

SECTION 4(D) RULES: THE PERIL AND THE PROMISE



ABOUT THIS PUBLICATION

This white paper is the fourth in a series laying out Defenders of Wildlife's vision for the Endangered Species Act (ESA) over the next 10 years. The ESA is the most important and far-reaching wildlife conservation law in the United States, and Defenders has long been a leading advocate for science-based, pragmatic interpretation and implementation of the law. Our endangered species policy and legal experts carefully evaluate the application of the ESA. We look for opportunities to promote innovative strategies and reforms to make the ESA more effective and efficient and pursue initiatives that are bold, transformational and strategic. Through the ESA Policy White Paper Series, we are presenting our ideas to foster collaboration with others who share our vision for the recovery of North America's imperiled plants and wildlife.

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Defenders of Wildlife is a national, nonprofit membership organization dedicated to the protection of all native wild animals and plants in their natural communities.

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Species-specific rules under section 4(d) of the Endangered Species Act (ESA), if properly implemented, should help conserve species and improve the effectiveness of the act. The rules can authorize activities with minor or even beneficial effects on species recovery, without the need for federal wildlife agencies to expend resources reviewing and issuing permits for those activities. By streamlining compliance with the ESA, 4(d) rules can also improve support for the law among the regulated community and their representatives in Congress. The rules, however, are not without risks to conservation. They can impede species recovery if they lack proper safeguards, especially if they cover high-impact land uses.

For this white paper, we analyzed every 4(d) rule issued by the U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS) through May 2016. We found that the Obama administration has covered more species with species-specific 4(d) rules than nearly every other presidential administration. We also found that the rules exempt a wide variety of activities, ranging from habitat restoration to imports of animals and their parts. Some recent rules have been particularly controversial because they are viewed as inadequate to protect species from the threats that contributed to their listing.

To help ensure proper use of 4(d) rules, FWS/NMFS should develop guidance on when and how they will issue those rules for threatened species. The guidance should describe the types of activities that can qualify for coverage under a rule. To encourage this analysis, we identified four types of activities that we believe qualify for coverage, including “conservation neutral” actions and activities that FWS/NMFS can monitor to help determine whether a species is ready for delisting. We also identified conservation measures to incorporate into 4(d) rules, including geographically tailored exemptions that provide management flexibility and triggers for modifying and withdrawing 4(d) rules.

By adopting these and other recommendations, FWS/NMFS can bring greater consistency and predictability to the use of 4(d) rules, reduce public skepticism about the tool, and incentivize recovery measures.

If the Endangered Species Act (ESA) is the “pit bull of environmental laws,” then its canine teeth are firmly planted in section 9 of the statute.

From the prohibition on “take” to the restrictions on interstate commerce, section 9 casts the widest safety net for most listed species. But those protections are not absolute. One reason is that our federal wildlife agencies—the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS)—can issue permits that authorize activities prohibited by section 9. The permits often cover an array of activities that result in take, ranging from wetland restoration to highway construction to mining.

Another reason is that under section 4(d) of the ESA, FWS/NMFS can issue rules that apply or withhold the protections of section 9 to species listed as threatened. These 4(d) rules increase the flexibility of the ESA by allowing covered activities to proceed without the need for a permit from FWS/NMFS. FWS began issuing 4(d) rules in 1974 to tailor protections for certain threatened species. Few people, however, understand how these rules affect recovery or how they are implemented. Basic information such as the number and types of species covered by the rules remains enigmatic even to seasoned ESA practitioners. Also opaque are the types of activities typically exempted by the rules. Although some 4(d) rules cover conservation actions, others authorize extensive habitat disturbance and similar activities that do not advance recovery or even undermine it.

In recent years, 4(d) rules have garnered controversy because they are perceived by many conservationists as effectively exempting certain threatened species from the protections of section 9, rather than providing tailored protections to conserve the species. This perception is based, in part, on the fact that FWS has established a default 4(d) rule that applies the full protections of section 9 to all threatened species except where it determines in a separate rule that lesser or different protections are appropriate for a particular species. These carve-outs for specific species, also known as “special 4(d) rules,” can reduce the protections that a

threatened species would have otherwise received under the default rule. FWS’s controversial use of special 4(d) rules for several high profile species has amplified these concerns.

