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The Last Best Hope: Are Voluntary Conservation Agreements Effective Tools for Protecting Imperiled Species?

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THE LAST BEST HOPE: ARE VOLUNTARY CONSERVATION AGREEMENTS EFFECTIVE TOOLS FOR PROTECTING IMPERILED SPECIES?

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Abstract

Candidate Conservation Agreements with Assurances, or CCAAs, are little known, voluntary conservation agreements that protect imperiled wildlife on private lands. These agreements have emerged over the past decade and have had mixed results in providing adequate protections for candidate species.

Landowners, private industries, state and federal agencies, and environmental nonprofits, are using CCAAs as tools to eliminate the need for an endangered species listing. An Endangered Species Act listing can lead to land-use uncertainty for private landowners and this threat is the main incentive to enroll in a CCAA. When landowners enroll in CCAAs they are agreeing to provide specific protections for the species on their property, and in return they receive assurances. Like an insurance policy, assurances promise landowners that if the species is listed in the future, no further land-use restrictions will be enforced.

The fluvial Arctic grayling CCAA, and several greater sage grouse CCAAs across the West, are being used along with other conservation strategies to prevent the listing of both species. These agreements have demonstrated unprecedented voluntary collaboration, but it is still unclear whether or not they can stand alone as effective protection for species in lieu of an Endangered Species listing.

Monitoring of CCAAs to ensure that enrollees are complying with the agreements, and that the program is benefitting the species, is dependent on resources and transparency. Both the sage grouse and arctic grayling CCAAs have been studied and written about on an individual level. However, CCAAs and how they influence conservation on a larger scale, remain largely uncharted and should be watched in the future.

On an unseasonably warm afternoon in February, Kevin Rodriguez drives his white Ford truck along the muddy two-track that weaves through the hills of the Merlin Ranch, which is nestled in the foothills of the Big Horn Mountains in Johnson County, Wyoming.

Maneuvering around potholes, Rodriguez, the ranch manager, reaches an area of dense sagebrush and grass still covered with a dusting of wet snow. From the back seat, Jennie Muir-Gordon, who owns Merlin Ranch with her husband Mark Gordon, explains how a rotating grazing schedule allows time for the pasture to recover. The spot where Rodriguez has stopped was once part of that rotation, but not anymore.

A few years ago, Rodriguez noticed the pasture was being used as a nesting area for greater sage grouse, a chicken-sized bird he frequently encounters on the 12,000-acre cattle ranch.

Multiple hunting rifles rest between the two front seats, along with boxes of ammo and scattered Gatorade bottles. Rodriguez pulls a University of Wyoming baseball cap down over his brow, squinting into the direct sunlight. He grins through scruffy facial hair as he describes his interactions with sage grouse.

“I’ll be walking out to fix a fence or check on a cow and all of a sudden they blow up and fly right past my head,” he says. “They make a noise almost like a cackle as they scare the crap out of me.” Rodriguez has only witnessed the iconic mating dance of the male birds once before, down on the County Road. “It was like a drunk night out at the Cowboy Saloon,” he chuckles.

“And the hens all had their beer goggles on,” Jennie adds.

Not all ranchers can speak so blithely about the sage grouse, an emblem of the American West but also a catalyst for controversy. In 2010, the U.S. Fish and Wildlife Service announced that the bird was a candidate for protection under the Endangered Species Act (ESA), generally sparking the ire of states, private landowners, and energy companies across the bird’s 173-million-acre range. The prospect of listing sowed fears of onerous federal land-use restrictions, prompting landowners to turn to a little-known tool with an unwieldy name: a Candidate Conservation Agreement with Assurances, or CCAA.

In just a few short years, the incentive to avoid listing forged unconventional alliances, and jumpstarted several conservation strategies on the state and federal levels. Across both public and private lands, agencies, nonprofits and landowners put plans into action to protect the sage grouse and eliminate the need for listing. With so much of the bird’s habitat overlapping with private lands, voluntary conservation agreements became central to FWS’s decision in 2015 that an endangered species listing for the sage grouse was unnecessary.

