



# Center for Conservation Innovation

Strategic Plan  
2024-2029







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## Defenders' Center for Conservation Innovation

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The world is experiencing a rate of extinction that is unprecedented in human history. The United States is not exempt from the global trend: 34% of plants and 40% of animals are at risk. None of our species or ecosystems are left unchanged by ongoing habitat loss, overexploitation, climate change, pollution, invasive species and other major threats. This is the biodiversity crisis that we face today.

Defenders of Wildlife recognizes that yesterday's approaches to conservation are inadequate for tackling the growing challenges. Innovative and pragmatic conservation solutions are necessary to protect and recover imperiled wildlife and their habitats. In 2017, Defenders established the Center for Conservation Innovation (CCI) to explore, pioneer and advocate for new ways to advance our mission. At the intersection of science, technology and policy, we identify challenges in conservation and work to help address them by...

*Filling knowledge gaps.* Analyze data to inform conservation decisions, monitor and evaluate policies/programs, and increase accessibility/transparency of information.

*Imagining new approaches.* Leverage information and partnerships in innovating ways to address conservation challenges and ensure stakeholder accountability.

*Demonstrating the possible.* Develop concrete examples of how novel approaches and practices can improve conservation implementation to drive their adoption/use by decision makers.

We will continue to ensure that Defenders remains at the leading edge of science, technology, and policy by exploring new frontiers for improving conservation. An integral approach to protecting and restoring imperiled wildlife: is *transforming policies and institutions and promoting innovative solutions*. As such, we work with Government Relations, Conservation Law, Field Conservation and Landscape Conservation to ensure that best available data and science informs our program work in the courts, on the Hill and in the field. CCI will work to expand Defenders' capacity for better conservation.

## CCI Vision for 2029

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In our first six years of existence, CCI has grown closer to our overall vision of being a *widely known go-to team of scientists and policy experts innovating practical solutions for conservation*. We have also seen great advances in conservation science integrity, technology development and policy implementation. And thanks to national and global commitments, at least 30% of lands and waters may be conserved by 2030 (30x30). However, we have a lot of work to do to get there. We believe that 30x30 and other substantive improvements for wildlife can be achieved in a future where

- Best available science is central to conservation decision making;
- Cutting edge data and web technologies are applied to improve the efficiency and effectiveness of conservation implementation;
- New policies developed and embraced by decision makers focus on durable positive outcomes for biodiversity; and
- All of society is engaged in supporting the conservation of biodiversity and its benefits.

Here we outline key goals and strategies to help make this future a reality. Underlying all of these are some guiding themes...

*Implementation* - Strategic planning and implementation are essential to ensure that conservation commitments are met. We seek to improve the efficiency and effectiveness of selecting, siting, and carrying out conservation actions to help practitioners achieve positive impacts.

*Monitoring* - Monitoring is fundamental to knowing whether conditions are improving. We seek to help determine the impact of activities on species and habitats, the effectiveness of conservation actions, the overall progress toward desired outcomes, and other vital metrics.

*Predictions* – Anticipating tomorrow’s challenges and needs can help inform more effective conservation today. We use new data and methods to identify potential threats, predict impacts and trends, and develop new policy solutions to help prepare for the future.

*Knowledge Sharing* - Learning from our successes and failures and sharing this information widely is key to effective conservation. We support partnerships that engage a broader conservation community and work to make conservation data, science and tools more accessible.

## Goals and Strategies

In the Center for Conservation Innovation (CCI), we work at the intersection of science, technology, and policy to improve conservation outcomes through innovative, pragmatic solutions. Here we articulate three goals and ten strategies to guide our work over the next five years. These goals and strategies are natural extensions of those in the [Defenders of Wildlife Strategic Plan, 2019-2028](#) below.

### Defenders Goal 1

*Conserve and restore imperiled biodiversity in North America.*

#### Strategies

1. Defend and restore wildlife conservation protections and policies.
2. Secure new wildlife conservation initiatives, policies and laws.
3. Ensure adoption of effective climate change policies and practices to conserve wildlife.
4. Mobilize science and technology to advance wildlife conservation.
5. Lead wildlife conservation on the ground.
6. Ensure adequate public and private funding for wildlife conservation.

### Defenders Goal 2

*Mobilize a broader constituency for wildlife conservation.*

#### Strategies

1. Mobilize members and supporters.
2. Engage new audiences.
3. Expand partnerships.
4. Diversify our workforce and partnerships and foster a culture of inclusivity.

### CCI Goal 1

*Advance conservation science, technology, and policy.*

#### Strategies

1. Lead applied research to improve conservation knowledge.
2. Develop web tools to enable or improve conservation actions.
3. Draft and advocate for improved conservation laws, policies, regulations, and practices.
4. Amplify Defenders' service to science, tech, policy communities.

## CCI Goal 2

*Explore and pioneer new tools and approaches for conservation.*

### Strategies

1. Identify and explore emerging technologies/approaches in conservation.
2. Adapt technologies and approaches from other domains and test their potential within conservation applications.
3. Advance adoption of new approaches by target audiences in and out of government.