An example is the 2014 decision to list the lesser prairie chicken as a threatened species, which sparked widespread concern among landowners and developers about land-use restrictions. To alleviate these concerns and encourage voluntary conservation, FWS issued a 4(d) rule concurrent with the listing that declined to apply the full protections of section 9 to activities covered by a five-state conservation plan for the species. The plan thus effectively authorizes a host of high-impact development activities, ranging from oil and gas drilling to wind energy development. Many conservationists believed that the plan’s requirements to avoid and mitigate these impacts were wholly inadequate to conserve the species and criticized the 4(d) rule for allowing those impacts. Although FWS delisted the lesser prairie chicken in 2016 in response to a court decision, the agency is reevaluating the species’ status to determine if relisting is warranted and, if so, whether another 4(d) rule is appropriate.

The surge in 4(d) rules, coupled with the dearth of analysis about how FWS/NMFS have implemented this tool, motivated us to write this white paper. It first describes the legal framework for 4(d) rules, including the oft-neglected application to plants. It then summarizes how and when FWS/NMFS have applied 4(d) rules to threatened species through May 2016. The analysis reveals that FWS has issued 4(d) rules at nearly unprecedented levels under the Obama presidential administration, a trend that is likely to continue as the agency seeks to minimize the regulatory impacts of listings, sometimes at the cost of conserving species. The rest of the white paper offers Defenders’ interpretation of when FWS/NMFS should use 4(d) rules and recommendations on how to use them more effectively.

1 BACKGROUND ON 4(D) RULES

To understand when FWS/NMFS issue 4(d) rules, we first need to appreciate how section 9 operates. Only species listed as “endangered” are always fully protected by section 9. Congress had reasoned that species listed as “threatened” are less imperiled and gave FWS/NMFS more flexibility to manage those species using 4(d) rules. Specifically, FWS/NMFS may decide which, if any, of the section 9 protections extend to threatened species. They also must issue any 4(d) rules they deem “necessary and advisable to provide for the conservation of such species”—which can include measures more protective than those found in section 9. Each 4(d) rule thus determines the level of section 9 protections a threatened species receives. For threatened animals (but not plants), these protections could include the prohibition not only on “taking” an individual of a species, but also on the import and export of species into and out of the United States and interstate commerce.

FWS/NMFS have adopted very different approaches to exercising their 4(d) discretion. For each species, NMFS decides whether to issue a 4(d) rule and what section 9 restrictions to apply. By contrast, as noted above, FWS issued a “general” 4(d) rule in 1975

that extends the full protections of section 9 to all threatened animal species.¹ The only exception is when FWS issues a “special” 4(d) rule for a species that overrides the general rule. So by default, all FWS threatened species receive the full protections of section 9 unless the agency modifies those protections through a special 4(d) rule. The modifications almost always result in reduced protections, even though the U.S. Court of Appeals for the D.C. Circuit has stated that the “necessary and advisable” standard can include “protective measures beyond those contained in [section 9].”²

FWS also has a general 4(d) rule for threatened plant species. First introduced in 1977, this rule extends all the protections for endangered plants to threatened plants.³ It was revised in 1979 and, most recently, in 1985. At that time, the ESA did not protect plants from malicious damage on federal lands or from removal, cutting, digging up or damage done in knowing violation of state law. Those protections were included only in the 1988 amendments to the ESA,⁴ but FWS never updated the 1985 general rule to reflect the added protections. As a result, those protections apply only to endangered plants.



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The polar bear is one of over three dozen mammal species covered by a species-specific 4(d) rule.