The Merlin Ranch is one among dozens of ranches in Wyoming that demonstrate the efficiency of private landowners working in small ways with one collective goal—to protect a species.

The ranch is enrolled in a CCAA, which provides private landowners with incentives from state and federal land-use agencies for enacting voluntary, proactive conservation measures. Consider the assurances as you would an insurance policy; the promise to participants that no additional conservation measures will be required if the species is listed in the future. Enrollment eliminates land-use uncertainties. In return, landowners pay an "interest" of sorts—taking specific and monitored action to limit the threats to that species on their land.

There is a wide range of motivation for landowners to enroll in this type of agreement. Most often, it is for the assurances, for peace of mind. Participation can also be motivated by pressure from neighboring landowners who are enrolled in the program, or simply for the sake of conservation.

One of the agreed upon restrictions for the Merlin Ranch under the CCAA is that cattle can go nowhere near the nesting ground Rodriguez spotted. Another is that the FWS must authorize any new infrastructure on the property.

As Wyoming's state treasurer, Mark Gordon spends most of the week in Cheyenne, leaving Jennie and Rodriguez to take care of the ranch. Jennie completes an annual grazing plan identifying which acres can be used for cattle grazing, as well as producing a report showing that the ranch is complying with the specific sage grouse conservation goals she agreed to. In implementing these measures now, she's helping to ensure the sage grouse doesn't require Endangered Species Act protections. And if it ultimately does, her ranch will not face stricter restrictions than it does now.

CCAAs have emerged over the past decade as a collaborative effort to protect wildlife, with mixed results. The agreements vary in number of enrollees, monitoring practices, and transparency. Such flexibility is what makes them appealing to landowners, but it can also make it difficult to gauge their effectiveness in safeguarding wildlife.

Up until the last decade, CCAAs had been few and far between in the continental United States, but that is changing. Nationwide, at least 40 CCAAs have been finalized since 2000. The ultimate goal of a CCAA is to remove enough threats to the species in question that protection under the Endangered Species Act is no longer necessary, saving federal resources for other species and protecting landowners' livelihoods. In some cases, CCAAs have been successful in doing so, and in others they have not.

Jennie says that for her, the two largest factors for participating in the CCAA program are an interest in land management conservation, and the positive publicity Merlin Ranch gets for being part of a voluntary conservation effort.

Sitting cross-legged on the hardwood floor of the ranch house dining room with the square head of her yellow Labrador, Ollie, in her lap, Jennie looks out toward the snow-capped peaks of the Big Horn Mountain Range.

"We were part of the first group here in Wyoming to enroll in the CCAA for sage grouse," she says. "All ranchers are stewards of the land whether they choose to label themselves as such or not. We are in this, not for the bird itself, but for conservation in general. For us, it is a no brainer—a win-win situation."

Bird Sets Stage for Collaboration

Each spring, as the sun makes its morning commute toward the mountains, sagebrush country all around North America, known as "The Big Empty," wakes up to what sounds like a holiday party, filled with burps, pops, and whistles. The grays, greens, and blues of this deep and endless sea become a stage for dozens of chubby, strutting, male sage grouse. Erratically flapping their wings, and puffing and juggling their yellow air-sac chests, they perform an awkward face-off to impress their female counterparts, battling one another with their wings. The strut-and-burp display is perhaps one of the most ostentatious mating rituals in the animal kingdom.

An indicator species for its environment, the greater sage grouse is crucially dependent on its sagebrush ecosystem for cover from predators, food, and shelter in an arid landscape marked by blistering heat, cutting wind, and bitter cold. Development has cut this sagebrush sea to half of its historic size. The greater sage grouse population has plummeted from millions to approximately 300,000 over the past century. The Cornell Lab of Ornithology asserts that habitat conservation efforts for the sage grouse have been shown to benefit all 170 mammals and bird species in the sagebrush steppe ecosystem.