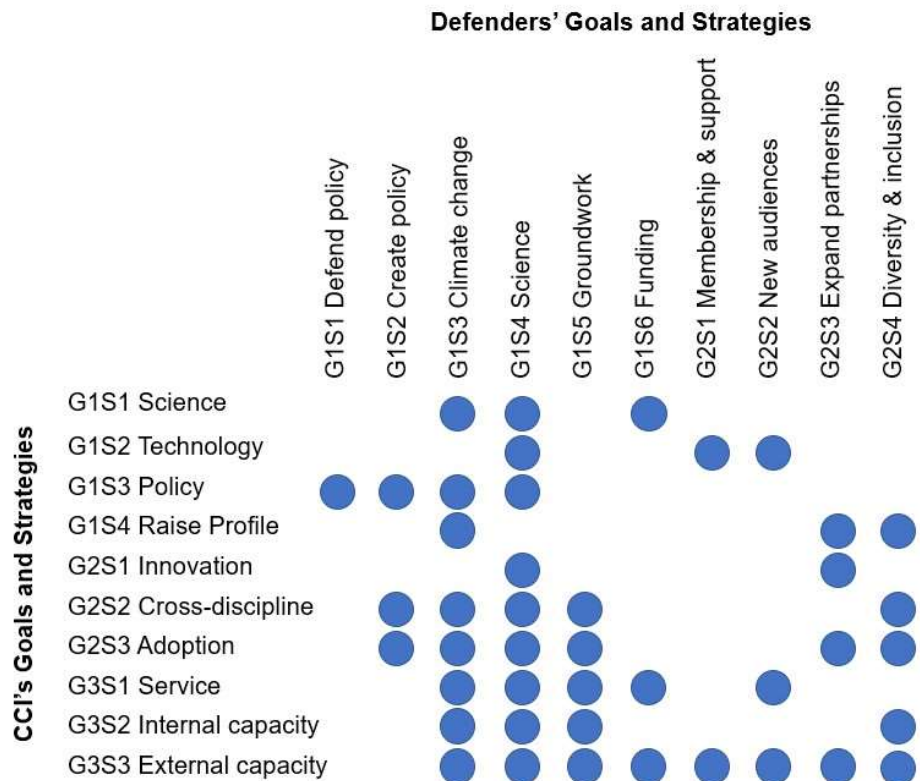
## CCI Goal 3

*Support Defenders' priorities with core expertise.*

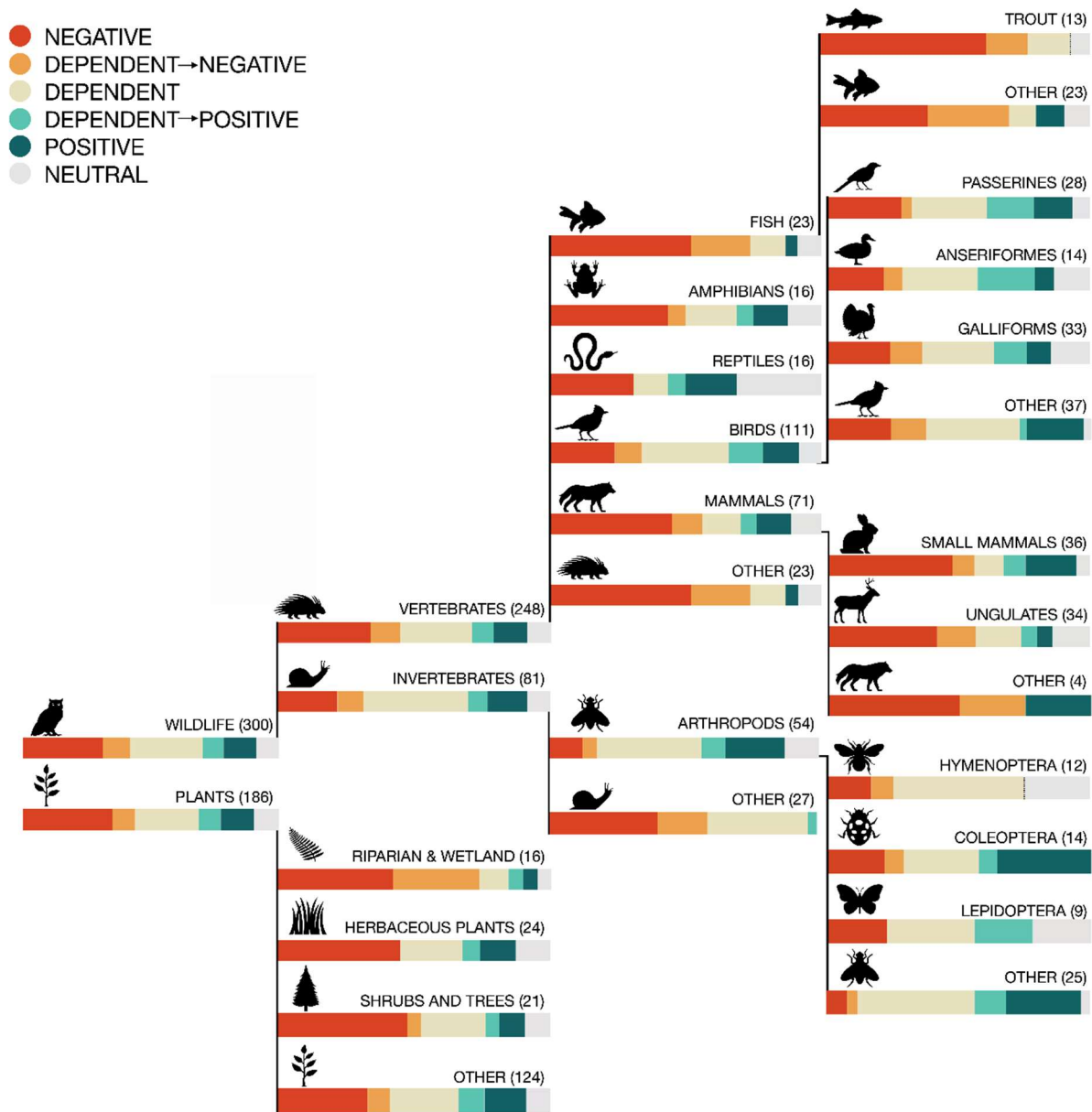
### Strategies

1. Provide scientific and policy guidance and products to support Defenders' priorities.
2. Expand internal science, technology, and policy capacity.
3. Expand Defenders' external support network in science, technology, and policy.

