,800 acres. Our collective efforts have protected over 30 miles of Four Holes Swamp.

**Skill Level/Expertise:** ✓Avergae ✓Advanced. Advanced skills were needed to facilitate highly leveraged federal grants and mitigation related negotiations.

**Recipe Description:** In 2000, Audubon South Carolina owned 11,000 acres in Four Holes Swamp in two discrete tracts that comprised the Audubon Center and Sanctuary at Francis Beidler Forest (Beidler Forest). The habitat at the Important Bird Area/Sanctuary was facing risks of habitat degradation upstream, in the area between the two core tracts and in the surrounding unprotected uplands adjacent to the Sanctuary boundaries. There were miles of unprotected habitat downstream

Audubon South Carolina decided to take action to expand their protection efforts. As a result of careful planning and participation by diverse partners and funding sources, today over 17,000 acres of habitat are protected at Beidler Forest while our state, federal, and private partners protected an additional 25,800 acres—making this a highly leveraged and nationally recognized model for landscape level conservation of an IBA.

Wood Stork / M. Musselman

## Recipe: Beidler Forest Watershed Scale Conservation of an Important Bird Area

**Key Species:** South Carolina's forested wetland river corridors support some of the densest breeding populations of imperiled migratory song birds in the eastern United States. Beidler Forest provides breeding and nesting habitat for 49 species including Swallow-tailed Kite, Prothonotary Warbler, Northern Parula, Kentucky Warbler, Prairie Warbler, Wood Thrush, Worm-eating Warbler, Rusty Blackbird, Swainson's Warbler, Bald Eagle, Acadian Flycatcher, Louisiana Waterthrush, Yellow-throated Warbler and Yellow-throated Vireo. Beidler Forest provides breeding and foraging habitat for Yellow-crowned Night-Heron and White Ibis, and foraging habitat for Wood Stork.

### Directions:

- Step 1** *Identify a vision and corresponding action plan that is idealistic but feasible. Share it with everyone so people are clear on objectives and plans.*  
We wanted to protect the entire Four Holes Swamp system starting from US 201 all the way to the confluence of Four Holes and the Edisto River (over 30 miles) and protect a 600 foot buffer surrounding the core wetland system.
- Step 2** *Use County parcel GIS data and habitat data layers to analyze who owns what land in the project area and prioritize protection targets by size, opportunity and strategic context, habitat quality, restoration potential and conservation tools (what are you going to buy and what can you get others to protect).* Cultivate relationships with targeted landowners—understand their long term family interests and needs.
- Step 3** *Develop and implement a funding strategy that includes a diverse source of funds including federal, state, county and private grants, mitigation banks, NRCS Wetland Reserve Program.*  
Funds are needed both for operations and acquisition/ protection projects.
- Step 4** *Engage partners in the planning and implementation—we organized landowner workshops and included land trusts in the cultivation of conservation targets, often facilitating the cultivation process on behalf of our neighbors.*



Above: Gator cam shot in Mellards Lake  
/ Mac Stone

Right: Bald Cypress-Tupelo Gum Forest  
/ Mark Musselman



### Recipe: Beidler Forest Watershed Scale Conservation of an Important Bird Area

We wrote multi-partnership NAWCA grants that leveraged partners' success for necessary acquisition funds. We enrolled Beidler in the NRCS WRP program which then made the watershed a higher priority for other landowners to enroll, giving them increased incentives to voluntarily protect their land.

**Step 5** *Work with legal support staff, internal to Audubon, and in our community to help facilitate all the due diligence required for the purchase and protection of 34 tracts.*

Be consistent with identifying how each acquisition project supports the greater goals of National Audubon Society. National Board approval is critical to the success at the local level.

**Step 6** *Mark the boundaries, manage habitat, implement restoration opportunities and identify programming that is compatible with the resources.*

We have created restoration demonstration sites on highly visible tracts including grasslands restoration, longleaf pine restoration, converting mono-culture pine plantation into mixed hardwood habitat, and managing/improving bottomland hardwood forested wetlands.

**Step 7** *Share the success with everyone so that landowners, partners, communities feel like they are part of something much bigger than just the protection of yet another tract of land.*

Embed the success in global and hemispheric bird conservation and cultivate the pride of stewardship.

**Lessons Learned:** Owning and managing an IBA as an island in a larger landscape does not guarantee the long term viability of the bird resources the IBA is recognized for. We should always be thinking larger scale—understanding where the threats to the greater ecosystem are and identifying opportunities and partners to protect the IBA in a bigger regional context. In the Southeast, many interior forest species need large tracts of unfragmented forests larger than 20,000 acres. We identified a vision to protect 20,000 acres of interior habitat and to protect an adjacent 600 foot buffer to protect the integrity of the system. We consistently and repeatedly articulated our vision to our funders and other county, state, federal and NGO partners until it was a given that we would accomplish it.

The key to our success was the ability to identify a vision and an action plan to implement the vision, articulate it visually to our partners, work to diversify our acquisition funding sources and make it a success for all involved.

**Key Threats:** Large scale clearcuts upstream and downstream of Beidler, shortening rotation of timber harvesting which prevents the development of a mature tree canopy—compromising the interior forest habitat of this IBA. In the surrounding landscape adjacent to Beidler Forest, there remains the threat of conversion to incompatible land use including high density residential or commercial uses.



Above, top: White Ibis / Mark Musselman

Above, bottom: Movie Star Cypress and board walk / Mac Stone

## Important Bird Areas Project Recipes

### Recipe: Beidler Forest Watershed Scale Conservation of an Important Bird Area

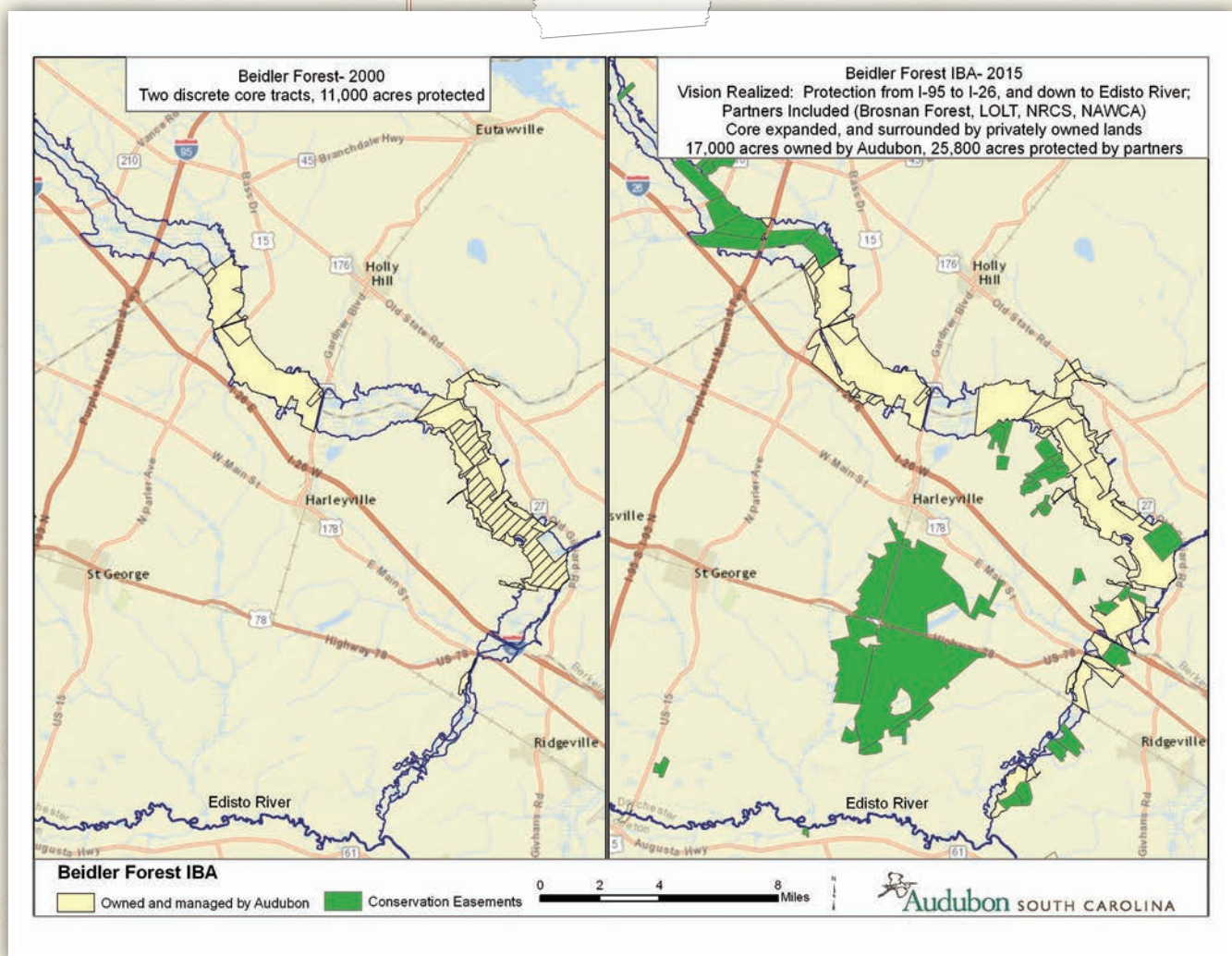
**Key Actions:** Audubon bought an additional 6,500 acres of wetlands and uplands from 34 corporate and private landowners. ASC restored mono-culture pine habitat to Longleaf pine, restored degraded habitat to grasslands and restored hydrology within the wetland system. We cultivated and inspired over 20 partners to participate in the protection, restoration and management of Four Holes Swamp and its watershed, and is now highly recognized within the state as a model of conservation.

Audubon South Carolina would be happy to be a resource to other Audubon programs on how to use and leverage NAWCA funds to protect wetlands and uplands associated with IBAs.

#### More About the Important Bird Area and Project:

Beidler Forest is a 17,000 acre wetlands preserve that is home to 1,800 acres of virgin cypress tupelo forest—the largest remaining forest of its kind in the world and is located in the forested wetland river corridor of Four Holes Swamp sub-basin of the Edisto River Corridor.

**Contact:** Sharon Richardson, [sharon@onearthgis.com](mailto:sharon@onearthgis.com)



# Recipe: Longleaf Pine/Wiregrass Ecosystem Restoration

Recipe Courtesy of Silver Bluff Audubon Center & Sanctuary  
Silver Bluff Audubon Center & Sanctuary, South Carolina



## Ingredients

Partners—1

Volunteers—Two volunteers assisted with planting the wiregrass, and several volunteers from Augusta–Aiken Audubon Society helped to monitor bird usage of the project area

Funding—The herbicide treatment cost \$800 and staff time costs and equipment costs were approximately \$1,900

*Equipment on hand for the project included planting dibbles and seedling bags, tractor and plow, and various items for conducting controlled burns*



**Key Partners:** South Carolina Department of Natural Resources provided the wiregrass plugs for planting

**Recipe Summary:** This project focused on restoring over nine acres of longleaf pine to simulate conditions encountered by the first European settlers.

**Prep Time:** One day of planning was required to arrange for volunteer assistance, herbicide contractors, wiregrass source, prescribed burning, and associated administrative work.

**Cook Time:** The project took two years, start to finish.

**Yield:** 3,000 wiregrass plugs were hand-planted in the area in April of 2014. Additional plugs are to be planted now that the understory has been cleared. Approximately 95% of the undergrowth (primarily sweetgum) was killed with a herbicide using ground spray equipment. That treatment was followed by a prescribed fire on April 2, 2015. In the future, growing season fires are to be conducted every other year, and a multi-aged stand of longleaf pine is to be encouraged. In spring of 2015, five Bachman's Sparrows were heard singing in and around the project area, along with several Prairie Warblers, Yellow-breasted Chats, and Indigo Buntings. Numerous woodpeckers (primarily 4 species) and Brown-headed and White-breasted Nuthatches also utilize the area.

**Skill Level/Expertise:** ✓ Advanced



Top right: Bachmann's Sparrow / *OHFalcon72*  
CC BY-NC-ND 2.0\*

Right: Replicated longleaf pine/wiregrass ecosystem / *Paul Koehler*

## Important Bird Areas Project Recipes

### Recipe: Longleaf Pine/Wiregrass Ecosystem Restoration

Notes

**Key Species:** Bachman's Sparrow

**Key Threats:** Encroachment by woody shrubs and hardwood trees.

**Key Actions:** Herbicide used for initial treatment of undergrowth, followed by biennial prescribed burns.

**Recipe Description:** A 9.4-acre stand of longleaf pine was restored to simulate conditions encountered by the first European settlers. The project involved removing a dense stand of sweetgum from beneath the 68-year-old pines and planting wiregrass in its place. The stand now attracts Bachman's Sparrows, Prairie Warblers, Brown-headed Nuthatches, Red-headed Woodpeckers and other species that thrive in this type of forest habitat.

#### Directions:

- Step 1** Hand-plant wiregrass plugs in existing sunlit areas throughout the project area. Planting should be conducted in early spring.
- Step 2** Use appropriate herbicide at appropriate time and Rx to kill understory vegetation. DO NOT use a herbicide that kills grass! For this project triclopyr was applied in October.
- Step 3** Conduct a controlled burn after the undergrowth has died and soon after the growing season begins.
- Step 4** Plant additional wiregrass plugs if desired. Early spring is best.
- Step 5** Conduct additional controlled burns alternating years during the growing season, either before most birds commence nesting or after most have finished nesting.