The hammer of the ESA, and the threat of its uncompromising rigidity when it comes to federal species protections, incentivizes landowners to enroll in CCAAs. At the announcement of the Service's decision not to list the sage grouse as endangered, Sally Jewell, former Secretary of the Interior under President Obama, stated that these collaborative conservation measures "demonstrate that the Endangered Species Act is an effective and flexible tool and a critical catalyst for conservation."

Jewell's announcement came to the relief of states, ranchers, and oil and gas companies, whose lands overlap with the expansive habitat of the greater sage grouse. The ruling was made in part due to finalized CCAAs in Wyoming, Idaho, and Oregon, along with developing CCAAs in Utah, Nevada, Washington and Montana. CCAs, which are similar to CCAAs but do not provide assurances and are primarily entered into by FWS and other federal agencies and states rather than individuals, along with the Sage grouse Initiative and statewide management plans, also played critical roles in the decision. It is unclear what piece of the pie the sage grouse CCAAs played in comparison to other protection strategies in the decision not to list. In its decision, the Service states that the

success of CCAAs will substantially reduce many of the primary potential threats to sage grouse.

Though CCAAs are in place for the bird across multiple states, it will be some time before it is clear whether they, along with other conservation programs, are enough to keep the bird off the endangered species list permanently. As of December 2016, there were more than 1.5 million acres enrolled in sage grouse CCAAs across the West. Gary Frazer, FWS's assistant director of endangered species, says though the decision not to list the bird has widely been considered an unprecedented example of how collaborative conservation can benefit everyone, the programs need to maintain momentum if they are to succeed in protecting species.

"The sage grouse CCAAs are like a laboratory we need to watch," says Frazer. "A lot of people are banking on all the conservation commitments that have been made for sage grouse."

Across Wyoming, 43 million acres of sagebrush provide habitat for the largest number of greater sage grouse in the West, about 37 percent of the species' population. It was in Sublette County, about a decade ago, that a number of ranchers who were concerned about the potential impacts of sage grouse listing started inquiring about creating a CCAA.

Tyler Abbott, deputy field supervisor for the FWS in Wyoming, has been working with landowners from the very beginning. Early on, there were only a few ranchers who came forward to inquire about the possibility of creating a CCAA for the bird. "But," he says, "they were recognized as leaders in the ranching community and they represented many concerned landowners."

Todd Heward, born and raised on a family ranch in Shirley, Wyoming, was among the ranchers who came to the table early and often. With an interest in conservation, he traveled from county to county to sit down with ranchers and walk them through the process of participating in the CCAA. He helped them make an educated decision on whether or not enrollment made sense.

"I feel really strongly that the development of this CCAA was significant," Heward says. "It was a big step for Wyoming and became very important in the big picture of keeping the sage grouse off the endangered species list."

In Wyoming, 507,445 acres are enrolled in the sage grouse CCAA. It's a programmatic, or "umbrella," agreement, meaning that the program has been streamlined to make enrollment easier and more efficient. The base guidelines for the conservation agreements remain the same across the state, but there is flexibility written into them to allow each of the landowners to focus on the specific threats to the bird on their property. For Abbott, involvement in the CCAA has led to greater appreciation of private landowners' crucial role.

"There are a lot of people who want to pass on to the next generation an operation that is intact from a conservation standpoint valuable to fish and wildlife," he says.

Abbott is still seeing new enrollment in the Wyoming CCAA program, even since the decision was made to not list the bird. Current enrollees are staying engaged, and there is more new interest in enrollment than his staff can manage.

"We are seeing long-term commitments to the bird from those ranchers who are enrolled in the CCAA," he says. Although he thinks the current program will continue even if the ESA is weakened under President Trump's administration, Abbott worries there will be less staff and funding to develop conservation plans, and it will render the CCAA less effective. That concern extends to another CCAA that the FWS recently finalized. The Thunder Basin CCAA in northeast Wyoming will take proactive measures to protect not just the sage grouse, but a number of other sagebrush and grassland bird species connected to the sagebrush steppe ecosystem.