*CCI's Goals and Strategies (left) overlap with all of Defenders' Goals and Strategies (top). Each blue dot indicates a direct relationship between the work of CCI and Defenders more broadly.*







We conduct large-scale reviews of the scientific literature. Grazing takes place on one third of US lands and can have a substantial impact on species and habitat. Papers were classified on a continuum of negative to positive based on the effects they reported. Here we show the breakdown of results for grazing by species group to show how potential impact can vary. Number of peer-reviewed papers studying grazing affects on the species group is in parenthesis.

## Step-down Actions

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To make our goals and strategies more concrete we lay out step-down actions below that serve as the focus of our associated work. Each is assigned to a single goal and strategy combination even though multiple assignments may be possible. Additionally, step-downs are often cross-disciplinary, with contributions from staff working in science, technology, and policy fields.

### Goal 1, Strategy 1

#### *Lead applied research.*

Title	Description
Assess Program Implementation	How are wildlife laws, policies, and programs carried out? How can we improve their effectiveness?
Test Statistical Methods	What is the potential for new statistical tools/methods in conservation measuring and monitoring?
Evaluate Effectiveness	How effective are certain conservation actions? Where and at what scales?
Predict Trends	What are future challenges and opportunities for conservation?

### Goal 1, Strategy 2

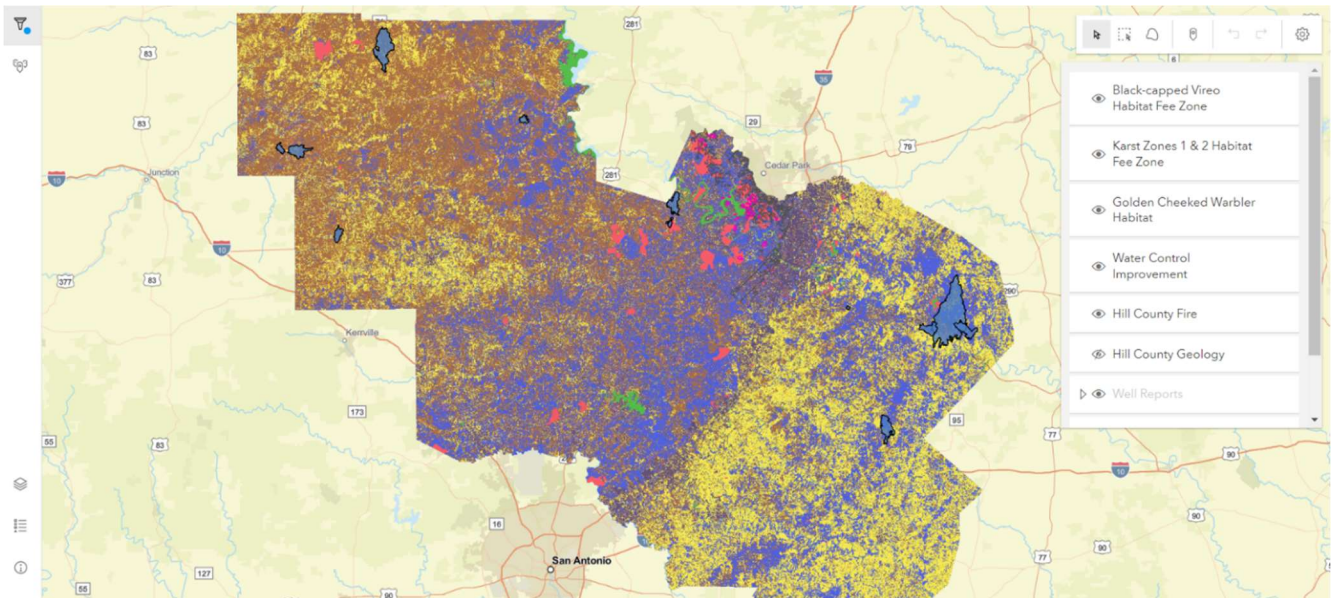
#### *Develop web tools to enable or improve conservation actions.*

Title	Description
Advance Planning	Improve the efficiency and effectiveness of conservation practitioners carrying out their work.
Enhance Communication	Communicate conservation challenges and successes to non-experts.
Facilitate Proaction	Make it easier to predict future conditions and threats to imperiled wildlife.
Enable Learning	Use retrospective analyses to enable learning from past conservation actions and outcomes.
Improve Data Access	Make conservation data and methods freely and easily available to the broader community.

**Goal 1, Strategy 3**

***Draft and advocate for improved conservation laws, policies, and practices.***

Title	Description
Advance Imperiled Species Recovery	Draft and advocate for management policies, existing and new, that reduce threats and promote recovery.
Improve Implementation	Improve policies and practices to ensure science-driven, positive, real-world outcomes.
Promote Monitoring	Strengthen policies to include monitoring for informing best science and improved adaptive management.
Integrate Science	Ensure that best science and technologies are included in policy development and implementation.