**Lessons Learned:** One could easily begin with Step 2; in fact, the wiregrass survival is much higher in areas where it is not competing with other vegetation. It happened that for this project we were given 3,000 wiregrass plugs before the area had been treated with a herbicide.

**Contact:** Paul Koehler, [pkoehler@audubon.org](mailto:pkoehler@audubon.org)



Above top: Nursery-grown wiregrass plugs / Paul Koehler



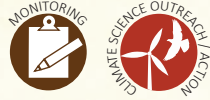
Above bottom: Project area after initial prescribed burn / Paul Koehler



Right: Wiregrass emerging after prescribed burn / Paul Koehler

# Recipe: Habitat Preservation For Species of Concern in Western Shores Marshes

Recipe Courtesy of Hampton Roads Bird Club  
Western Shore Marshes, Virginia



## Ingredients:

Partners	7
Volunteers	TBD
Funding	TBD



**Key Partners:** Department of Conservation & Resources; The Nature Conservancy; Fish & Wildlife Service; City of Hampton; Department of Defense; College of William & Mary; and private landowners

**Recipe Summary:** This project aims at protecting critical habitat for saltmarsh species through monitoring bird populations and invasive plant species, assessing sea level changes over time, and working with private landowners to maintain habitat.

**Prep Time :** Ongoing, continuous

**Cook Time :** Ongoing, continuous

**Yield:** Maintain or expand existing habitat.

**Skill Level/Expertise:** ✓ Average

**Recipe Description:** The Western Shore Marshes Important Bird Area supports the largest concentration of salt marsh habitat within the lower Chesapeake Bay. Numerous avian species use these marshes to winter, breed, and as fueling stops during migration. This project seeks to preserve critical habitat for selected species of concern in the Western Shore Marshes IBA by establishing baseline data and monitoring changes. Work with landowners to preserve existing size and composition of Important Bird Area by protecting marshes and potentially expanding areas in response to sea-level changes.



Top right: Piping Plover / David Maher  
CC BY-NC 2.0\*

Right: Shorebirds on Bethel Beach / Dave Youker

## Important Bird Areas Project Recipes

### Recipe: Habitat Preservation For Species of Concern in Western Shores Marshes

**Key Species:** Northern Bobwhite, Brant, American Black Duck, Redhead, Northern Harrier, Great Blue Heron, Great Egret, Chuck-will's-widow, Short-billed Dowitcher, Red Knot, American Oystercatcher, Piping Plover, Common Tern, Least Tern, Bald Eagle, Brown-headed Nuthatch, Sedge Wren, Seaside Sparrow, Saltmarsh Sparrow, Nelson's Sparrow, Field Sparrow, Henslow's Sparrow, Prairie Warbler, and Eastern Meadowlark

**Key Threats:** Human disturbance, sea-level rise, invasive plant species, mammal predation

**Key Actions:** Monitor avian populations; litter control; assess sea-level and invasive plant species changes over time; work with landowners to maintain habitat

#### Directions:

**Step 1** Identify quantifiable baseline.

**Step 2** Solicit volunteers to collect data.

**Step 3** Identify partners; gain commitment.

**Step 4** Propose solutions.

**Step 5** Seek any necessary funding.

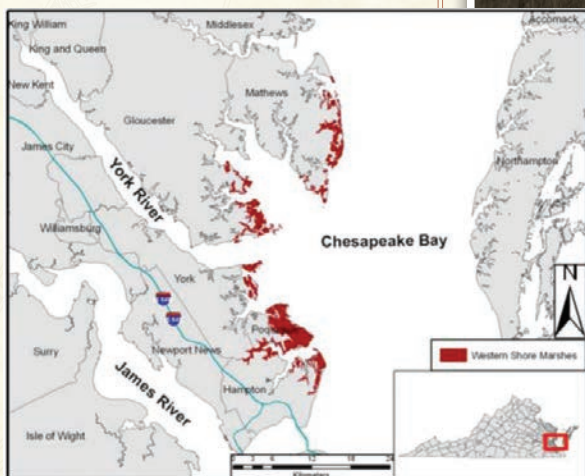
**Step 6** Implement solutions.

**Lessons Learned:** Establish a detailed, quantifiable baseline initially to better assess changes.

**Contact:** Dave Youker, youkerd@aol.com; Mary Elfner, director@virginiaauduboncouncil.org

Right: New Point Comfort / Dave Youker

Below: Western Shore Marshes map



# Recipe: Rutland County Audubon Monthly Monitoring Program

Recipe Courtesy of Rutland County Audubon Society  
West Rutland Marsh, Vermont



## Ingredients:

Partners—1

Volunteers—minimum of two per month; no limit to maximum

Funding—\$0



Rutland County Audubon Society



Audubon VERMONT

**Key Partner:** Town of West Rutland (passive partner as landowner with conservation easements)

**Recipe Summary:** Monthly monitoring of one of the largest cattail marshes in the state.

**Prep Time:** 30 minutes per month

**Cook Time:** 2 to 4 hours per month depending on time of year plus one hour per month for write-up, eBird data entry, and publication of results

**Yield:** Long-term data on bird populations, building enthusiasm for birds and appreciation of the importance of conservation.

**Skill Level/Expertise:** ✓ Average. Bird identification skills by sight and sound by at least some of the participants.

**Recipe Details:** Rutland County Audubon began monitoring West Rutland Marsh on August 16, 2001. The walk is 3.7 miles in length. We have not missed a month since and will complete our 14th year this coming August. To date we have tallied 149 species. Our monthly participation by volunteers ranges from 3 (during the cold months!) to 15 or 20 during prime birding season. We have several repeat participants, but also attract people from other areas of the state, homeschool groups, retirees and some with just a passing interest in birding.

Besides building a database on bird populations, the monthly walk serves as an outreach to new birders and other community members. It brings awareness of the Important Bird Area to the community.



Top right: An overwintering American Bittern / Susan Elliott

Right: Monitoring walk participants on a particularly nice day! / Susan Elliott

## Important Bird Areas Project Recipes

### Recipe: Rutland County Audubon Monthly Monitoring Program

Notes

**Key Species:** Virginia Rail, Sora, Least Bittern plus other marsh specialists such as Marsh Wren, Swamp Sparrow and American Bittern

**Key Threats:** Trash dumping and vandalism

**Key Actions:** Participate in Vermont's annual Green-Up by picking up trash and recruiting other community members to help; submitting a report for the Town of West Rutland Annual Report presented on Town Meeting Day; contact police authorities when vandalism occurs



Above: Virginia Rail—one of the prime species at the IBA / *Marv Elliott*

Right: West Rutland Marsh in spring / *Susan Elliott*

#### Directions:

- Step 1** Plan walks several months in advance.

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- Step 2** Announce monitoring through website, email alert and social media.

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- Step 3** Meet at appointed time and explain purpose to newcomers.

---

- Step 4** Appoint person to record data (species and numbers).

---

- Step 5** Appoint person to enter data on eBird.

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- Step 6** Publish monthly results on website and social media.

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**Lessons Learned:** Perseverance in continuing the monitoring walks over the years has earned the Important Bird Area respect and recognition and helped develop enthusiasm for birding and conservation in the community.

**Contact:** Jim Shallow, [jshallow@audubon.org](mailto:jshallow@audubon.org); Susan Elliot, [ovenbird@yahoo.com](mailto:ovenbird@yahoo.com)



## Notes from the Network



“When it comes down to it, having folks on the ground who really care about a place and have an interest in caring for it is what stewardship is all about and one of the ways we can really protect the places birds need.

Citizen science has become another valuable way that people of all skill levels can contribute to the protection of Important Bird Areas. Using tools like eBird, anyone can get out and monitor the status of birds at sites important to them.”

—**Tom Auer, Conservation Data Specialist,  
National Audubon Society**

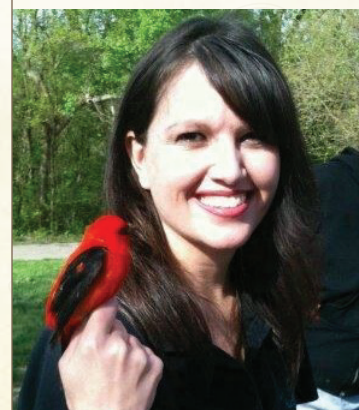
“Actions that might seem small—planting natives, eating locally, pushing to get a parcel of land protected—are not only small solutions to climate change in their own right but also important signals to your peers: this is possible, we can do this.”

—**Lynsy Smithson-Stanley, Deputy Director,  
Climate and Strategic Initiatives,  
National Audubon Society**

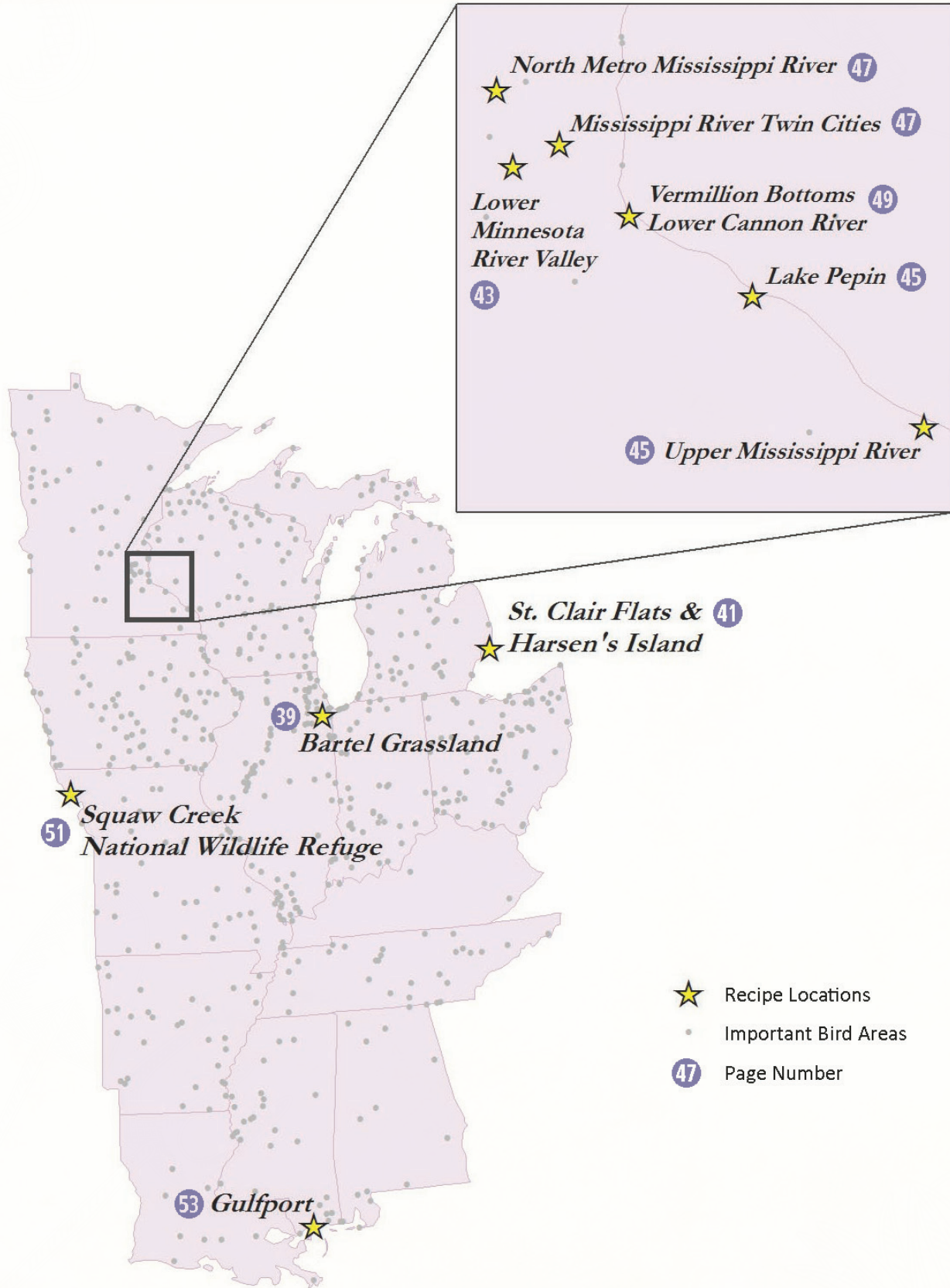


“Our most successful efforts in saving Important Bird Areas are tied to good stewardship. It’s one thing to identify an area as Important to Birds but keeping that area important and impacting conservation at scale takes good stewardship.”

—**Doreen Whitley, Geospatial Information Office,  
National Audubon Society**



# Recipes from the Mississippi Flyway



# Recipe: Grassland Bird Habitat Restoration in the Chicago Region

Recipe Courtesy of Audubon Chicago Region, Thorn Creek Audubon Society

## Bartel Grassland, Illinois



### Ingredients:

Partners—about 10  
Volunteers—Hundreds  
Funding—Including volunteer time: hundreds of thousands  
A passion and love for the site!



**Recipe Summary:** Since 2002, a coalition of organizations and volunteers has been working to transform a hayfield into a native prairie, through restoration and management, monitoring, and outreach. The result has been an increase in habitat quality and grassland birds.

**Prep Time:** Approximately 2 years for initial work; plan ongoing.

In 2001 expert birder, Marianne Hahn and the Thorn Creek Audubon Society conceptualized a plan to save this remarkable grassland. In 2002 the Bartel grassland partners completed a detailed management plan to restore natural hydrology and restore a natural plant community. Work on the ground to remove drain tiles began later that same year. Today, there are monthly brainstorming meetings to plan the most important stewardship activities. Annual monitoring has helped demonstrate the power of adaptive management.