Wyoming isn't the only state using CCAAs to enlist private landowners in regional conservation. In 2011 a CCAA was finalized in Harney County, Oregon. Today there are 36 landowners enrolled, encompassing 474,000 acres across eight counties. Angela Sitz, a FWS biologist in Oregon, says the program has been so successful that they currently don't have enough staff to review all of the applicants.

"A lot of folks thought people would un-enroll when the bird wasn't listed in 2015, but more people signed up after that," says Sitz.

Currently there are 125 private landowners waiting to enroll in the program. As more landowners get involved in the CCAA within the community, ranchers who have been interested in the program but hesitant to enroll begin to trust the process and agencies involved.

In 2020, FWS will review the status of the greater sage grouse to assess whether the various efforts to conserve the bird are proving effective. Many landowners late to the game are realizing that enrollment in a CCAA would protect their ranches from grazing and development restrictions if the bird is listed down the road. Threats to sage grouse and their habitat—such as fire, invasive species, population growth, and climate change—are not going away, and there is always a chance that the species will be listed in the future. "It may seem like it's over, but it's never really over," Sitz says.

In the High Divide Headwaters of Montana, a biologically rich landscape that connects the Greater Yellowstone Ecosystem to the Crown of the Continent surrounding Glacier National Park, 40 percent of the land is privately owned. In eastern Montana, it is 65 percent. The state is home to about 18 percent of the greater sage grouse population and approximately 20 percent of the species' occupied range. A plan to implement a programmatic CCAA for the greater sage grouse and other grassland birds in Montana, the northernmost stronghold for the sage grouse, is underway. The program would play

an important role in conserving the bird and connecting populations in Montana to struggling sage grouse in Canada and in the Dakotas.

Currently, Montana relies on non-profit funded programs like the Sagegrouse Initiative to fund stewardship and protection for the bird. Jim Berkey, High Divide Headwaters Director for the Nature Conservancy, feels that while these programs have been effective, they leave out potential landowners who don't fit into the "one-size-fits-all" rigidity of some of these conservation programs.

"We wanted a tool that is biologically meaningful, while providing a more flexible option for landowners who are interested in customizing their approach to meeting necessary conservation measures with someone who knows the biology," says Berkey. Although the plan has yet to be finalized, Berkey says there are already landowners who are interested in enrolling. "There is a class of landowners who are concerned about a future listing of the bird, but they can't sign up for something that demands changes in their practices that are unworkable for them," he says.

Alhough there are currently no private industries enrolled in sage grouse CCAAs, many did play a role in keeping the bird off the list. The Montana Petroleum Association (MPA) worked closely with the environmental community on the state plan for sage grouse to help avoid listing.

"Right now sage grouse cover a large swath of Montana, and if it were to be listed there would be no development in areas where there is habitat," says Jessica Sena, communications advisor for MPA."Now it's kind of like you pay to play; operators have to comply with restrictions because of the state sage grouse plans, but development is still possible."

For Jennie Muir-Gordon and her husband Mark, who were already conservation-minded before enrolling in the Wyoming CCAA, not many of their ranching practices have changed. Some improvements have been made, like adding ramps in the water troughs so that the sage grouse, which commonly fly into them for a drink, can escape. The fences on the ranch have been rebuilt to allow sage grouse to easily fly under them, and calving dates have moved back a few weeks to avoid disrupting nesting. The details of monitoring the CCAAs are outlined in the signed agreements, which include biological monitoring, periodic and intensive habitat monitoring by the Wyoming Game and Fish Department, compliance evaluations by FWS, and an annual report to the Wyoming Field Office.