*We perform research and technology development to promote proactive conservation informed by best available science and policy. These images are from the Predicting Landscapes to Advance Conservation Effectiveness (PLACE) project. This project builds on our expertise to predict when and where land-use changes are most likely to occur, at resolutions that enable proactive intervention. In combining remote sensing, artificial intelligence (AI), statistical modeling and our deep knowledge of conservation law and policy implementation, we can empower conservation practitioners to know where to engage and help decision-makers choose actions based on alternative futures.*

**Goal 1, Strategy 4**

<b><i>Amplify service to the field.</i></b>	<b>Title</b>	<b>Description</b>
	Host Seminars	Showcase new and diverse research and ideas to expand thinking about conservation.
	Promote Media	Provide media interviews, write blogs and op-eds, engage on social media, and other strategies.
	Lead Discussion	Organize community workshops to promote discussions and action on conservation challenges.
	Support Community Science	Develop new ways to engage the public in conservation through community science.
	Shape Science	Serve as peer-reviewers or editors of scientific journals, participate in conferences and annual meetings, and work with external researchers to drive results-based conservation research.
	Prepare the Next Generation	Give lectures, attend career fairs, and host interns to share our experience and expertise with the next generation.

**Goal 2, Strategy 1**

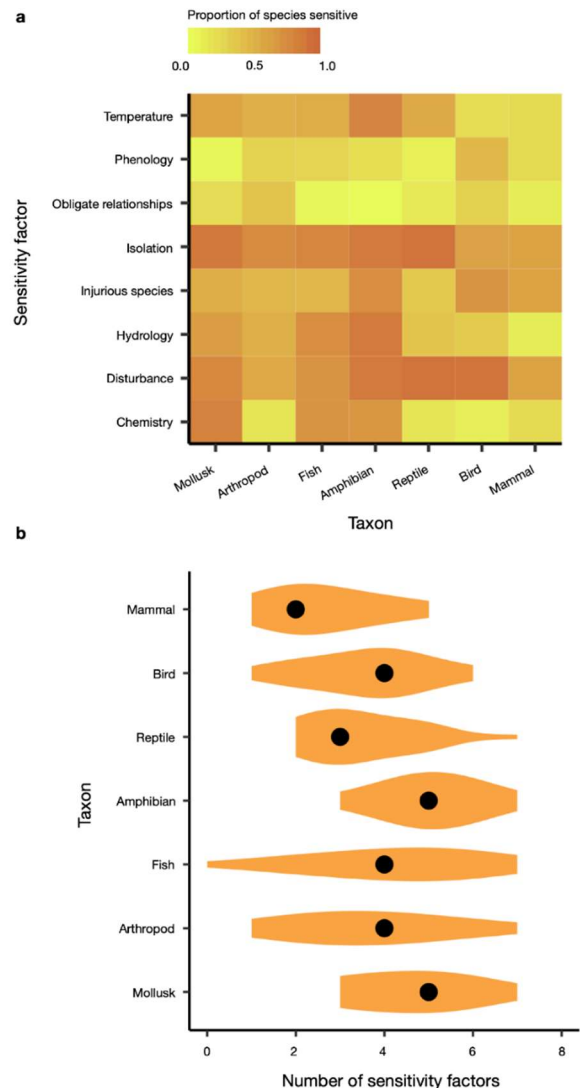
<b><i>Identify and explore emerging technologies and approaches in conservation.</i></b>	<b>Title</b>	<b>Description</b>
	Conduct Informal Research	Strategically track conservation journals, blogs, social media accounts, etc. to identify new datasets and approaches as well as trends in their use.
	Connect with Innovation Groups	Identify and meet with groups with similar innovation initiatives to learn more about their work.
	Attend Events	Learn about new approaches by attending trainings, seminars, and other events.

## Goal 2, Strategy 2

**Adapt and test approaches from other domains.**

Title	Description
Engage in Cross-Domain Science, Tech and Policy	Collaborate with experts in adjacent fields to identify and pursue new solutions to advance conservation. Ex: agriculture, engineering, economics.
Integrate Human Dimensions	Explore ways to more fully integrate environmental justice, social sciences, and ecosystem service science into our work and advocacy.
Foster Imagination	Increase opportunities to discuss new ideas and applications that stem from our day-to-day lives.
Translate Technological Developments	Put well-established tools and methods from other fields into practice within conservation applications.


*We find and analyze data from across taxonomic groups and regions to inform our work and prioritize advocacy efforts for conserving species now and into the future. Threatened species listed under the Endangered Species Act differ in sensitivity to the type and total number of climate factors. This may have implications for management and recovery.*



**Goal 2, Strategy 3**

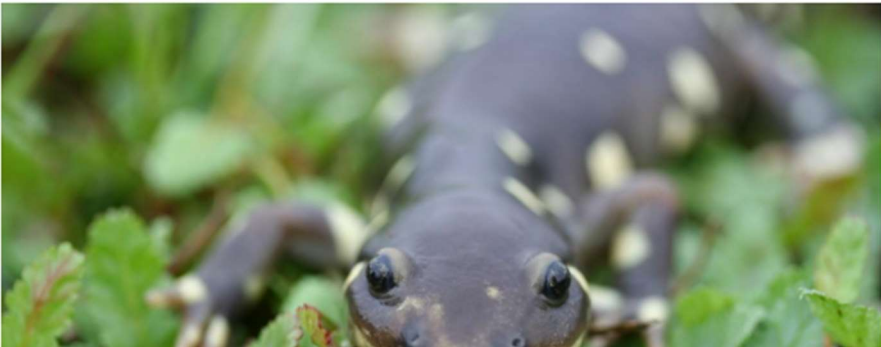
***Advance adoption of new approaches to conservation.***