**Cook Time:** 3 years minimum

An initial significant investment of three years was necessary to return Bartel to a more natural state and enter into somewhat of a maintenance phase. However, today, 13 years into restoration, there is still work to be done and there will always be ongoing control of aggressive invasive species such as tall goldenrod, reed canary grass, cattails, sweet clover, and leafy spurge. Dick Riner, head steward of Bartel, works on site nearly everyday and organizes weekly workdays for volunteers nearly year-round. Bird monitoring continues annually and more in-depth floristic and biodiversity monitoring was completed in 2002 and 2011.

**Yield:** Hyrdology restored—Bartel’s hydrology has been restored and it indeed has gotten wetter with vegetation quadrats confirming the presence of more plants that prefer wet soils. Invasive species removed—The 2011 survey confirmed major success over invaders such as reed canary grass, sweet clover and leafy spurge. Grassland bird habitat restored—Bartel now provides a stronghold for grassland birds that face regional declines such as: Bobolink, Grasshopper Sparrow, and Sedge Wren.

**Skill Level/Expertise:** ✓ Minimal ✓ Average ✓ Advanced. All skill levels are to participate and will make valuable contributions to the effort.



Top right: Dickcissel / Jeff Danaldson CC BY NC-SA 2.0\*

Left: Honors biology class testing water at Bartel / Dick Riner

## Important Bird Areas Project Recipes

### Recipe: Grassland Bird Habitat Restoration in the Chicago Regio

Notes

**Key Species:** Bobolink, Eastern Meadowlark, Grasshopper Sparrow, Savannah Sparrow, Sedge Wren Northern Harrier, Short-eared Owl, Bald Eagle and Dickcissel

**Key Threats:** Invasive species

**Key Actions:** Restore hydrology, control invasives, implement fire regime, monitor biodiversity, introduce and educate

**Recipe Description:** In 2002 a coalition of organizations and dedicated volunteers set out to transform this hayfield into a native prairie that could provide habitat for hundreds of rare and threatened birds year after year. Agricultural drain tiles were removed from the 585-acre grassland and a group of stewards was established to control invasive species, plant native grasses and flowers, conduct controlled burns, and monitor biodiversity. Today the quality of habitat continues to improve reflected by higher floristic quality and more grassland birds.

#### Directions:

**Step 1** Take volunteers for a nature walk through the grassland.

**Step 2** Stand back to observe: “falling in love with nature”.

**Step 3** Organize interested parties and conceptualize a vision.

**Step 4** Lead workdays and nature walks.

**Step 5** Monitor and communicate success and new needs.

**Step 6** Repeat from step 1!

**Lessons Learned:** Stewardship begins with awareness and then a passion and love for nature. It is critical to support this continuously in order to build a robust stewardship community.

**Contact:** Nat Miller, [nmiller@audubon.org](mailto:nmiller@audubon.org)



Above: Volunteer planting the Interpretive Garden / *Dick Riner*

Right: Volunteers building fire for winter solstice celebration / *Dick Riner*



# Recipe: Documenting Marsh Tern Demographics on St. Clair Flats

Recipe Courtesy of Michigan Important Bird Areas Program  
St. Clair Flats and Harsen's Island, Michigan



## Ingredients:

- Partners 5
- Volunteers 13 and counting
- Funding \$5,000 annually

*At least 7 new volunteers are scheduled to help during 2015*

*The most critical component of this recipe is a single, highly-dedicated volunteer to get the work done. For us, that person is Randy Kling*



**Key Partners:** Michigan DNR, Detroit Zoological Society, Detroit Audubon, Randy Kling (lead volunteer), Grosse Pointe Audubon

**Recipe Summary:** This project is focused on monitoring hatching success of Black Terns on St. Clair Flats, the largest remaining colony of this declining species in the state of Michigan, in an effort to guide future management of the site.

**Prep Time:** Annual planning meeting

**Cook Time:** Once annually bake on high for 10 weeks from May 10–July 25

**Yield:** Accurate estimates of hatching success, adult survivorship, and site fidelity, as well as an understanding of sources of nest loss and chick mortality.

**Skill Level/Expertise:** ✓ Minimal ✓ Average ✓ Advanced. Project managers need an advanced understanding of tern biology and project management, while field surveyors can be beginner level, so long as they are focused and intentional.

**Recipe Description:** Since 2013 we have been collecting information on the hatching success of Black Terns on St. Clair Flats, the largest remaining colony of this declining species in the state of Michigan. Visits to the flats occur twice weekly through the nesting season, with all nests documented and geolocated, eggs and chicks measured and banded, and some adults trapped and banded as well. The focus is now moving toward the survivorship and site fidelity of adults, so we are aiming to trap most of the adults on the colony during summer 2015 using bow traps. This information will guide future management of the site by identifying how critical this site is to Michigan's population and informing land managers how to prevent unnecessary restrictions on hatching success and, potentially, adult survivorship. The study will also clarify whether mortality on the migration or winter grounds may be the primary culprit in the long-term declines this species is showing.



Top right: Black Tern / Dan Irizarry CC BY-NC 2.0\*

Left: John Darling of the Michigan DNR near the Black Tern platforms erected in 2013 / Richard Quick

## Important Bird Areas Project Recipes

### Recipe: Documenting Marsh Tern Demographics on St. Clair Flats

Notes

**Key Species:** Black Tern, Forster's Tern

**Key Threats:** Storms which displace and swamp out nests, nest predators, mostly Muskrat and unidentified avian predators, and perhaps, survivorship of adults on the migration or winter grounds (still in need of elucidation)

**Key Actions:** Monitor changes in colony locations, annual breeding success, long-term site fidelity and adult survivorship, and threats to fecundity and survivorship. Abate any threats producing losses of eggs, chicks, or adults at the breeding site.

#### Directions:

- Step 1** Introduce as many volunteers as possible to the project by having them accompany Randy to the site.
- Step 2** Share the project with the Michigan Bird Conservation Initiative general assembly and its partners, and generate support for further work on other large Black Tern colonies (such as Tawas Lake, which is going to be monitored for the first time in June 2015, and Ogontz Bay, which is in the early stages of planning for a full conservation project during summer 2016 and 2017).
- Step 3** Replicate replicate replicate.
- Step 4** Identify and abate threats to breeding success and adult survivorship on the nesting grounds.
- Step 5** Identify whether forces at work on the migratory and winter grounds may be responsible for declines.
- Step 6** Conserve Black Terns.

**Lessons Learned:** Black Terns nest successfully on St. Clair Flats most of the time but are vulnerable to strong thunderstorms.

**Contact:** Caleb Putnam, [cputnam@audubon.org](mailto:cputnam@audubon.org)



Above: Caleb Putnam and John Darling / Richard Quick

Right: Caleb Putnam (Audubon), John Darling (Michigan DNR), and Randy Kling (lead volunteer) at St. Clair Flats in 2013 / Richard Quick



# Recipe: Protection and Restoration of Flood Plains, Riparian and Upland Habitat

Recipe Courtesy of Audubon Minnesota  
Lower Minnesota River Valley, Minnesota



## Ingredients:

Partners—2

Volunteers—Varies.

*Volunteer group sizes can vary for service learning days. We can accommodate anywhere from 5–65 volunteers*

Funding—Varies.

*Depending on group size and length of project time. Full-day of service learning includes lunch and water for volunteers and meal supplies—estimated \$8–\$13/volunteer for food and drinks. Recommend reaching out to local catering companies for donations to reduce or eliminate your material/supply costs for these Half-day projects may only require drinks to keep your volunteers and staff hydrated when performing physical activities, especially during warmer months*



**Key Partners:** US Fish and Wildlife Service and North Hennepin Community College

**Recipe Summary:** A partnership effort among Audubon Minnesota, North Hennepin Community College (NHCC) and the US Fish and Wildlife Service (USFWS), this project focuses on the protection and restoration of the natural habitats within Minnesota Valley National Wildlife Refuge, located within the Lower Minnesota River Valley Important Bird Area, through monitoring, removal of invasive plants, clean-up, and outreach.

**Prep Time:** Variable, depending on established partnerships, group size and activities included in service learning project

**Cook Time:** Year-round/Ongoing

**Yield:** Increased awareness of Important Bird Areas and comprehension of the types of habitat and supported species of birds within a site. Ongoing collection of monitoring data of bird species, reduction in invasive plant species, and reduction of trash present in the Important Bird Area.

**Skill Level/Expertise:** ✓ Minimal ✓ Advanced. Volunteers do not need to be experienced birders or conservationists to participate. For implementation, advanced skills and capacity required. Audubon Minnesota and USFWS staff provide training and oversight during the project.

**Recipe Description:** Audubon Minnesota has an ongoing partnership with North Hennepin Community College (NHCC) and the US Fish and Wildlife Service (USFWS) to protect and restore the natural habitats within MN Valley National Wildlife Refuge, located within the Lower Minnesota River Valley Important Bird Area. Audubon Minnesota established a service learning program with multiple instructors at NHCC, which resulted in student groups learning about local Important Bird Areas during formal presentations as well as actively participating in both monitoring and habitat restoration activities such as trash clean-up and invasive species removal within the IBA. The MN Valley NWR is managed by the US Fish and Wildlife Service and Audubon collaborates with USFWS staff throughout to year to identify areas of need, plan projects and manage project activities. The volunteer hours and service the students complete each year helps to protect and conserve the IBA which supports an exceptional diversity of birds with more than 260 species documented within the MN Valley NWR. More than 100 species nest in the area including 8 species of warblers such as the Prothonotary Warbler and Cerulean Warbler, both listed as species of concern.

Top right: Prothonotary Warbler / Don Faulkner  
CC BY-SA 2.0\*

## Important Bird Areas Project Recipes

### Recipe: Protection and Restoration of Flood Plains, Riparian and Upland Habitat

**Key Species:** Over 260 species, both migrants and resident birds. More than 100 species nesting in the area. Eight species of nesting warblers including species of concern such as the Prothonotary Warbler and Cerulean Warbler. Additionally, nesting Acadian Flycatcher, Bell's Vireo, and Willow Flycatcher. Red-headed Woodpeckers and Lark Sparrows within Oak-savanna habitat.

**Key Threats:** Invasive species/ non-native plants, pollution/trash

**Key Actions:** Public education, ongoing monitoring, removal of invasive and non-native plants, removal of trash build-up

#### Directions:

- Step 1** Establish ongoing relationships with community partners (college).
- Step 2** Audubon staff give formal presentations at college to educate students on Audubon mission and scope of work, highlight potential service learning projects and facilitate sign-up for the semester.
- Step 3** Ongoing communication and planning with USFWS refuge staff to identify areas of need within the IBA and schedule projects.
- Step 4** Host Service Learning days throughout spring, summer and fall seasons w/in IBAs utilizing Audubon and USFWS staff and volunteers.
- Step 5** Host volunteer appreciation events.
- Step 6** Repeat steps 1–5, ongoing.

**Lessons Learned:** We will conserve only what we love. We will only love what we understand. And we will only understand what we are taught. Public education with hands-on experiences facilitates learning in a unique way which ultimately fosters a greater sense of awareness of conservation issues as well as a sense of personal investment in protecting these critical habitats.

**Contact:** Katie Burns, [kburns@audubon.org](mailto:kburns@audubon.org)

North Hennepin Community College students and Audubon Minnesota's Outreach Coordinator after completing a full day of monitoring, habitat clean-up and environmental education workshops. / *Mark Martell*



# Recipe: Mississippi River Bottomlands Forest Restoration

Recipe Courtesy of Audubon Minnesota

Upper Mississippi National Wildlife Refuge, Mississippi River Lake Pepin, Vermillion Bottoms—Lower Cannon River, Minnesota



## Ingredients:

- Partners—at least 5
- Volunteers—Varying opportunities abound
- Funding—\$500,00 annually
- GIS capabilities, restoration equipment and supplies



**Key Partners:** Audubon Minnesota, United States Army Corps of Engineers, United States Fish and Wildlife Service, MN Department of Natural Resources, Minnesota Conservation Corps and private landowners

**Recipe Summary:** Audubon Minnesota and partners are focused on a program to restore and manage bottomland forests in the upper Mississippi River which are under threat from water level management and invasive species.

**Prep Time:** ongoing

**Cook Time:** ongoing

**Yield:** Enhancement and restoration of an average of 500 acres of Upper Mississippi River forest annually on public and private lands, focusing on Important Bird Areas. In the next 50 years we expect that at least 25,000 acres will be improved. This effort will ensure floodplain ecosystem functions and habitat are sustained for birds and other wildlife. Healthy, nearly contiguous forest will spread across wide stretches of the floodplain and contain sufficient diversity of tree species, size and age classes to provide a wide array of habitat structure and food (mast) resources.

**Skill Level/Expertise:** ✓ Advanced. Specialized staff (ecologists and foresters) needed.

**Recipe Description:** Bottomland forests in the upper Mississippi River are under threat from water level management and invasive species. To counter this we have an ongoing program to restore and manage these forests using the Upper Mississippi River Systemic Forestry Plan developed by a range of state and Federal partners. Audubon MN has hired a forest ecologist using a cost-share model with the USFWS. Working with appropriate land managers to design management prescriptions for individual sites and oversee project implementation in MN and upper Iowa eight project sites (~800 acres.) have been planned for restoration action this year. In 2013–14 our first pilot project was successfully implemented with restoration at two sites. Project implementation actions include: timber stand improvement, harvesting (group selection, shelterwood, seed tree), site preparation, forest establishment (natural regeneration, tree planting), prescribed burning, elevation modification, and water level management. Forest restoration methods and bird population response will be monitored and evaluated at both the systemic and project level.