The monitoring is used to determine what kind of impact the cumulative effect of the CCAAs is having on sage grouse and their habitat. Because there are so many factors that affect the health of the species, this monitoring is meant to inform but not determine the success or failure of the conservation program. At the time of enrollment, an initial baseline assessment is done on individual properties to gauge the habitat conditions for the bird. Then, specific conservation measures that address identified threats on each property are enacted. Landowners in the Wyoming CCAA fill out an annual compliance

report, responding to questions related to each of the threats identified on their properties. Biological monitoring takes place at least every five years, and its purpose is to monitor changes in habitat over time by collecting as much vegetation data as possible within major sage grouse habitat types. Monitoring varies across CCAAs depending on the species and what its threats are. For example, in Montana's Big Hole Valley, this monitoring is focused on changes in annual water levels and the health of stream vegetation that show trends in Arctic grayling populations.

Jennie doesn't recall anyone ever coming to do any monitoring on her property. Rodriguez, who as ranch manager implements most of the changes, wishes there was a better way to measure success for the species.

"One thing I don't like is that there is no way to measure whether what you are doing is actually benefitting the species," Rodriguez says.

Unconvinced Skeptics

Emma Cayer is the grayling habitat biologist for Montana Fish, Wildlife and Parks. For more than a decade she has been working to build a relationship of trust with all 33 enrolled landowners in the Arctic grayling CCAA. She understands why some environmentalists are hesitant to consider CCAAs a sufficient conservation tool.

"Some of these CCAAs are really hard to monitor," she says. "It takes a lot of time and staff to make sure people are doing what they say they will do….It's complicated. And there has to be some kind of flexibility and wiggle room to make the plans effective."

Cayer spends a lot of time in the initial stages of enrollment working with ranchers to figure out what will be effective and what is possible on their properties.

"People don't respond well to changeovers," she says. "We have built trust working one-on-one with the ranchers who want continuity and they want to be able to trust you. It's a two-way street in that way, and it has been the most effective thing in getting us where we are today."

The grayling CCAA has been in place for over a decade so it may in ways portend the efficacy of the Wyoming sage grouse CCAA.

One difference between the Arctic grayling CCAAs and the greater sage grouse CCAAs is funding. A significant amount of money has been invested in helping landowners in the Big Hole Valley implement the program's projects. Between 2004 and 2014, the USDA put about $1.5 million toward the CCAA. Another $2.5 million came from Montana State Wildlife Grants. About $500,000 came from the National Fish and Wildlife Foundation, and another half million from FWS Partners for Fish and Wildlife Programs. The CCAA also received funding from the Bureau of Land Management, Future Fisheries, the Big Hole Watershed Committee, the Big Hole River Foundation, The Nature Conservancy,

and the Bradley Fund for the Environment. Most CCAAs, like those in place for the sage grouse, do not receive much monetary support, if any at all.

Peter Frick is an operator and part-time owner of the York Ranch in the Big Hole Valley, and owner of one-third of the Schindler Ranch. A landowner representative on the Big Hole Watershed Committee, Frick understands both the ranching industry as well as the need for conservation. He doesn't think the grayling CCAA serves as a typical example of what a successful CCAA agreement looks like.

"If society wants to do these things for wildlife, that is great," Frick says. "But you have to put money into it if you want it to work in the long run. The CCAA would be harder to sell if landowners weren't getting this funding."

Since the agreements are voluntary, there is nothing holding landowners accountable with the exception of the fear of a listing decision for the grayling. "At the end of the day, a rancher is going to do what is best for their cows and their ranch," says Frick. "If it looked like the grayling population was fully recovered, I would consider dropping out of the CCAA. And if every year was like this year as far as cattle production, you'd have to rethink staying enrolled even if you care about the program."