Title	Description
Coproduce with Agencies	Work directly with high conservation impact agencies to identify key obstacles in their work and innovate solutions.
Advocate for Resources	Ensure that decision makers have ample resources and opportunity to incorporate new technologies and approaches into their conservation work.
Incentivize Private Sector	Identify, communicate and advocate for key incentives for adopting conservation practices in private sector.
Engage Technology Sector	Work actively with the technology sector to identify scalable solutions for conservation applications.
Improve UI/UX	Work more directly with potential users to ensure web tools and methods achieve desired functionality and accessibility.



**Funding Needs for the US Fish and Wildlife Service's Endangered Species Programs:  
2024**

Megan Evansen  
Andrew Carter  
Center for Conservation Innovation  
Defenders of Wildlife



*We analyze data on laws like the Endangered Species Act to uncover the reality of implementation. We released an analysis that shows how much funding the U.S. Fish and Wildlife Service needs to implement the ESA as intended.*

**Goal 3, Strategy 1**

***Provide guidance and products to support Defenders priorities.***

<b>Title</b>	<b>Description</b>
Develop Science Positions	Provide scientific guidance, fact-checking, and literature reviews for Defenders' science-based positions, talking points and other communications.
Consult on Policy	Provide policy guidance across the organization on the Endangered Species Act, other bedrock environmental laws, climate change and conservation generally.
Generate Key Products	Produce map products, web tools, fact sheets, policy guidance and other products.
Conduct Data Analyses	Assist and lead data analysis to inform decisions, develop figures, and support research and publications.
Foster New Opportunities	Identify areas where Defenders could more effectively apply our expertise.
Improve M&E	Develop processes for monitoring and evaluating CCI and Defenders work.
Curate Resources	Create central repositories for open source articles, guidance, data, and other products relevant to Defenders' priority work areas.

**Goal 3, Strategy 2**

***Expand internal science, technology, and policy capacity.***

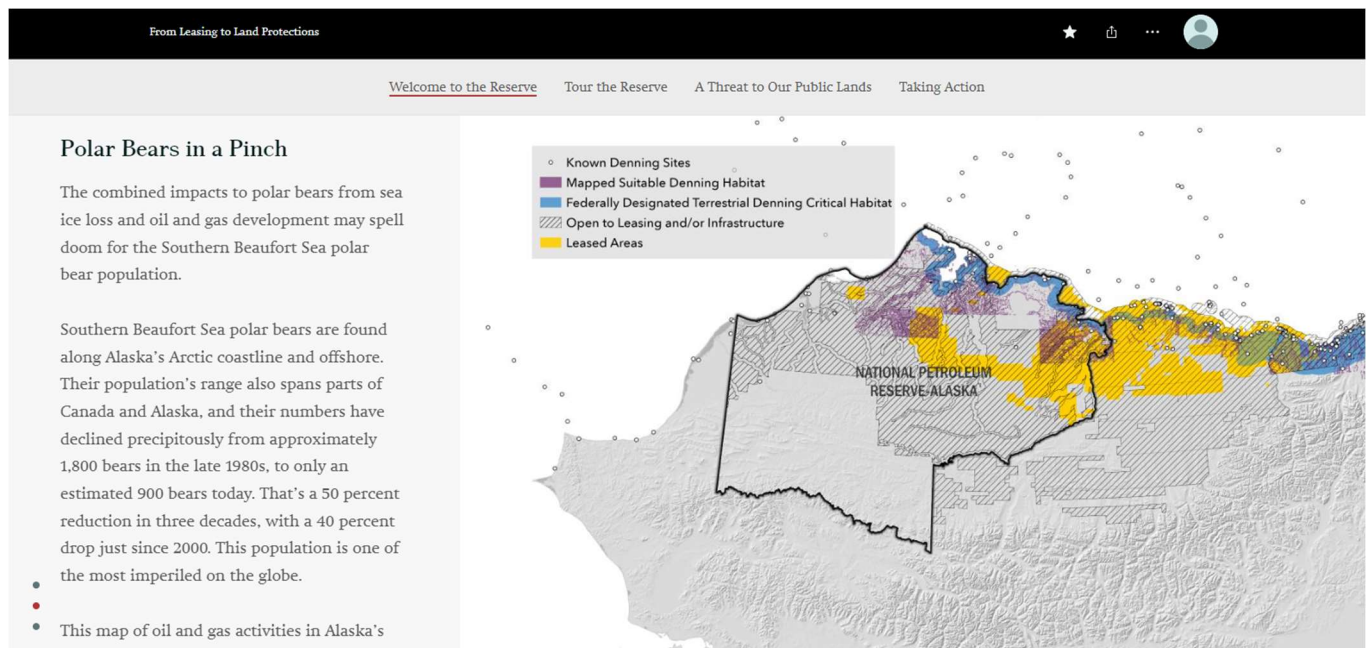
<b>Title</b>	<b>Description</b>
Build Personnel Capacity	Mentor staff and interns on science, technology, and policy skills, methods and writing.
Strengthen Cross-Dept Ties	Explore ways to strengthen linkages to other departments to advance our collective work.
Support Internship Programs	Recruit and mentor interns to build future capacity for conservation and to help fill current gaps.
Expand Computing Capacity	Expand technical computing infrastructure to meet the needs of CCI and Defenders.
Explore New Opportunities	For example, develop and implement a paid fellowship program for fellows at multiple career levels.