Top right: Red-shouldered Hawk / Jeff Whitlock  
CC BY-NC-SA 2.0\*

## Important Bird Areas Project Recipes

### Recipe: Mississippi River Bottomlands Forest Restoration

Notes

**Key Species:** Prothonotary Warbler, Cerulean Warbler, Red-shouldered Hawk, migratory songbirds and waterfowl

**Key Threats:** Loss of bottomland forest habitat, diminished water quality

**Key Actions:** Protect existing bottomland forest and restore compromised bottomland habitats

#### Directions:

- Step 1** Develop partner relationships and find niche.
- Step 2** Set working goals.
- Step 3** Prioritize locations on the ground.
- Step 4** Write restoration prescriptions.
- Step 5** Contract needed services (invasive species control, prescribed burns, tree planting).
- Step 6** Conduct restoration actions.
- Step 7** Apply continued management to restoration sites until the re-plantings are well established (this is a complex system and flooding is an issue).
- Step 8** Monitor methodologies of restoration to determine Best Management Practices. Monitor bird use of project sites and potential response to treatments.
- Step 9** Repeat steps 4–8 at other prioritized restoration sites.

**Lessons Learned:** The goals of this program apply to the entire Mississippi River, yet the strategies of implementation will vary reflecting the differences in the River from top to bottom.

**Contact:** Tim Schlagenhaft, [tschlagenhaft@audubon.org](mailto:tschlagenhaft@audubon.org)



Above: Conservation Corps Minnesota crews planting trees to restore Bottomland Forest / *T. Schlagenhaft*

Right: Tim Schlagenhaft stands amongst the Reed Canary Grass pre restoration / *K. Hall*



# Recipe: Project Birdsafe Monitoring Program

Recipe Courtesy of Audubon Minnesota

North Metro Mississippi River, Mississippi River Twin Cities, Minnesota



## Ingredients:

Partners—8  
Volunteers—About 20 this season  
Funding—Ongoing and budgeted for at the programmatic level  
A freezer and Ziplock bags for specimen storage, database management



North Metro  
Minnesota River  
Minnesota River  
Twin Cities



**Key Partners:** Audubon Minnesota, the DNR Nongame Wildlife Program, the Bell Museum of Natural History, the Wildlife Rehabilitation Center, the National Parks Service, Zumbro Valley Audubon, BOMA Minneapolis and BOMA St. Paul

**Recipe Summary:** Project BirdSafe focuses on obtaining an understanding of bird collisions with windows and recommending BirdSafe measures in construction.

**Prep Time:** 6 months if starting a program from scratch

**Cook Time:** 11 weeks or 77 days in both the spring and the fall

**Yield:** BirdSafe monitoring has been going strong since 2007 and is ongoing. The initial aim was to answer some of the basic scientific questions about bird collisions such as: How many birds are affected in Minnesota? What species are they? And, what factors create the most risk? Each year BirdSafe volunteers pick up 500 birds or more from just a handful of buildings being monitored. These birds represent over 130 species.

**Skill Level/Expertise:** ✓ Average. Training is required for volunteers.

**Recipe Description:** Project BirdSafe volunteers walk research routes in Minneapolis and St. Paul every morning during spring and fall migration. They pick up any dead or injured birds they find that have collided with building windows. Birds go to the University of Minnesota for further study.



Top right: Ovenbird / *Kenneth Cole Schneider*  
CC BY-NC-SA 2.0\*

Right: Reflections of habitat and sky can be incredibly convincing. / *Joanna Eckles*

## Important Bird Areas Project Recipes

### Recipe: Project Birdsafe Monitoring Program

Notes

**Key Species:** The five most common species we've found overall are: White-throated Sparrow, Nashville Warbler Ovenbird, Tennessee Warbler and Dark-eyed Junco. In general most of the birds we find are migratory; about 1/2 are warblers.

**Key Threats:** Building strikes

**Key Actions:** Monitor birds impacted, assess problem areas, work with building owners and the city to inform them about the problem & recommend possible solutions. Work to retrofit, mitigate and resolve existing problem areas while advocating BirdSafe measures be incorporated into construction.

#### Directions:

- Step 1** Enlist Partners—set overall goals—designate funding.
- Step 2** Identify the problem areas that would be ideal to monitor.
- Step 3** Establish repeatable routes.
- Step 4** Recruit & train volunteers.
- Step 5** Run seasonal routes (migration).
- Step 6** Enter and analyze data.
- Step 7** Have a volunteer appreciation party.
- Step 8** Repeat steps 4–7 annually.

**Lessons Learned:** Long term, volunteer based data collection that has a clear focus is very valuable. Data base design and data collection methods are always evolving and improving.

**Contact:** Joanna Eckles, [jeckles@audubon.org](mailto:jeckles@audubon.org)



Right: This skyway shows reflection and see-through effects—two ways birds are confused by glass. / Joanna Eckles

Above: Entering data on birds found is another great way to involve volunteers. / Joanna Eckles



# Recipe: Landowner Invasive Species Workshop

Recipe Courtesy of Audubon Minnesota

Vermilion Bottoms, Lower Cannon River, Minnesota



### Ingredients:

- Partners 4
- Volunteers 6
- Funding \$1700
- Refreshments provided



Vermilion Bottoms—  
Lower Cannon  
River



**Key Partners:** MN Dept. of Agriculture, Conservation Corps MN, Anderson Center, Audubon

**Recipe Summary:** Through these activities, Audubon Minnesota seeks to educate landowners on how to identify, control, and prevent establishment of invasive species on their property.

**Prep Time:** 30 hours

**Cook Time:** 4 hours—includes set up, running event, clean up

**Yield:** Education of 30 individuals about invasive species. In addition, participants learned about native species important to birds and wildlife, with several species of native shrubs provided as door prizes.

**Skill Level/Expertise:** ✓ Advanced

**Recipe Description:** Landowner workshop to educate private landowners and other interested citizens about invasive species, including impacts, identification, and control methods. Event included presentations from state agencies and a field demonstration of buckthorn and Asian honeysuckle identification and removal.



Top right: Baltimore Oriole, one of the migratory songbirds that use the Mississippi Flyway. / Stewart Ho CC BY-NC-SA 2.0\*

Above: Conservation Corps Minnesota crew that cut and treated invasive species at the Anderson Center in Red Wing June, 2014. / Tim Schlagenhaft

Left: CCC cutting down buckthorn / Tim Schlagenhaft

## Important Bird Areas Project Recipes

### Recipe: Landowner Invasive Species Workshop

*Notes*

**Key Species:** Migratory songbirds

**Key Threats:** Invasive species reducing native plants and degrading habitat, and landowners unaware of this problem

**Key Actions:** Educate landowners on how to identify, control, and prevent establishment of invasive species on their property

#### Directions:

- Step 1** Commitment from partners to participate in event.
- Step 2** Select location (site where can ID and control invasive species) and date.
- Step 3** Develop program and get commitment from presenters and Conservation Corps crews to conduct demonstration.
- Step 4** Order door prizes (native shrubs for planting—this was a big hit).
- Step 5** Order refreshments.
- Step 6** Advertise—newspaper article, letters to key private landowners in the area, email distribution lists.
- Step 7** Conduct workshop.

**Lessons Learned:** Attendance lighter than hoped for, more advertising effort would have been helpful.

**Contact:** Tim Schlagenhaft, [tschlagenhaft@audubon.org](mailto:tschlagenhaft@audubon.org)



Right: Presentation portion of workshop

# Recipe: Saving a Migratory Bird Refuge from a Proposed Ill-sited Wind Energy Farm

Recipe Courtesy of Audubon Missouri and Burroughs Audubon Society  
Squaw Creek National Wildlife Refuge, Missouri



## Ingredients:

- Partners—approximately 10
- Volunteers—approximately 25 heavily involved volunteers
- Funding—\$0
- News media outreach



**Key Partners:** Burroughs Audubon chapter, Audubon Missouri, American Bird Conservancy, The Nature Conservancy, Conservation Federation of Missouri, Trumpeter Swan Society

**Recipe Summary:** Through grassroots opposition led by Burroughs Audubon Society and Audubon Missouri, efforts to develop a windfarm near Squaw Creek National Wildlife Refuge were successfully halted, with Element Power withdrawing its plans for the project and cancelling leases with landowners.

**Prep Time:** 60 days. This effort was strongly and capably led by the Burroughs Audubon Chapter in Kansas City with other Audubon chapters and Audubon Missouri joining the effort. Preparation time was spent gathering information about the proposed wind farm; contacting agencies such as the U.S. Fish and Wildlife Service that have a role to play in connection with energy projects; learning about any Missouri state siting laws (there are none); and identifying organizations for outreach in an effort to build a coalition of vocal opponents.

**Cook Time:** 60 days. Missouri has no laws or regulations governing the siting of energy projects. Therefore, the most important strategy was to reach out to numerous organizations with information and a request that they join the effort to halt the project. We wrote letters to the company that proposed to build the project, Element Power, and wrote letters and placed telephone calls to the investor-owned Kansas City-based electric utility, KCP&L, that had signed a contract to purchase electricity to be generated by the wind farm. We successfully urged other organizations to take similar actions. We copied our letters to state officials, including the governor; state agency officials; and state and federal congressmen and senators to raise visibility about the drawbacks to the proposed project. Outreach to news organizations also succeeded in the placement of several news articles about the project including its disadvantages.

**Yield:** Element Power withdrew its plans for this project and cancelled leases with landowners. Element Power was extremely unresponsive to our contacts. Our efforts succeeded because KCP&L officials listened to our concerns, were cognizant of the growing vocal opposition to the project, and appeared to be sensitive to the potentially negative image of their company. KCP&L had no direct control or decision-making authority regarding the project. However, the utility was instrumental in contacts with Element Power about the problems associated with the site.

**Skill Level/Expertise:** ✓ Average



Top right: Yellow-headed Blackbird / Mary Nemecek

Above: Squaw Creek / Mary Nemecek

## Important Bird Areas Project Recipes

### Recipe: Saving a Migratory Bird Refuge from a Proposed Ill-sited Wind Energy Farm

**Key Species:** Bald Eagle, Trumpeter Swan, Semipalmated Sandpiper and other migratory shorebirds, pelicans, Wood Duck, Blue-winged Teal, Sandhill Crane, Great Blue Heron, Snow Goose, Killdeer, and possibly endangered Indiana bats

**Key Threats:** Siting a wind farm near a migratory bird refuge that could kill thousands of birds

**Key Actions:** Grassroots opposition to this proposal



Top: American Avocet / Mary Nemecek

Bottom: Sandhill Crane / Mary Nemecek

**Recipe Description:** Opposition to large (approximately 100 utility-scale wind turbines) ill-sited wind energy farm proposed by Element Power. This proposed project would have been constructed very near the Squaw Creek National Wildlife Refuge and two additional state-owned conservation areas. All three properties had been designated Important Bird Areas several years ago following Audubon Missouri data gathering and analysis. Some of the turbines at the proposed wind farm appeared to be sited within three miles of the Squaw Creek National Wildlife Refuge.

#### Directions:

- Step 1** Gather data and science and identify threats to birds.
- Step 2** Gather information about regulatory framework (i.e., do state regulations exist regarding siting approvals or other permit requirements; do federal regulations exist, etc).
- Step 3** Develop strategies based on specific site data and specific state regulations (or lack of).
- Step 4** Contact Audubon chapters, other organizations that may become partners, and state and federal officials to ask for support and letters of opposition.
- Step 5** Draft letters of concern/opposition to companies involved in the proposed project. Contact news organizations with information and requests to write or broadcast stories about the proposed project.
- Step 6** Thank partners and companies that were responsive and involved.

**Lessons Learned:** Wind energy is a great source of clean energy, but projects need to be sited to avoid significant bird impacts. It is important for Audubon state offices and chapters to use good data and IBAs to develop project siting guidance for your state. This guidance and information can be used to reach out to utilities, energy project developers and state officials in advance of project development to avoid conflicts and protect birds.

**Contact:** Anita Randolph, [anitarandolph@centurylink.net](mailto:anitarandolph@centurylink.net); Mary Nemecek, [msnemecek@aol.com](mailto:msnemecek@aol.com); Lane Richter, [Irichter@audubon.org](mailto:Irichter@audubon.org)

# Recipe: Stewardship and Restoration of Colonial Breeding Least Terns and Beach Nesting Habitat

Recipe Courtesy of Audubon Mississippi Coastal Bird Stewardship Program

## Gulfport IBA–Tern Sanctuary, Mississippi



### Ingredients:

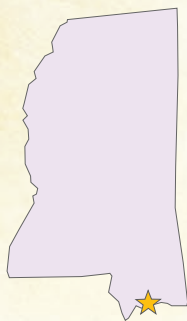
Partners—7 and counting  
Volunteers—20 wingmen per site;  
more if needed\*

Funding—\$500,000 annual

*Volunteers: 16 are needed to provide basic stewardship and monitoring; 4 volunteers provide education and outreach. Depending on beach traffic, more volunteers can be added.*

*Staff: 5 to provide: basic oversight and mentorship to volunteers; recruitment of volunteers; strategic partnerships with land managers, public officials, academic institutions, businesses, the tourism industry, media, and community organizations.*

*Chapter: Mississippi Coastal Audubon Society: Legacy—Nest in Peace. Stewardship of nesting colonial waterbirds. Pascagoula River Audubon Center*



Gulfport Tern Sanctuary



**Recipe Summary:** Working with a suite of partners, the Audubon Mississippi Coastal Bird Stewardship Program (AMCBSP) has been working to safeguard coastal birds and aid in the restoration of habitats on which they depend through promoting long-term stewardship, increasing public awareness and appreciation, and increasing support of local governments and the tourism industry.