Jake Wei-Lei, head of the Endangered Species Conservation Department for Defenders of Wildlife, says no two CCAAs are alike. He's done extensive investigation into the CCAA for the dunes sagebrush lizard in Texas. In 2010, when FWS finally proposed to list the species, the lizard had been considered imperiled for 28 years. Just 18 months later, FWS retracted its proposal, citing a CCAA that was finalized in Texas just four months prior, as a reason not to list the lizard. In the Defenders of Wildlife ESA White Paper on the dunes Sagebrush Lizard, Wei-Lei writes that this particular CCAA is an outlier, not only because of the timeframe in which it was finalized, but also in its lack of transparency. Texas holds the permit for the CCAA, and is not required to release information about enrollees or monitoring to FWS or the public. Wei-Lei sees a stark contrast between that CCAA and the Arctic grayling's.

"On paper, that CCAA looks quite good in comparison to the dunes sagebrush lizard," he says. "My take-away impression of the grayling CCAA is that it isn't extremely robust, but fairly decent. The CCAA on its own may not be enough but combined with other measures, it could be."

Greta Anderson, director of Arizona's Western Watershed Projects, says the capacity of the sage grouse and grayling CCAAs to provide adequate protection remains to be seen.

"Since the agreements are voluntary, for the most part rely on industry self-reporting, and generally don't require anything substantive in terms of management, it makes success hard to measure," says Anderson. "Using these to preclude Endangered Species Act listing and management requirements is optimistic, at best."

In a 2015 email to the U.S. Fish and Wildlife Service, WWP brings up the inherent conflict within CCAAs. On one hand, the agency cites the successes of CCAAs as reasons not to list a species as endangered. On the other hand, if the species is not listed, much of the incentive to enroll in a CCAA is eliminated. WWP writes, "we note that many of the agreements' conservation measures lack certainty both with respect to implementation and enforcement, and effectiveness in providing their intended benefit to sage grouse."

Both WWP and WildEarth Guardians are skeptical of soft language used in the CCAA agreements, such as "avoid fragmentation," and "to the maximum extent practicable." They worry that this language implies that landowners can side step some of the conservation measures.

Gary Frazer, FWS's assistant director of endangered species, and considered by some as "the keeper of endangered species," doesn't know if programs like CCAAs will even continue into the future.

"All signals are that we will likely have a White House that will agree with Congress to cut funding for the ESA," he says. "We are not expecting the same support we have had for resources and expect significant budget cuts."

If budget cuts lead to fewer species receiving ESA protections, there may not be that motivation from landowners to enroll in conservation agreements like CCAAs.

Frazer believes that some CCAAs are just conservation tools and should be left at that, while others are enough to keep a species off the endangered species list. He says a few of them stand out.

"The Arctic grayling CCAA in the Big Hole Valley is the perfect example, demonstrating a lot of success over the past six years. Landowners saw their investment in conservation work in action," he says.

Fish, Cows, and Climate Change

During the rise-and-grind of haying season in the Big Hole Valley, it's all hands on deck, and you're more likely to encounter a cow jam than a traffic jam while driving through the towns of Jackson and Wisdom. In fact, with no cell-phone service in Wisdom and no wireless connection in Jackson, it's hard to get in touch with anyone at all. The Upper Big Hole is the widest mountain valley in southwestern Montana. The Big Hole River, the only river in the lower 48 states that still supports river-dwelling Arctic grayling, begins in the Beaverhead Mountains and winds for about 150 miles through the valley. Thru-hikers, cyclists, painters, and photographers passing through year after year would likely tell you that summers haven't changed much in the valley over the last decade—but sit down across from just about anyone in the local bar, and you will hear a very different story.

In mid-July at the Crossing Bar and Grill at Fetty's, the town of Wisdom's only restaurant, ranchers take well-earned lunch breaks to enjoy hearty meals and freshly baked cinnamon rolls. On such a summer afternoon, Don Reese, manager of the Diamond Ranch in the neighboring town of Jackson, is wearing a tan cowboy hat to shade the back of his neck. Pink from daily exposure to the midday sun, his skin matches that of the bitterroot flowers found throughout the valley. Reese says you can tell how much has changed in the valley by the conversations between ranchers.