### Goal 3, Strategy 3

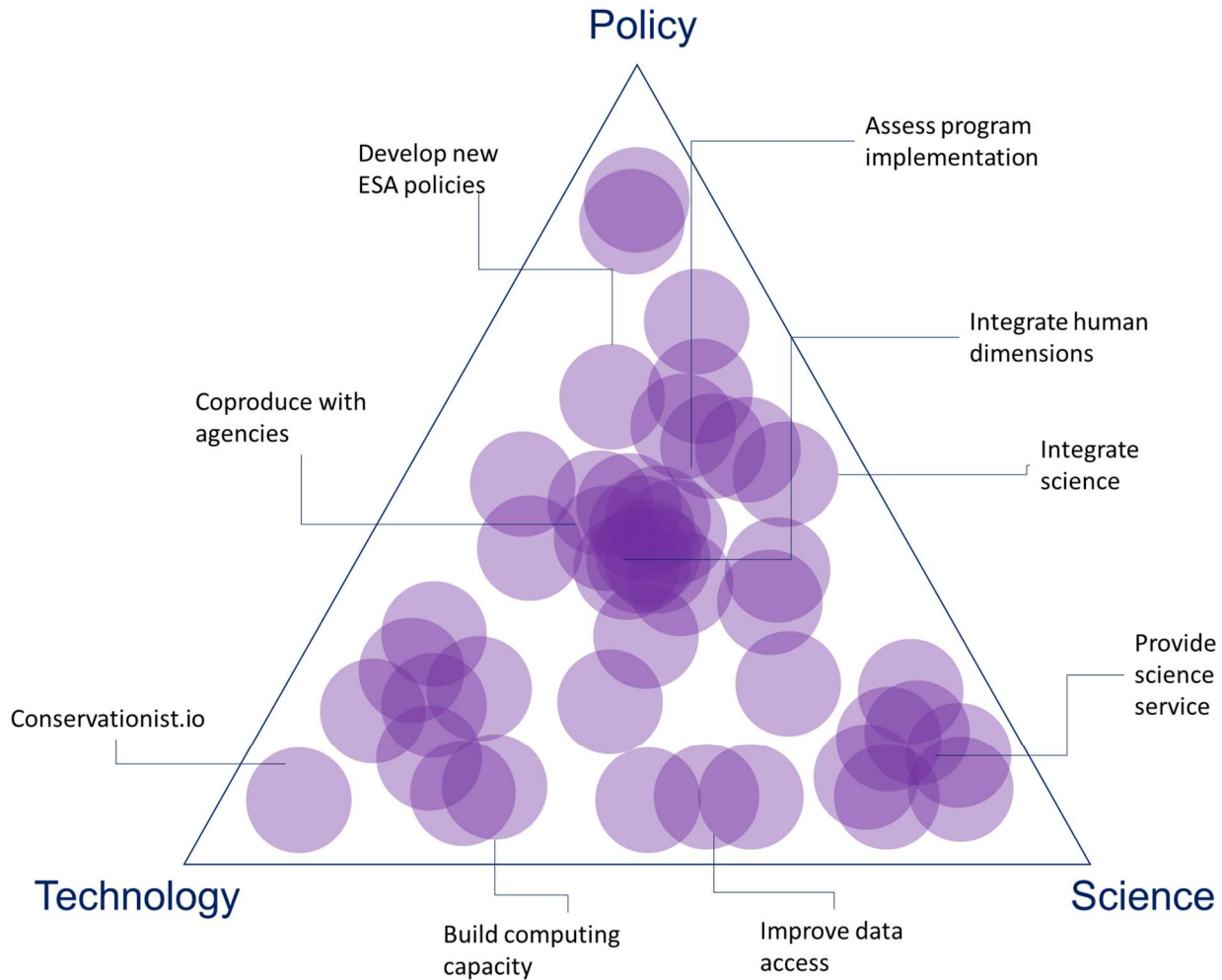
**Expand external support for Defenders' science, technology, and policy.**

Title	Description
Establish "Next-generation Advisors"	Cultivate a network of emerging scientists, technologists, and policy specialists to help advise CCI and Defenders.
Advance Tech Maintenance	Explore tech partnerships to meet the and technical computing infrastructure maintenance needs of CCI.
Liaise with Science Advisors	Recruit, nurture, and integrate Defenders' Science Advisors into project work and external networking.
Explore Grant Opportunities	Identify and pursue new funding opportunities and sources.
Expand Affiliates Base	Expand the CCI Affiliates program to include CCI alumni and select researchers and practitioners from outside the organization.



*CCI develops digital products like story maps that advance Defenders' wildlife advocacy across the country. This interactive map shows threats to polar bear habitat from oil and gas activities in Alaska's Arctic.*





*Our step-down actions cover the full science-technology-policy landscape. General position indicates the relative contribution of each component. For example, the points in the center are a balance of science, technology and policy; a point closer to “policy” has less technology or science emphasis. A few select actions are labeled as examples.*



## Measurement and Evaluation

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Adaptive management requires measuring the outcomes of actions and evaluating the measurements against a set of reference points to inform whether changes are needed. Each year, we will report on a suite of measures as they relate to each of our strategies. The measures are grouped in five main categories related to our goals and how we perceive success. To evaluate our effectiveness or changes in effectiveness,<sup>1</sup> we will make comparisons to:

1. CCI baseline levels (2017-2018 estimates);
2. previous year's levels;
3. the workplan target for the year; and
4. other, similar organizations.