**Prep Time:** Nesting Least Terns spend about four months of the year in Coastal Mississippi, however, preparation, including ongoing education efforts and coastal clean-ups, for their arrival is a year-round event.

**Cook Time:** Year-round: Monitoring and stewardship of nesting birds: 4 months; Education and outreach: year-round; Working and planning with partners: year-round; Monitoring and restoration of habitat: year-round.

**Yield:** Increase in productivity of colonies; increased breeding population; reduction of human disturbances; maintenance and restoration of beach-nesting habitat; increased volunteer participation; increased public awareness of conservation needs of beach-nesting birds; increased cultural appreciation of beach-nesting birds; and increased support from local and county government and tourism industry.

**Skill Level/Expertise:** ✓ Advanced

**Recipe Description:** With support from the National Fish and Wildlife Foundation and the Mississippi Department of Environmental Quality, the Audubon Mississippi Coastal Bird Stewardship Program (AMCBSP) was created in June 2014 to safeguard coastal birds, such as the Least Tern, and aid in the restoration of habitats on which they depend. In order to achieve this goal, AMCBSP works with a suite of partners, including land managers, policy makers, local businesses, the tourism industry, Audubon centers and chapters, the media, and volunteers (locally known as wingmen) to steward both colonial nesting populations as well as beach habitat throughout the year. Utilizing a comprehensive approach that incorporates protection as well as education and outreach, Audubon builds the foundation which enables the community to learn and support an attitude and behavior of stewardship towards coastal birds and habitats.

Top right: Least Tern / Kenneth Cole Schneider CC BY-NC 2.0\*

Proud fourth grader stands next to sign posted at Least Tern closure. / Mary Cowan

## Important Bird Areas Project Recipes

### Recipe: Stewardship and Restoration of Colonial Breeding Least Terns and Beach Nesting Habitat

Notes

**Key Partners:** Harrison County Sand Beach Authority, Harrison County Board of Supervisors, City of Gulfport, Department of Marine Resources, Mississippi Secretary of State, Mississippi Coastal Audubon Society, Pascagoula River Audubon Center, Mississippi Gulf Coast Tourism Board, Mississippi Department of Marine Resources, Mississippi Department of Environmental Quality, National Fish and Wildlife Foundation, local schools, businesses, and press/media

#### Directions:

- Step 1** Work with land managers to prepare for upcoming nesting season; ensure resources such as fences, closure signs, and rope are located or procured; and create plan to post and rope off colonies.
- Step 2** Work with local schools to teach fourth graders about life history and conservation needs of Least Terns. Work with students to produce educational messages/artwork which will be rendered into large signs to be displayed at closures.
- Step 3** Work with local schools to teach high school students about life history and conservation needs of Least Terns. Work with students to create unique sketches of Least Terns which will be rendered into temporary tattoos for nesting stewardship outreach events.
- Step 4** Organize coastal clean-ups with schools or community-based organizations, at least four-times as year, to remove marine debris from nesting sites.
- Step 5** Work with land managers on an ongoing basis to review current land practices such as creation of dunes, sand-abatement projects, and sand-replenishment projects. Advise as needed on practice and implementation.
- Step 6** Work with land managers, government, businesses, tourism industry, community-based organizations, and media to understand benefits of nesting birds and create buzz and excitement to support stewardship activities.

Below: Least Terns settling near social attraction decoys. / Mozart DeDeaux



### Recipe: Stewardship and Restoration of Colonial Breeding Least Terns and Beach Nesting Habitat

- Step 7** Check closure official signage: ensure there are enough signs, translate into Spanish and Vietnamese, and print out additional signs as needed. Print out kid signs.
- Step 8** Work with Boy Scouts and other community-based or school organizations to create plywood Least Tern decoys and Chick Shelters.
- Step 9** Cultivate, recruit, and train volunteers/wingmen for stewardship opportunities including colony sentinels, colony monitors, and outreach members. If potential volunteers cannot attend a training, provide quick orientation on site. Order volunteer tees, hats, and safety vests. Ensure there is enough sun protection via umbrellas and sun shade.
- Step 10** Review outreach and education materials. Plan outreach games such as migration bean bag toss. Print tattoos.
- Step 11** Monitor for arrival of Least Terns and colonization. Deploy wooden decoys to socially attract birds to closure sites. Provide ongoing monitoring for courtship, nesting, and hatching of chicks. Deploy chick shelters to provide chicks with shelter from hot summer sun.
- Step 12** Rope off and post signs at closure sites in coordination with land managers. Invite 4th grade students to participate in posting of their artwork at colonies.
- Step 13** Organize stewardship events. Place colony sentries and monitors, in teams of two, approximately every 30 meters around colony. Sentries will provide protection against human disturbance, while monitors will provide data on breeding adults, chicks, predation, use of chick shelters, etc. Place education and outreach team and volunteer rest stop/check-in station at least 100 meters from nesting colony. Provide scope station so beach users can look at nesting birds. Provide educational materials and resources to engage public. Offer free temporary tattoos to engage public, especially children, and while applying tattoo, teach individuals about life history and education needs of Least Terns. Offer educational games such as migration bean bag toss.
- Step 14** Work with local media to celebrate and highlight activities.
- Step 15** Remove nesting closure signs, posts, and ropes after fledglings have started their migration back to wintering grounds.

**Key Species:** Least Tern primary, Black Skimmer secondary

**Key Threats:** Threats to habitat such as erosion, human development, sea level rise, increased storm intensity, and pollution; competition of space from over-crowding, invasive species, and marine debris; human-induced disturbances including dogs off-leash, discomposure of nesting grounds, and even poaching of eggs; predation, including human-amplified; and the reduction of prey species.



Top: Least Tern temporary tattoo design.  
/ Morgan Dodge

Bottom: Audubon staff teaching children how to use a scope for the first time. / Sarah Pacyna

## Important Bird Areas Project Recipes

### Recipe: Stewardship and Restoration of Colonial Breeding Least Terns and Beach Nesting Habitat

Notes

**Key Actions:** Reduce human disturbance; promote long-term stewardship and sustainability of Gulf Coast bird populations by building capacity of the general public and recreational beach users to steward and share the shore with nesting birds; and create a political will for local, county and state government as well as businesses and the tourism industry to advocate for healthy populations of nesting seabirds such as the Least Tern

**Step 16** Reflect on stewardship season and list lessons learned. Review with team including staff, partners, and volunteers.

**Step 17** Repeat steps as necessary.

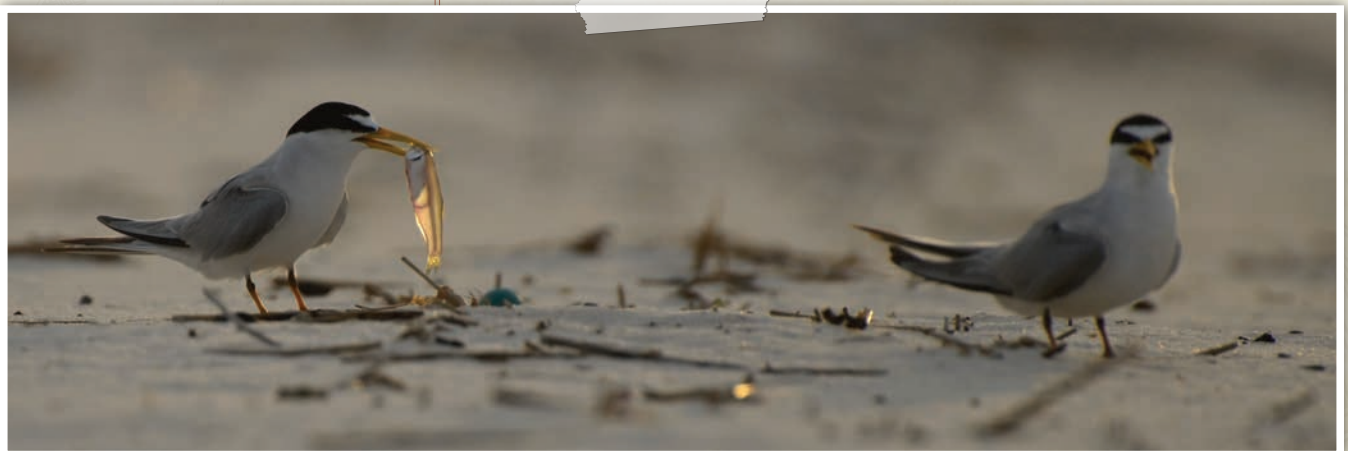
**Lessons Learned:** The Gulfport IBA-Least Tern Sanctuary was declared by the Mississippi Secretary of State and is managed by the Harrison County Sand Beach Authority (HCSBA), a key partner of Audubon's. The mission of the HCSBA is to create a premier tourism destination that provides high quality amenities and unique experiences while embracing design that is resistant to natural disasters. Some recreational beach users do not always understand that HCSBA's vision can be mutually exclusive and beneficial to beach nesting birds with careful planning and implementation.

**More about the Important Bird Area and Project:** Least Terns are charismatic, summer residents on Mississippi's Gulf Coast. Recreational beach, stretching from Biloxi to Pass Christian, support an Important Bird Area (IBA), known as the Gulfport IBA—Tern Sanctuary. In spring, Least Terns return from their wintering grounds, aggregating and forming colonies in order to court mates, nest, and rear chicks. Once numerous, numbers of breeding pairs have drastically reduced from 5,000 in 1983 to 1,270 in 2013. Least Terns are facing threats to habitat, including but not limited to: pollution, including disastrous impacts from the 2010 BP Deepwater Horizon oil spill and increasing marine debris; human-induced disturbances including discharging of fireworks into colonies as well as poaching of eggs; and predation, including human-amplified.

Earlier stewardship of the Gulfport IBA-Least Tern Sanctuary was championed by the Mississippi Coast Audubon Chapter and the Pascagoula River Audubon Center.

**Contact:** Sarah Pacyna, [spacyna@audubon.org](mailto:spacyna@audubon.org)

Below: Least Tern courting mate. /  
Mozart DeDeaux



## Notes from the Network

"We can make a difference for the birds and places we love most. And these recipes provide the proof. What's the secret sauce? You! Every ounce of effort adds up!"

—**Dr. Peg Olsen, Chief Conservation Officer, National Audubon Society**



"As a chapter president and educator, the Important Bird Area provides a center piece for our chapter's efforts to integrate: bird monitoring; engagement of individuals, families and communities in Bird Friendly Communities outreach; education of young people in our Audubon Adventures Clubs with IBA visits, and teaching others about the importance of birds through a program of field trips to the IBA. Considering impacts of climate change on birds and habitats, IBAs are the critical places to focus our conservation, outreach, and monitoring efforts. All of these contribute to our goal for individuals to take action to protect birds."

—**Dr. Leigh Altadonna, President, Wyncote Audubon Society and Board Member, National Audubon Society**



"Volunteerism is at the heart of citizen science, and the data generated by people in such projects has become the core of conservation efforts in many fields. Citizen science data sets like the Christmas Bird Count, Breeding Bird Survey, and eBird are crucial to our understanding of what species are doing fine, and which birds are in trouble. Becoming involved at any level in such a program helps save birds and their habitats."

—**Geoff LeBaron, Director, Christmas Bird Count, National Audubon Society**

# Recipes from the Central Flyway



# Recipe: Cuckoo on the Agua Fria

Recipe Courtesy of Audubon Arizona

Agua Fria National Monument Riparian Corridors, Arizona



## Ingredients

Partners—5

Volunteers—7

4 volunteers, 3 student interns

Funding—\$25K per year

biologist time, internship salaries, rental vehicle for field season and travel expenses



Agua Fria National Monument Riparian Corridors



Audubon ARIZONA

**Key Partners:** Bureau of Land Management, Sonoran Audubon Society, Friends of Agua Fria National Monument, Arizona Game and Fish Department, US Fish and Wildlife Service

**Recipe Summary:** Audubon Arizona and partners conduct annual surveys of the Western Yellow-billed Cuckoo, a Federally Threatened species.

**Prep Time:** Approximately 10 days March through May; ongoing coordination

2 days (April) to apply for Federal and State permits to use tape playback protocol. 3 days (May) to recruit volunteers and hire River Pathways high school student interns. 2 days (June) to train volunteers and interns in the tape play-back protocol. Coordinate with BLM biologists (ongoing). 3 days (March to plot survey route).

**Cook Time:** Time for 4–5 Yellow-billed Cuckoo surveys at 6–7 locations (late June–early August) and time for submitting data via eBird for other species

**Yield:** Completed Yellow-Billed Cuckoo surveys, with data submitted to Audubon Arizona and ultimately to the BLM and US Fish and Wildlife Service.

**Skill Level/Expertise:** ✓ Average

**Recipe Description:** Considering the loss of riparian habitat due to various pressures, this project focuses on monitoring Western Yellow-billed Cuckoo within the Agua Fria National Monument Riparian Corridors Important Bird Area to help in supporting land management decisions.