"Talk in the bar has gone from how much cattle weigh this year to how is the grayling population doing," he says.

A distinctive sail-like dorsal fin and scales that gleam like alpenglow underwater set the fluvial Arctic grayling apart from its freshwater cousins like salmon, trout and whitefish. Nature writer David Quammen has described the fish as "under certain specific conditions, the most exquisitely colorful bit of living matter to be found in the state of Montana." The Arctic grayling is native to only two of the lower 48 states, Montana and Michigan, but it has been considered extinct in the latter since 1936. An ancient glacial relic, the species was likely isolated to Montana and Michigan in the headwaters of the Missouri River when continental glaciers blocked the river's northward flow. Grayling populations peaked in the early 20th century, inhabiting 1,250 miles of streams in the upper Missouri River Basin. The species has since declined in large part due to development, agricultural practices, river damming, logging, water diversions, pollution, global warming, and drought. The grayling is now found in only 10 percent of its historic range, in the Big Hole and Centennial valleys of Montana.

In a 2014 decision by FWS, the fluvial Arctic grayling was found not warranted for listing. The decision cited improved habitat, large-scale private lands conservation, the grayling's positive reception of improved habitat, stabilization in population, adequate genetic diversity, and population distribution through much of the fish's native range. The decision relied on the Big Hole CCAA as a component of its analysis. The Center for Biological Diversity took the decision to court, stating that warming waters and low stream flow due to climate change threaten the cold-water fish, and that endangered species protections are necessary for its survival. In September 2016, U.S. District Judge Sam Haddon stood by the federal agency's decision that the fish is not warranted for listing. The Grayling Memorandum Opinion and Order stated: "Although the Big Hole CCAA has not fixed every challenge facing the Arctic grayling on the Big Hole, the positive impacts of the agreement and its programs are not in dispute."

Farmers and ranchers are concerned about how a trend of hotter and dryer summers will affect the ranching business, and the grayling. These days, there is pressure from the Big Hole community and neighboring landowners to enroll in the fluvial Arctic grayling CCAA.

CCAAs for the Arctic grayling are now in place both in the Big Hole Valley, and, as recently as the last few months, in neighboring Centennial Valley in southwestern

Montana. The Big Hole and Centennial Valley CCAAs work on a much smaller scale than the sage grouse CCAAs, both in terms of number of enrollees and overall acreage. Threats to the fish and its habitat are more universal throughout enrolled landscapes and it is easier to forge personal relationships with individual landowners.

"You are working with just one watershed in each of these grayling CCAAs, as opposed to landowners across multiple counties, states, and types of habitat," says Reese.

The rumble of the four-wheeler motor as it zigs and zags through mud and grazing land muffles Reese's voice, so he uses an index finger to point to one of the CCAA implemented projects—a wildlife friendly fence that prevents cattle, but not elk, from eroding the stream bed. Reese, who manages the 3,000-acre ranch, says, "The key to a successful CCAA is that everyone sacrifices a little bit."

The interdisciplinary conservation team for the Arctic grayling CCAA is made up of individuals representing Montana Fish Wildlife and Parks (FWP), USFWS, the Natural Resource Conservation Service (NRCS), and the Montana Department of Natural Resources Conservation Service (MDNRC). Reese was skeptical of the group in the beginning. The CCAA policy requires agency personnel to monitor the conservation projects on private land and it gives them access to those properties. Landowners value their privacy, and this monitoring can deter them from enrolling in the program. "When you take a species and put it in the hands of the federal government you just don't know what will happen—you have no control," says Reese.

The owners of the Diamond Ranch enrolled in the Arctic grayling CCAA cautiously in 2010, and Reese did not get along well with the original team that was sent in to implement the conservation plan.

"At first it was always a different person showing up on the property every time they did monitoring," he says. Reese believes the success of the CCAA "depends on transparency and trust." Since then, Reese has worked one-on-one with members of the grayling team, discussing how projects can be implemented that will benefit both the ranch and the fish.