### Products

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***Number or volume of deliverables completed and/or shared with audiences.***

#### Measure

Peer reviewed publications

Defenders reports and other publications

Web applications

Comment letters

Drafted laws, policies or procedures

Advocacy items

Datasets

Scientific analyses

Science syntheses and factsheets

Organization positions and talking points

Static and interactive maps

Storymaps

Other consultations fulfilled

Publications supported (authored by non-CCI staff)

Existing M&E projects maintained

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<sup>1</sup> While our ultimate outcome of interest is conserving native wildlife, most of our work is several degrees removed from that goal. Therefore, we propose measuring numerous *outputs* and *outcomes* that we believe are related to the ultimate outcome.

## People & Partnerships

**Number and diversity of the people and organizations we engage with and support.**

### Measure

Coauthors and affiliations

Technology collaborators and affiliations

Non-traditional conservation agencies engaged

State agencies engaged

Private-sector parties engaged

Science Advisor engagements

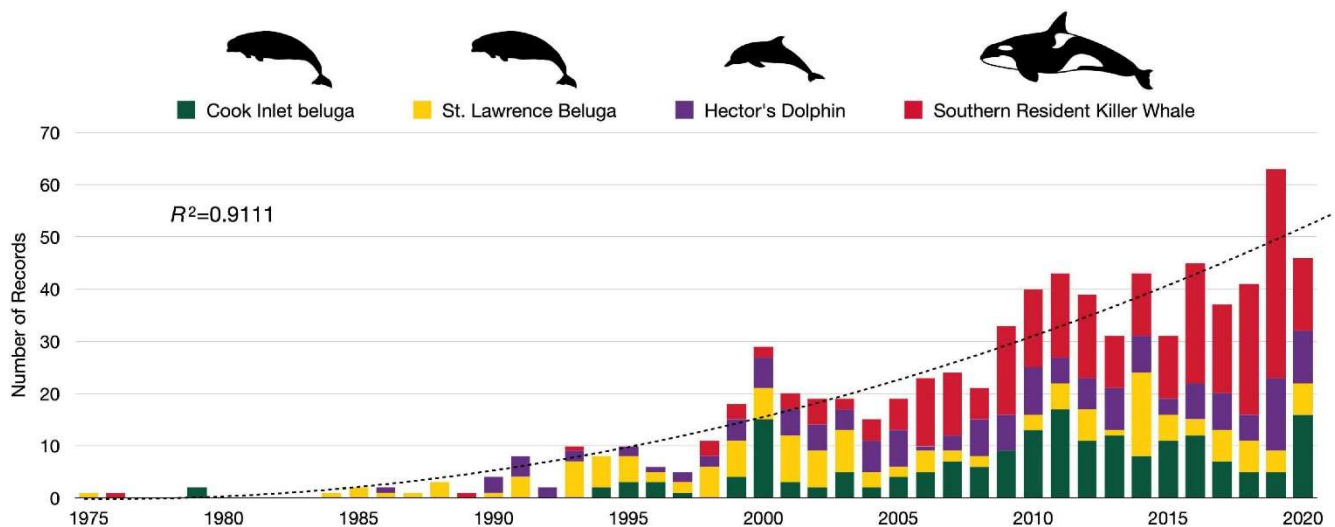
International organizations engaged

Staff mentored in science production

Cross-team engagements or collaborations (CCI and Defenders)

Staff trained in app or technology use

Staff or interns trained in policy analysis



We review literature and fill data gaps. Here you see the total number of records for Cook inlet belugas, St. Lawrence Belugas, Hector's dolphins, and Southern Resident Killer whales.

## Prospects Explored

***Number of new opportunities or approaches explored through our work.***

### Measure

New technologies tested

Trainings attended to build CCI skillset

Cross-domain projects undertaken

Diversity of domains of science engaged

Invitations to peer review for journals

New collaborators and collaborating institutions

Ideas developed and pursued

Projects failed

New funders or grant programs identified

Community science programs integrated

New M&E projects developed

## Promotions

***Number and diversity of the people and organizations we reach through sharing our work.***

### Measure

Citations of our research or other work (and contexts)

Visits to CCI website

Subscribers to CCI newsletter

Users of CCI web applications

Online map or app views

CCI seminar speakers and attendees (and affiliations)