Top right: Western Yellow-billed Cuckoo / Hunter McCall

Interns surveying / Steve Prager

## Important Bird Areas Project Recipes

### Recipe: Cuckoo on the Agua Fria

**Key Species:** Western Yellow-billed Cuckoo—a federally threatened species

**Key Threats:** Loss of riparian habitats from water diversions, groundwater pumping, off-highway vehicles, overgrazing by livestock

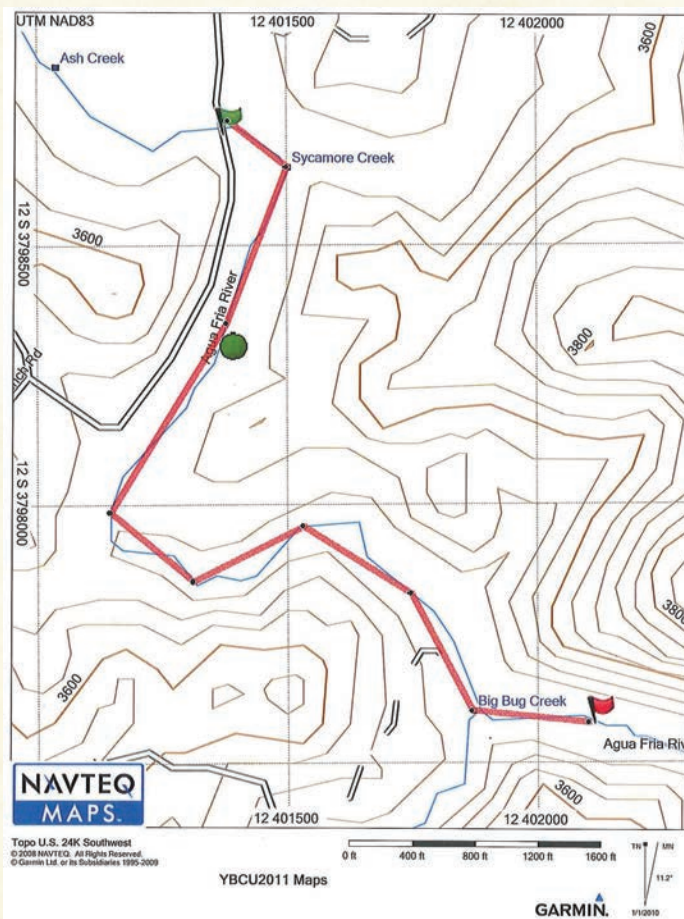
**Key Actions:** Monitor population status of the bird on this IBA. Support BLM OHV exclusion and seasonal exclusion of livestock in the riparian habitat

#### Directions

- Step 1** Identify a Federal Agency Partner.
- Step 2** Apply for Federal Youth Initiative Conservation funding (multiple grants depending on the agency).
- Step 3** Identify and map the survey routes—plan survey protocol.
- Step 4** Recruit Audubon chapter or local site steward volunteers and youth interns.
- Step 5** If required, obtain State and Federal permits.
- Step 6** Train interns and volunteers—go survey!!

**Lessons Learned:** Surveys are important data for status evaluation of the bird in Arizona and shows species occupation of riparian areas recovering after OHV exclusion and cattle management.

**Contact:** Steve Prager, [sprager@audubon.org](mailto:sprager@audubon.org)



Survey Route Map / Audubon Arizona

Important Bird Areas Project Recipes

# Recipe: Birds Beyond Borders

Recipe Courtesy of Arizona IBA, Tucson Audubon

Chiricahua Mountains Important Bird Area, Arizona



## Ingredients

- Partners 2
- Volunteers 20
- Funding \$41,800

Grant for \$41,800 for two years work in both countries

A core group of committed staff at the Reserva in Sonora that grew up in the village of Sabinito that is within the Reserva. They have great respect for the land, its habitats and wildlife. They have also been mentored by an excellent professional bird guide on bird identification to provide another source of revenue for them as guides themselves. These skills were key in this crew being implemented as bird surveyors.



**Key Partners:** Tucson Audubon and Nature and Culture International

**Recipe Summary:** The Arizona Important Bird Areas Program and Nature and Culture International in Sonora, Mexico teamed up to implement an international coordinated bird survey effort.

**Prep Time:** Over 2 years—partnership formed over two summer sessions and CBCs

**Cook Time:** Surveys to occur throughout 2 years (2015–2016)

**Yield:** Bird survey routes established in an ecologically rich preserve in Mexico that has almost no baseline bird data of any kind. Much needed basic survey equipment into the resident guardians that live in the preserve. Cross-border cooperative and coordinated bird monitoring in two Important Bird Areas that are within the Sierra Madre Mountains Chain and share similar habitat characteristics and headliner bird species such as Montezuma Quail, Varied Bunting and Whiskered Screech-owl. Significant migration monitoring component—many migrants travel up this mountain chain that contains both IBAs.

**Skill Level/Expertise:** ✓ Advanced. The individual that implements and coordinates this effort requires experience in survey design and training volunteer bird surveyors. The volunteer surveyors need advanced birding skills themselves.

**Recipe Description:** This is an international coordinated bird survey effort between Arizona IBA and Nature and Culture International in Sonora, Mexico. The Arizona IBA Coordinating Biologist traveled to Mexico in summer 2014 to teach the guardians of the Reserva Ecologico Monte Mojino AICA (Áreas importantes para la conservación de las aves), the bird survey protocol used in Arizona IBA and set up transects analogous to those conducted in Arizona. The two entities partnered and successfully applied for a grant for coordinated monitoring between two Important Bird Areas in different countries that are lined ecologically.



Top right: Montezuma Quail / Jerry Oldenettel  
CC BY-NC-SA 2.0\*

Left top: Cuchihaki River runs through Reserva Ecologico Monte Mojino, Mexico / Jennie MacFarland

Left bottom: Chiricahua Mountains Global IBA, Arizona, USA. Shows the results of a large wildfire that had raged through this range a few years before. / Jennie MacFarland

## Important Bird Areas Project Recipes

### Recipe: Birds Beyond Border

Notes

**Key Species:** Montezuma Quail, Flame-colored Tanager, Arizona Woodpecker, Greater Pewee and various migrants

**Key Threats:** Fire in both sites, cattle grazing in the reserve in Mexico

**Key Actions:** Establishing international cooperative surveying of two Important Bird Areas in two countries that are ecologically linked



#### Directions

- Step 1** Establish relationships with other groups (in this case for CBCs in Alamos with high Tucson birder participation).
- Step 2** Establish ongoing periodic monitoring for Important Bird Area.
- Step 3** Look for international grant opportunity.
- Step 4** Reach out to already established partner, cement relationship meeting in person and setting up survey routes and teaching protocols.
- Step 5** Use the strengthened partnership and already established cooperative monitoring to apply for grant funding.
- Step 6** Once funding received, the real work begins!

**Lessons Learned:** Establish partnerships wherever and whenever you can —you never know what opportunities could result from the relationships.

**Contact:** Jennie MacFarland, [jmacfarland@tucsonaudubon.org](mailto:jmacfarland@tucsonaudubon.org)



Far left, top: Conducting bird surveys in Reserva Monte Mojino, Mexico / *Jennie MacFarland*

Far left, middle: Chiricahua Mountains Global IBA, Arizona, USA. The well known birding destination—South Fork of Cave Creek. Many Mexican rare birds have been documented here. / *Matt Griffiths*

Far left, bottom: Rufous-backed Robin nest in the Reserva Ecologica Monte Mojino / *Jennie MacFarland*

Left: This is a map showing the two Important Bird Areas in two countries involved in this project. / *Jennie MacFarland*

# Recipe: Blacks Creek Bird Reserve: A Community of Conservation

Recipe Courtesy of Golden Eagle Audubon Society

## Blacks Creek Reservoir, Idaho



### Ingredients

Partners	10
Volunteers	180
Funding	\$35,000

*Motivations that varied but were alignable: Golden Eagle Audubon wanted to protect IBA; Sheriff wanted to eliminate incidents; irrigation district wanted to eliminate vandalism; BLM and private landowner wanted to minimize liability; etc.*



**Recipe Summary:** Golden Eagle Audubon Society has led efforts to clean up, restore, and protect Blacks Creek Bird Reserve working with many partners in the Boise community.

**Prep Time:** Two years

**Cook Time:** Three years plus: Initial goals achieved in 3 years but restoration continues.

**Yield:** Six hundred acres of wetland and upland habitat protected. Public lands managed under a modification of a BLM Land Use Plan (adopted after completion of an Ecological Assessment). Private property protection accomplished through a verbal agreement with landowners. Conversion from trashed out, highly degraded area to restorable wildlife habitat and wildlife viewing area. Coverage by local media is increasing non-consumptive recreational use.

**Skill Level/Expertise:** ✓ Average. Some technical expertise needed (e.g., writing proposals, negotiating through BLM planning process) but majority of the work occurred through dedication and persistence of concerned individuals.

**Recipe Description:** Golden Eagle Audubon Society was the initiating force behind the creation of Blacks Creek Bird Reserve, an Audubon Important Bird Area. Blacks Creek Reservoir and the nearly 600 acres surrounding it serve as crucial habitat for over 150 bird species, but was misused and treated as a dumping ground for years. In 2007, Golden Eagle Audubon began clean-up events and began forming partnerships to begin the process of protecting this unique place. After years of work the Reserve was officially dedicated on Earth Day in 2013. Blacks Creek Bird Reserve is now protected from further habitat degradation and efforts are underway to take further important restoration activities. Blacks Creek, thanks to GEAS, our many partners (listed to left), and the Boise community, will now be a place for both birds and people to enjoy for generations to come!

**Key Partners:** Golden Eagle Audubon Society, Bureau of Land Management, Land Trust of the Treasure Valley, Idaho Department of Fish and Game, Ada County Sheriff's Office, Intermountain Bird Observatory, Pleasant Valley Irrigation District, Nicholson family ranch, Idaho Wildlife Federation, The Kruger family



Top right: Clark's Grebe / Alan Vernon CC BY-NC-SA 2.0\*

Left: Blacks Creeks Bird Reserve: A Community of Conservation / Bruce Ackerman

## Important Bird Areas Project Recipes

### Recipe: Blacks Creek Bird Reserve: A Community of Conservation

**Key Species:** Clark's Grebe, Greater Scaup, Northern Pintail, Snowy Plover, American Golden-plover, Long-billed Curlew, Swainson's Hawk, Short-eared Owl, Loggerhead Shrike, Lark Sparrow, Horned Lark, Brewer's Sparrow, and Sage Sparrow

**Key Threats:** Unregulated target shooting. Illegal dumping. Off-road vehicle. Late night revelry attracting persons and activities with little conservation ethic concerns the County Sheriff.

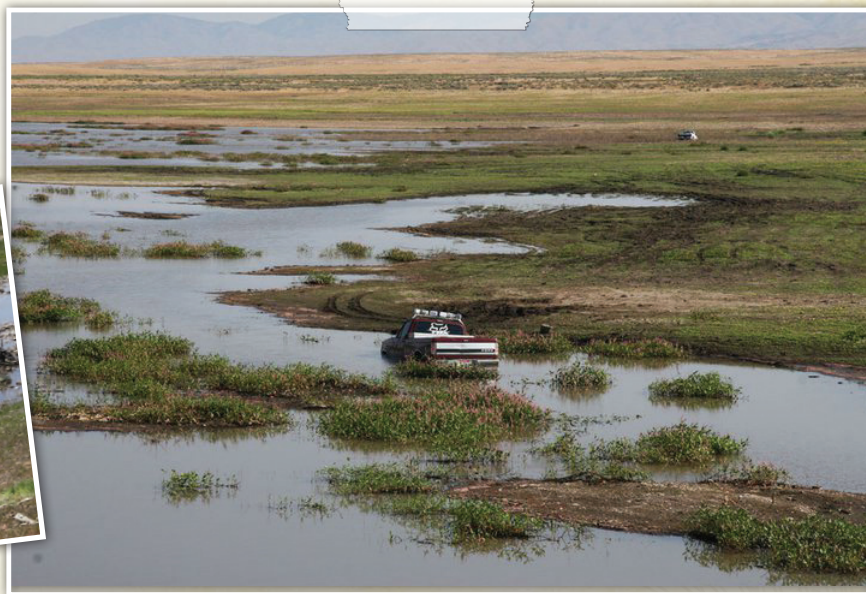
**Key Actions:** First, draft a Master Site Plan as a compilation of interviews with key landowners and stakeholders documenting their expectations and vision for the area; Motivate BLM to draft a Environmental Assessment for federal land (and publish in Federal Register); Master Plan and Assessment define key actions: install impenetrable barrier (fence) on perimeter with designated parking; site preparation for passive restoration; on-site monitoring; and social network outreach.

#### Directions:

- Step 1** Identify the need and define the problem.
- Step 2** Identify key stakeholders and understand their motivations; identify suite of activities that will advance all objectives.
- Step 3** Build a collective Vision all partners can rally around.
- Step 4** Demonstrate persistence and build trust among partners.
- Step 5** Tirelessly organize volunteers and support to complete tasks.
- Step 6** Follow up with effectiveness and ecological monitoring to measure rate/extent of objective achievement.

**Lessons Learned:** We learned ALOT! **1.** Be patient with partners and stakeholders and be willing to work within their timeframes. **2.** Fully understand the needs and constraints of stakeholders early in process in order to draft objectives that all partners can support. **3.** Demonstrate to partners your commitment to advance conservation at this site. 3 years of clean up before 'second tier' planning initiated. **4.** Be willing to compromise in order to address key threats. **5.** Seek partners in ways that engage them (e.g., County Sheriff's interest in security aligned with conservation). **5.** Volunteers are your strongest asset.

**Contact:** Sean Finn, [a.gentilis@gmail.com](mailto:a.gentilis@gmail.com)



Left: Volunteer collecting trash at Blacks Creek Bird Reserve. / Bruce Ackerman

Above: Mud bogging at Blacks Creek Reservoir is bad for birds in so many ways. / Bruce Ackerman

# Recipe: Monofilament Recycling Tubes

Recipe Courtesy of Montana Audubon  
Missouri Headwaters State Park, Montana



\*Reduce direct avian mortality

## Ingredients:

- Partners—At least 2
- Funding—Minimal; \$300 total  
~\$70.00 for tube construction
- A site willing to install the tube!