In the Big Hole Valley, measuring the success of the Arctic grayling CCAA includes compliance monitoring of each enrolled landowner at the end of each irrigation season by the DNRC. This involves visiting each property and making sure enrollees are complying with the agreed upon water flow rates. "Sometimes it just comes down to personalities and understanding one another's interests," Reese says.

A smile spreads across Reese's sunburned face as he demonstrates the new water gauge for one of the main tributaries that runs through the Diamond Ranch to the Big Hole River.

"The creeks have gone from trashed out by cattle to grassy and filled with willows," says Reese, and the ranch is now able to irrigate the land with less water. "It has become more efficient—which is good for the ranch, and for the grayling."

As of 2016, projects completed by the grayling CCAA include 186 instream flow projects, 114 riparian projects, and 76 fish passage projects. Monitoring of the Big Hole Arctic grayling includes traditional sampling techniques, as well as genetic health sampling.

“We’ve hit a point where I get calls all winter from landowners who have ideas of their own of projects that could be implemented,” says Cayer.

Ranchers here typically operate on the margins, and with variability of weather and disease, they have enough insecurity without the added concern of an endangered species on their land.

“Most people are just trying to keep their ranches alive and in the family,” says Reese. “Some years are great, and some years you just scrape by.”

The grayling CCAA gives landowners peace of mind, knowing that if the fish is listed, they will not be further restricted on the use of their land. For the Big Hole Valley ranching community, water usage is the primary concern. A listing decision could mean limits on how much water is used seasonally to irrigate grazing pastures. When ranchers enroll in the CCAA, it enables them to make these changes on their own terms, by improving irrigation efficiency by updating water gauges, for example.

Pauline Hope, who works as the “boots on the ground” staffer for the Fish and Wildlife Service in Wyominge, can attest to the flexibility within the CCAA program.

“There are a wide variety and types of CCAAs. As the program moves forward and grows, it shifts,” she says. Within the CCAA guidelines, it is necessary to address each species and each landowner independently. “It can’t be one size fits all, but as long as the requirements are met, there is the ability within the program to be flexible.”

The top reason landowners enroll in CCAAs is overwhelmingly for the assurances, but the experience also gives enrollees the feeling that they are connected to something, that they are making a difference for the species in their own way.

“A lot of people, particularly the old timers, are so excited because they remember when they were young and they would go out and catch [arctic grayling] all the time—so there’s that cultural side of it,” says Cayer. “The Endangered Species Act is a negative thing, but this is a positive thing.”

As for Cayer, her reasons for protecting the fish are motivated by more than just her job. “They are a native fish and they are an arctic relic, left over from the ice age. And I’ll admit, they’re gorgeous. They’re amazing,” she says.

A Laboratory to Watch

CCAAs are quietly changing the landscape of wildlife conservation. They are allowing landowners to choose compromises—including limitations to land use and implementing conservation projects, over potentially harsher federal restrictions. These days, the ESA is like an emergency room for endangered wildlife, but CCAAs function more like preventative care. Where the ESA has been faulted for its lack of flexibility, CCAAs provide just the opposite—a more adaptive management approach. For this reason, Frazer sees CCAAs as complementing the more rigid ESA.

"CCAAs have been a tremendously important tool. We have accomplished a great deal of meaningful conservation using them as a vehicle," he says.

But the tool has an uncertain future considering the current political climate. If Congress weakens the ESA, it could result in fewer incentives to enroll in CCAAs. Then again, they may be leaned on more if lawmakers want to further limit species listings. In any case, as many CCAAs protect indicator species, they're something of an indicator conservation tool. The extent to which they're used reflects citizen engagement in conservation.

"They do not have a universal effect, but they are a very valuable tool, and an opportunity for people to engage and see the benefits," says Frazer, adding that "CCAAs across the West are the ones to watch in the future."