Community workshops sponsored

Journals for which we edit or where we publish

Interviews given

Invitations to speak

Career fairs attended

Conferences and similar events attended

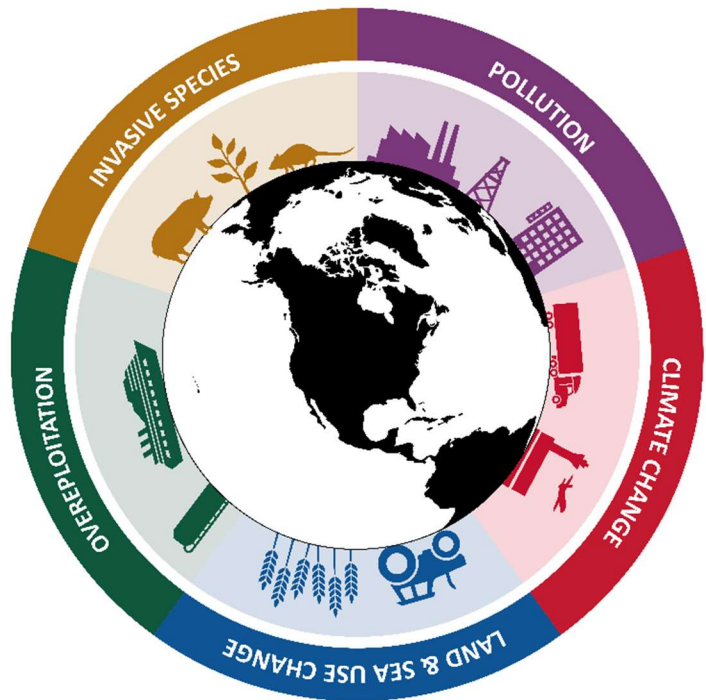
Intern applications received

Followers of CCI media accounts

Data downloads or requests

People engaged through community science

*We conduct research to understand the impacts of all five drivers of global biodiversity loss on imperiled species and their habitats in the U.S. and advocate for policies that address these threats comprehensively.*



## Influence

***Indicators for how our work is influencing conservation science, policy and practice.***

### Measure

Wildlife policies we propose or advocate for are cited in publications

Number of policies engaged on with agencies

Number of species and/or landscapes affected by laws, policies, procedures drafted and advocated

Number of species and/or landscapes engaged on with agencies

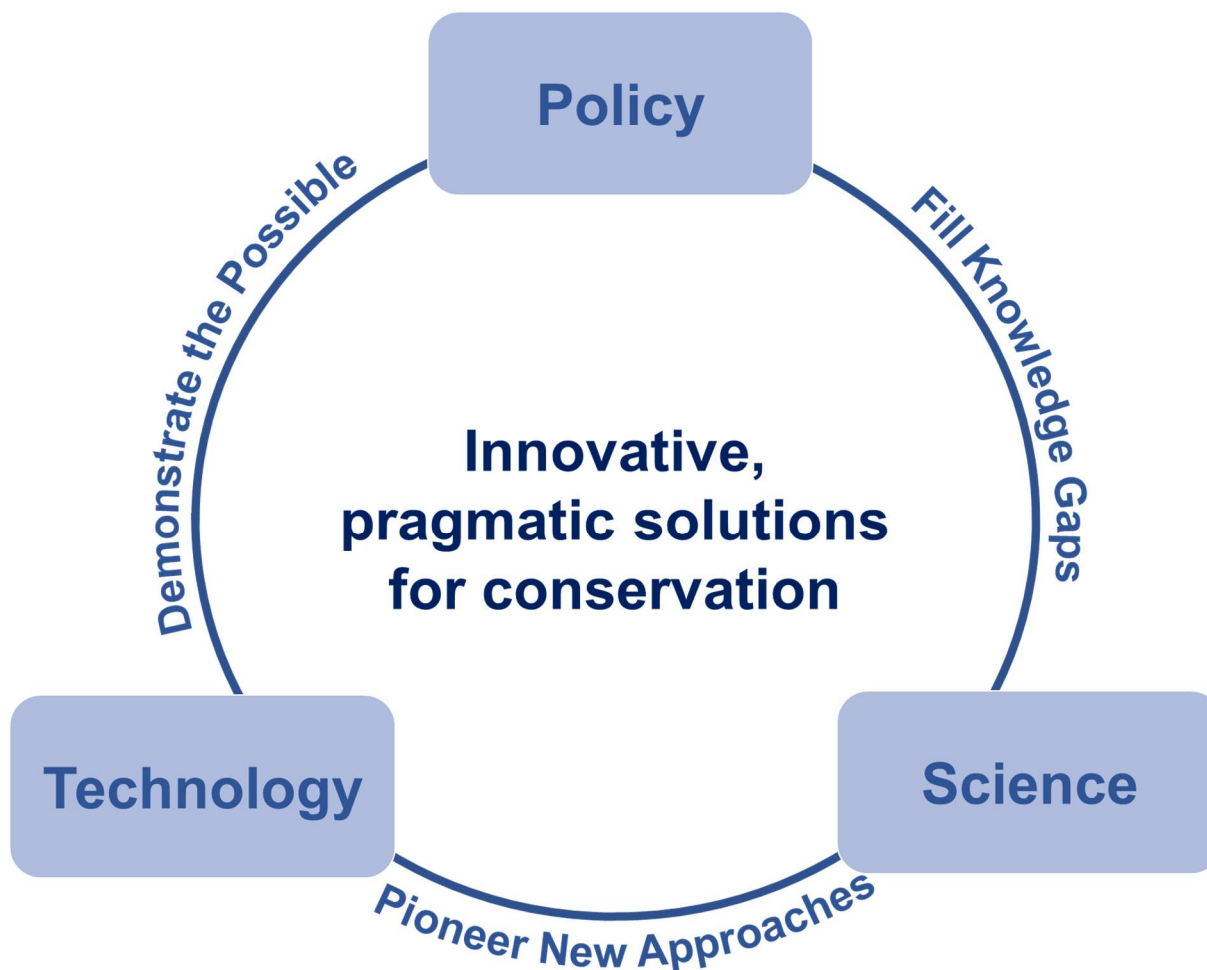
Policies/decisions modified or adopted by non-traditional partners or agencies

Tools tested or adopted by agencies or non-traditional partners



# Center for Conservation Innovation

Strategic Plan, 2019-2024



**Defenders of Wildlife**

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