**Key Partners:** Audubon Chapters, State Park Friends groups, Wildlife Federations, conservation organizations, scout groups, angling groups, outfitters

**Recipe Summary:** This project seeks to host an event that will focus on installing a monofilament recycling tube made of modified PVC tubing to offer an option for monofilament disposal at heavily used fishing access sites to directly reduce this direct threat of mortality (to birds and all wildlife) in the environment.

The project also seeks to establish long-term volunteer servicing of the recycling tube (by local Audubon chapters anglers and park volunteers) and to educate on direct mortality and non-lead tackle alternatives.



**Prep Time and Cook Time:** 6 months or less

**Yield:** The action of hosting an event while installing the recycling tube will improve advocacy for the issue as well as directly reduce this threat—it is a project that once piloted can be repeated without too much experience.

**Skill Level/Expertise:** ✓ Minimal

**Recipe Description:** Monofilament is clear, single-stranded nylon line, preferred by anglers and used with most reels and nets. Some line and tackle inevitably enters the environment, through breakage on snags, a weighty catch, or improper disposal. When loose line finds its way off the reel and into riparian habitat, exposed wildlife—fish, turtles, waterfowl, Osprey, songbirds, and Bald Eagles—are threatened by entanglement or ingestion. Actively recycling discarded monofilament line directly reduces localized threats, injury and mortality to non-game wildlife and fills a need to increase public awareness and ability to manage the threat discarded monofilament has in the environment. This project seeks to establish long-term volunteer servicing of the recycling tube and educate on direct mortality and non-lead tackle alternatives.



Top right: Bald Eagle / Don Burkett  
CC BY-NC-SA 2.0\*

Above: American White Pelicans at Missouri Headwaters State Park / Alison CC BY-NC-SA 2.0\*

## Important Bird Areas Project Recipes

### Recipe: Monofilament Recycling Tubes

**Key Species:** Riparian dependent—Bald Eagles, waterfowl, gulls, grebes, passerines

**Key Threats:** Entanglement and ingestion

**Key Actions:** Installation and regular maintenance of the monofilament recycling tube

#### Directions:

- Step 1** Contact potential network and potential host sites.

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- Step 2** Purchase all materials for PVC tube and metal signage for IBA and filament.

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- Step 3** Work with partners to schedule and prepare educational materials and agenda.

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- Step 4** Work with Audubon chapter volunteers, site volunteers and others to schedule future tube maintenance.

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- Step 5** Host the event and install the tube.

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- Step 6** Record and report the use of the tube—how much is collected and is the maintenance schedule sustainable—make sure there are enough volunteers for this part!

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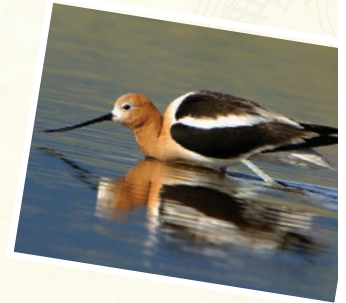
**Lessons Learned:** How do directly reduce avian mortality, lead alternatives for fishing tackle, etc.

**Contact:** Amy Seaman, aseaman@audubon.org

# Recipe: Creating a Wetland Cocktail

Recipe Courtesy of Audubon Rockies

Pathfinder National Wildlife Refuge, Wyoming



## Ingredients

Partners—7+; includes state, federal and non-profit organizations

Volunteers—TBA; volunteers will help with monitoring and some restoration efforts

Funding—Funding currently being secured for both private, corporation and state grant opportunities



**Key Partners:** US Fish and Wildlife Service, Ducks Unlimited, Wyoming Tourism, Muire Audubon Chapter, WY Bird Habitat Conservation Partnership, Wyoming Game and Fish Department, and Pathfinder Ranch

**Recipe Summary:** Centered on the Steamboat Lake area, the Sweetwater Arm of Pathfinder National Wildlife Refuge, this project is a partnership effort, focused on the restoration and enhancement of waterfowl, waterbird and shorebird nesting habitat as well as citizen wildlife viewing opportunities.

**Prep Time:** 1 year for the development of comprehensive conservation plan, partnerships, and diverse funding sources

**Cook Time:** A large and complex restoration effort such as this project is a multi-year endeavor with ongoing monitoring and evaluation over the very long term.

**Yield:** Increased nesting and foraging opportunities for waterbirds and shorebirds.

**Skill Level/Expertise:** ✓ Average ✓ Advanced. The monitoring and some wetland restoration activities will be implemented by a band of volunteers including strong participation from the local Muire Audubon Chapter. Other activities and planning will be executed by federal managers and other partners.

**Recipe Description:** Pathfinder National Wildlife Refuge was nominated and identified as an Audubon Important Bird Area in 2003 due to its significant concentration of waterfowl and shorebirds. The specific area the mitigation project is targeting is the Steamboat Lake area (Sweetwater Arm of the Refuge) and some smaller wetlands to the northwest of the lake. The project addresses both waterfowl, waterbird and shorebird nesting habitat as well as citizen wildlife viewing opportunities. Planning funds were allocated to develop possible restoration actions to help improve waterbird and shorebird habitats within the Sweetwater Arm Unit of Pathfinder as well as develop the appropriate partnerships needed to carry out the appropriate restoration and wildlife viewing opportunities and actions.



Top right: American Avocet / Pete Arnold

Left: Pathfinder National Wildlife Refuge / A. Holloran

## Important Bird Areas Project Recipes

### Recipe: Creating a Wetland Cocktail

**Key Species:** Caspian Tern, American Avocet, Willet, and Redhead

**Key Threats:** Trespass grazing (fences around the Sweetwater Unit are insufficient, low water levels and lack of management oversight of the Refuge).

**Key Actions:** Initiation of Restoration, Monitoring and Outreach:

1. Repair/Replace fencing thereby expanding bulrush habitat.
2. Continue monitoring efforts following the repair/replacement of fencing to better understand the true impact cattle grazing has on habitat.
3. Replace/enhance migrating & nesting bird habitat by increasing shorebird/waterfowl nesting habitat around Steamboat Lake by manipulating the bank/shore distance to uplands.
4. Enhance wildlife viewing opportunities. Additional and updated interpretive signs regarding Steamboat Lake. Adding a viewing platform. Establishment of a birding trail both onsite and outside PNWR in partnership with Wyoming Tourism to attract bird and wildlife enthusiasts within Wyoming and around the country.

#### Directions:

- Step 1** Work with land managers to understand issues and needs of a site.
- Step 2** Take the time to reach out and secure the appropriate partners, everything is easier with partners!
- Step 3** With partner input design the conservation plan for restoration area, including goals and objectives and target species.
- Step 4** Use the conservation plan (or while designing the plan) begin outreach to a diverse group of funders or funding opportunities.
- Step 5** Secure funding.
- Step 6** Implement restoration/conservation plan! Complete with realistic timeline and buffers for unforeseen issues.

**About the Important Bird Area and Priority Project:** Pathfinder National Wildlife Refuge is located approximately 50 miles southwest of the town of Casper, Wyoming and is divided into four management units: Goose Bay Unit, Dewese Creek Unit, Sweetwater Arm Unit, and Sage Creek Unit which are owned and managed by the United State Fish and Wildlife Service (USFWS). Other landowners/managers include the Bureau of Land Management (BLM, Rock Springs, Casper, and Lander Field Offices), and Bureau of Reclamation (BOR).

**Lessons Learned:** Leave room in your timelines for error, mishaps and mistakes. If you think the project will take 3 months, give yourself 6 months!

**Contact:** Alison Holloran, [aholloran@audubon.org](mailto:aholloran@audubon.org)



Right: Wilson's Phalarope. / *Pete Arnold*

Far right: Pathfinder National Wildlife Refuge / *A. Holloran*



## Notes from the Network



"Success of Important Bird Areas conservation depends on partnerships with local stewards and volunteers. It is only through the efforts of the dedicated people who adopt and foster the IBAs that the birds and their priority places are truly protected."

—**Dr. John Takekawa, Director of Bird Conservation,  
National Audubon Society**



"Decisions are made every day from the Halls of Congress to country boards that affect birds. Who speaks for them? It's always been Audubon and by that I mean the dedicated chapter leaders, volunteers and activists who go to zoning board meetings, who contact state and federal legislators and voice their concerns for protecting birds and the habitats they need to survive."

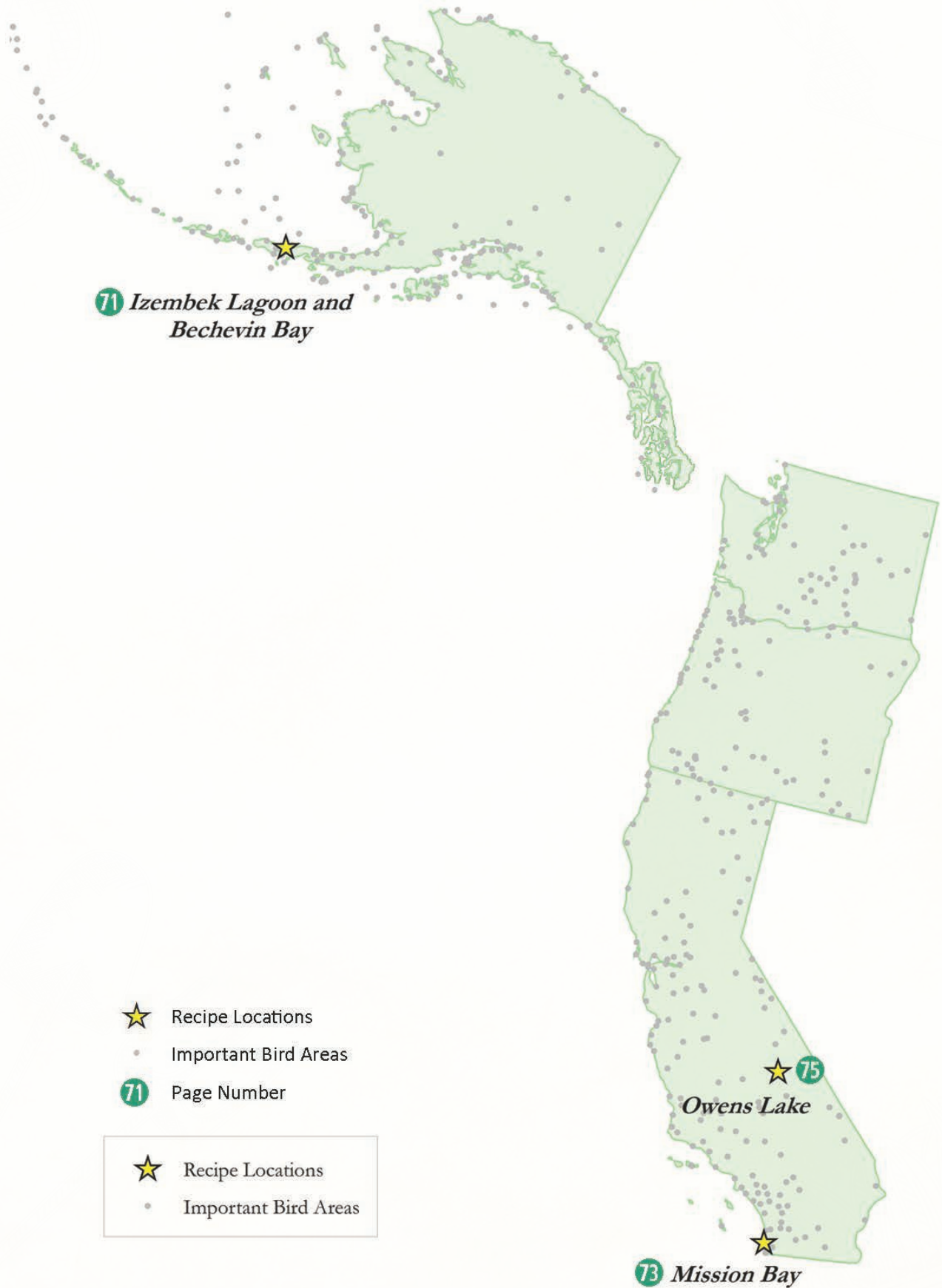
—**Connie Mahan, Director, Grassroots Outreach,  
National Audubon Society**

"Volunteers with a passion for birds have contributed for decades to our understanding of how birds are doing by becoming citizen scientists. Citizen science programs are a critical component of any bird conservation effort, generating collective data from many locations and providing a rich store of information that could not otherwise be obtained."

—**Kathy Dale, Director of Citizen Science,  
National Audubon Society**



# Recipes from the Pacific Flyway



# Recipe: Rocky Roadless Izembek Lagoon

Recipe Courtesy of Audubon Alaska

Izembek Lagoon and Bechevin Bay, Alaska



## Ingredients:

Partners—Over the years Audubon Alaska has worked with many other conservation organizations, Audubon chapters in the Pacific Flyway and nationwide.



**Key Partners:** Chapters within the Pacific Flyway, California Waterfowl Association, Washington Brant Foundation, Alaska Wilderness League, Blue Goose Alliance, Center for Biological Diversity, Defenders of Wildlife, Friends of Alaska Wildlife Refuges, National Wildlife Refuge Association, The Wilderness Society, Sierra Club

**Prep Time:** Through a combination of action alerts to Audubon members, testifying at hearings, and letters to the Secretary of Interior, Audubon Alaska has successfully led efforts to protect Izembek National Wildlife Refuge, preventing the construction of a road running through a designated Wilderness on the Refuge.

**Cook Time:** Work on this IBA started simmering again most recently in 2007, coming to a boil in 2010.

**Yield:** In December 2013, Secretary of Interior Sally Jewell announced the decision to keep Izembek National Wildlife Refuge intact, denying a proposed road through designated Wilderness.

**Skill Level/Expertise:** ✓ Advanced. This is a long-term project that included testifying in Congress; outreach to chapters, media, and partners; and science-based policy.

**Recipe Description:** In the mid-1980s, local interests proposed a road between two remote communities, running through a designated Wilderness on the Izembek National Wildlife Refuge. Since 1985, the U.S. Fish and Wildlife Service has consistently found that a road across the narrow isthmus between Izembek and Kinzarof lagoons would be incompatible with the purposes for which Izembek Refuge was established and that a road would cause significant, long-term damage to important fish and wildlife habitat and the Wilderness values of the refuge.

Audubon long supported a marine alternative to a road through sensitive Wilderness habitat. Conservation group efforts led to the 1998 King Cove Health and Safety Act, passed by Congress. That legislation provided \$37.5 million to upgrade King Cove's medical facilities, purchase a marine vehicle to provide regular ferry and emergency medical service between King Cove and Cold Bay, construct new marine terminals, and build a road between the town of King Cove and the hovercraft terminal. This law specifically prohibited a road through Izembek's federally protected Wilderness. But the road proposal reared up again in 2007, when Alaska's Senators and Representative introduced bills in Congress to arrange a state land swap to allow a road through Izembek Wilderness. In 2008, Audubon Alaska's director testified before the Senate Committee on Energy and Natural Resources Subcommittee on Public Lands and Forests.

The public process to assess the new road proposal started in 2010. Over the next several years, Audubon Alaska spearheaded action alerts to National Audubon members, testified at public hearings in Alaska, organized Pacific Flyway letters to the Secretary of Interior in support

Nearly the entire population of Pacific Black Brant relies on this IBA as a migration stopover.  
/ Ryan Hagerty, US Fish and Wildlife Service

## Important Bird Areas Project Recipes

### Recipe: Rocky Roadless Izembek Lagoon

Notes

**Key Species:** Pacific Black Brant, Emperor Goose, Steller's Eider, Dunlin. Additional species for which site is an Important Bird Area include Black Scoter, Harlequin Duck, and Glaucous-winged Gull.

**Key Threats:** A proposed road and land swap that would allow the road through designated Wilderness in Izembek National Wildlife Refuge. The road would affect important wetland and eelgrass bed habitat critical for migrating and breeding birds.

**Key Actions:** Pacific Flyway letters to secretary, science-based public comments on importance of IBA habitat

of keeping Izembek Refuge intact, and coordinated efforts with other conservation groups. In December 2013, conservation efforts paid off when Secretary of Interior Sally Jewell announced her decision to keep the refuge Wilderness intact.

#### Directions:

- Step 1** Gather scientific information about the importance of the IBA for breeding, migrating, and wintering birds.
- Step 2** Take every opportunity to submit official comments, testify at public hearings, and write letters-to-the-editor with science-based information.
- Step 3** Figure out what species connect the IBA with chapters throughout the flyway. Ask chapters to add their voices to protecting a crucial IBA in the flyway through sign-on letters.
- Step 4** Send action alerts to local chapters to attend local hearings.
- Step 5** Gather up lots of patience and repeat until desired result happens.

**Lessons Learned:** Reaching out to waterfowl and sportsperson's groups helped when we sent letter asking for protection to Secretary of Interior.

**About the Important Bird Area:** Izembek Lagoon, part of Izembek Lagoon and Bechevin Bay Global Important Bird Area, is an amazingly important stopover for many birds migrating to or from Arctic breeding grounds. Nearly the entire world population of Pacific Black Brant stops in this IBA during spring and fall migration to rest and feed in the world's largest eelgrass beds. The area regularly supports more than half the world population of Emperor Geese and up to 70 percent of the world population of Steller's Eider, which is listed as threatened under the Endangered Species Act. More than 82 species have been documented here. During spring migration, 43,000 Black Brant, 3,600 Emperor Geese, almost 18,000 Steller's Eiders, and 1,200 Black Scoters rely on this IBA. In the fall, 81,000 Black Brant, 2,100 Emperor Geese; 9,200 Glaucous-winged Gulls, and 6,000 Steller's Eiders stop here. Nearly 3,000 Harlequin Ducks and 3,500 Black Scoters overwinter in this coastal IBA. As the climate changes, Black Brant are increasingly overwintering in Izembek.

Izembek Refuge is internationally recognized for its importance to migrating waterfowl and shorebirds. In 1987, President Reagan named Izembek as the first Wetland of International Significance in the U.S. under the Ramsar Convention on Wetlands. In 2001, BirdLife International, in cooperation with the National Audubon Society, recognized Izembek as an Important Bird Area of global significance

**Contact:** Beth Peluso, [bpeluso@audubon.org](mailto:bpeluso@audubon.org)



Top right: Brant gather here because of eelgrass, an aquatic plant that grows in shallow saltwater. This IBA has some of the largest eelgrass beds in the world. / Ryan Hagerty, US Fish and Wildlife Service

# Recipe: ReWild Mission Bay

Recipe Courtesy of San Diego Audubon Society  
Mission Bay, California



\*Restoration planning



## Ingredients:

Partners	8
Volunteers	25
Funding	\$385,000
Stakeholder groups	>14

*Groups identified for outreach and participation in the planning effort.*



**Key Partners:** California State Coastal Conservancy, City of San Diego, US Fish and Wildlife Service, Southern California Wetlands Recovery Project, UC Natural Reserve System, Friends of Mission Bay Marshes

**Recipe Summary:** Through *ReWild Mission Bay*, San Diego Audubon Society is leading efforts to restore 170 acres of wetlands in the northeast corner of Mission Bay, engaging communities and stakeholders in public workshops and aligning and integrating restoration alternatives with those of regional City planning efforts.

**Prep Time:** May 2014–May 2017

**Cook Time:** May 2017–?

**Yield:** Up to 170 acres of coastal wetland and associated habitat restored

**Skill Level/Expertise:** ✓ Advanced

**Recipe Description:** *ReWild Mission Bay* is a restoration project with a goal to enhance and restore 170 acres of wetlands in the northeast corner of Mission Bay for wildlife and human life to thrive. That goal is simple, and one that anyone enjoying Mission Bay in San Diego would support. The multi-year execution of this process involves many large steps, the first of which we call the *ReWild Mission Bay Restoration Plan*. This plan includes public workshops and an in-depth feasibility study.



Top right: Light-footed Ridgway's Rail / Kirk Gilligan, USFWS

Right: Mission Bay, California / Andrea Jones

## Important Bird Areas Project Recipes

### Recipe: ReWild Mission Bay

Notes

**Key Species:** Light-footed Ridgway's Rail, Belding's Savannah Sparrow

**Key Threats:** Climate change/sea level rise, urban edge effects

**Key Actions:** Convene Wetlands Working Group, Science and Technical Advisory Committee, Community Representative Group; hire consulting firm to develop restoration alternatives; facilitate public workshops to engage with community leaders, partners, stakeholders, and members of the public; align and integrate restoration alternatives with adjacent regional City planning efforts.

#### Directions:

- Step 1** Develop on-the-ground presence with small-scale habitat management activities to build trust in landowners and agency personnel.

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- Step 2** Initiate a broad-scale IBA Conservation Planning effort to identify key goals for monitoring, planning, and restoration implementation.

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- Step 3** Build/cultivate a network of partners including landowners, wildlife agency staff, adjacent landowners/users, and funders.

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- Step 4** Align project goals with regional/statewide restoration priorities.

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- Step 5** Integrate project into regional/statewide priority project lists.

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- Step 6** Cultivate funders and win funding to begin the project.

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**Lessons Learned:** Inclusivity and transparency are essential to build a vision that is truly representative and that will be ultimately accepted by the community where the project resides.

**Contact:** Chris Redfern, [redfern@sandiegoaudubon.org](mailto:redfern@sandiegoaudubon.org)

# Recipe: Owens Lake Conservation Action Plan

Recipe Courtesy of Audubon California and Eastern Sierra Audubon  
Owens Lake, California



## Ingredients:

Partners—10+  
Volunteers—2 Audubon volunteers participated in conservation plan. 30+ participate in spring and fall lake-wide bird surveys  
Funding—None. Audubon CA staff time. Facilitation was paid for by LADWP but cost @ \$200,000

**Recipe Summary:** Building on partnerships and planning efforts initiated in 2007, Audubon California and Eastern Sierra Audubon, along with a myriad of partners, have been engaged in developing a long-term plan to integrate the needs of dust control, conservation, and other uses on the lake.

**Prep Time:** 6 months

**Cook Time:** 2 years for initial CAP, 3 years for Master Project

**Yield:** Formation of a working group with diverse interests including water agencies and environmental nonprofit organizations. Development of a comprehensive management plan to mitigate the impacts of dust from the exposed lakebed, reduce water applied to the lake, and provide adequate habitat for wildlife.

**Skill Level/Expertise:** ✓ Advanced

**Recipe Description:** In 2007, Audubon California and Eastern Sierra Audubon initiated a Conservation Action Plan for Owens Lake Important Bird Area, and formed a partnership with the Los Angeles Department of Water and Power (LADWP), the California Department of Fish and Wildlife (CDFW), and the Great Basin Air Pollution Control District (District) to identify key habitats and species on the lake bed, their threats, and new conservation strategies to ensure lasting protection of the habitat and species that were returning to the lake as water was being applied to mitigate dust.

In 2010, these discussions expanded, with the support of LADWP, into a formal master planning process with a goal of creating a long-term and enforceable agreement to integrate the needs of dust control, conservation, and other uses on the lake. These include recreation, mining, grazing, Native American interests, water bottling, renewable energy development, and local economic development. The planning process was completed in 2013 and resulted in a proposed Master Project (now undergoing environmental review) across the entire lake that would reduce water usage on the lake, while maintaining bird habitat and controlling dust, and allowing for public access opportunities.



**Key Partners:** LA Department of Water and Power, State Lands Commission, CA Department of Fish and Wildlife, Great Basin Air Pollution Control District, Sierra Club, Eastern Sierra Land Trust. A combination of state and federal agencies, non-governmental organizations, industry, tribes.



Top right: Western Sandpiper / Ken Schneider CC BY-NC 2.0\*  
Right: Birders at Owens Lake / Michael Prather

## Important Bird Areas Project Recipes

### Recipe: Owens Lake Conservation Action Plan

Notes

**Key Species:** Western Sandpiper, Snowy Plover, Least Sandpiper, American Avocet

**Key Threats:** Water withdrawal, drought, invasive species

**Key Actions:** Actions from the original conservation action plan: 1) inventory and develop conservation plan for seeps and springs, identify sources of funding for protection, 2) remove invasive tamarisk from entire lake bed, 3) develop an NRCS grazing plan and BMPs for leases, 3) snowy plovers—continue monitoring, identify research needs, funding opportunities, and outside group to conduct research on breeding snowy plovers, 4) develop recreational access plan. Since these actions were developed, the process evolved into a Master Plan and Master Project which incorporated all of these actions, including many others with the key goals to: conservation water, preserve habitat, and abate dust.

#### Directions:

- Step 1** Engage potential partners, considering all those that may have an interest at the site, even if they differ from yours.

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- Step 2** Form a planning committee to represent and address the diverse interests and resources at the site. Secure funding for facilitation of planning process.

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- Step 3** Develop a vision statement to guide the planning process, defining objectives of the plan.

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- Step 4** Consider scientific analyses that could help with the planning process.

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- Step 5** Consider opportunities to involve citizen scientists in monitoring or gathering information to help inform planning process; ensure more stakeholder support.

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- Step 6** Determine means to strengthen stakeholder cooperation and support of the major landowners and agencies in creating the plan.

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- Step 7** Maintain transparency in the process—keep planning committee meetings open to the public and minutes, presentations, and drafts posted on a public website.

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- Step 8** Keep communication lines open throughout!

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**Lessons Learned:** Stakeholder engagement, citizen science, committee development, transparency in planning, and an orderly process with clear goals, expectations and communication were critical to making this effort a success. Aggressive, efficient, and well-planned management can protect public health while providing enough habitat for wildlife.

**Contact:** Andrea Jones, [ajones@audubon.org](mailto:ajones@audubon.org)



Far left: Audubon team, April 2012 / N. Prather  
Left: Lake Owens Conservation Action Plan team

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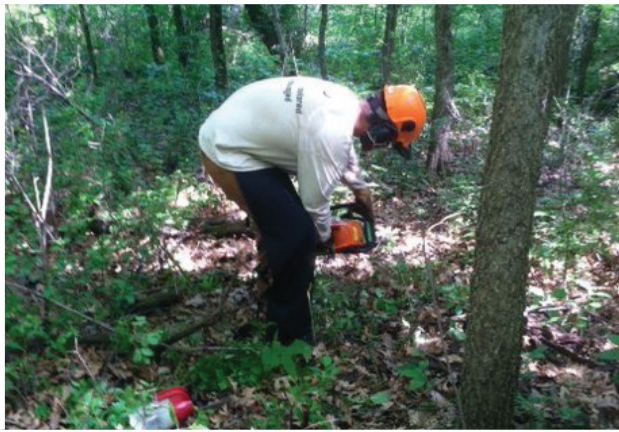
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