A key question is when FWS may issue a special 4(d) rule that reduces protections for a species. One issue is whether FWS needs to make a finding that applying or withholding the protections of section 9 for a particular threatened species is “necessary and advisable” to conserve a species. In a high-profile case challenging FWS’s issuance of its default 4(d) rule, the D.C. Circuit Court of Appeals held in 1994 that section 4(d) could be read as providing two separate grants of authority: one to issue such regulations as are “necessary and advisable” for the conservation of a threatened species, and the second to apply any or all of section 9(a)’s prohibitions, without the need to support such actions with findings of necessity.⁵ In a recent challenge to FWS’s special rule for the polar bear, a federal district court, relying on this decision, held that FWS need not demonstrate a conservation basis for applying a special rule instead of the general rule.⁶ The court reasoned that nothing in the ESA itself, or the FWS regulations, requires the agency to explain a departure from the general rule, even if doing so would reduce protections for a species. In fact, the court observed that “the ESA does not require regulations protecting threatened species from taking at all.” Other legal issues involving 4(d) rules are covered in existing literature and thus not summarized in this paper.⁷

For regulated entities, a special 4(d) rule offers advantages over other methods of complying with section 9 prohibitions. The reason is that people typically decide for themselves whether their activities comply with a special rule. For example, a landowner working in the habitat of the threatened Preble’s meadow jumping mouse decides whether his activity complies with the exemption that the mouse “may be taken incidental to the maintenance and replacement of any landscaping and related structures and improvements, as long as they are currently in place and no increase in impervious surfaces would result from their maintenance and improvement.”⁸ No ESA permit or additional FWS approval is required.

Had FWS not issued a special rule for the species, landowners would have been required by the general 4(d) rule to obtain

*Special 4(d) rules
often streamline
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and monitoring
required
by incidental
take permits.*

permission for incidental take by describing their proposed activities in a habitat conservation plan (HCP) and submitting it for FWS approval under section 10(a)(1)(B) of the ESA. That process is far more involved than complying with a 4(d) rule because it requires the landowner to draft the HCP and apply for an incidental take permit, and triggers an environmental review under the National Environmental Policy Act and public comment on all of the documents. These procedural checks can improve conservation outcomes by creating opportunities for public engagement and scrutiny of permitted activities. On the other hand, they also impose substantial workload on applicants and FWS/NMFS, thus hindering the agencies from carrying out other conservation activities. HCPs also require landowners to submit monitoring

reports periodically, which can reveal whether conservation measures are being complied with and are effective. Most 4(d) rules involve no active monitoring or reporting.

The 4(d) process is unique also because it is not governed by detailed regulations or policies. For example, despite the ambiguity of the “necessary and advisable” phrase, FWS/NMFS have not defined it or published guidance on how they apply it. This silence stands in stark contrast to the HCP process, which is described in a comprehensive handbook.⁹ Similarly, section 7 consultations, which authorize incidental take for federal activities, are governed by an equally extensive handbook and detailed regulations.¹⁰ Consultations and HCPs allow activities to proceed without violating the ESA, but do so very differently than 4(d) rules.

FWS/NMFS also use 4(d) rules to tailor section 9 protections in two other situations: reintroduced populations of a species deemed “nonessential” to its survival; and a non-imperiled species listed as threatened because it resembles a listed species.¹¹ These “similarity of appearance” listings help law enforcement personnel by eliminating the need to distinguish between the imperiled and non-imperiled species. This white paper covers rules for similarity of appearance species but not for nonessential populations because they are not an entity that qualifies for ESA listing.

2 4(D) RULES IN PRACTICE

To better understand how and when FWS/NMFS issue 4(d) rules, we reviewed every rule the agencies had finalized through May 2016. Many patterns emerged from the analysis, and this section highlights the main findings.

Species-specific 4(d) rules cover 49 percent of threatened animal species listed by FWS, with mammals, fish and reptiles making up 85 percent of those species.

Of the 238 animal species FWS has listed as threatened through May 2016, nearly half (116) have been covered by a special rule (Table 1). Nine of those species no longer have a special rule because they have been delisted or reclassified as endangered.¹²

NMFS has listed 71 animal species as threatened through May 2016, 43 (61 percent) of which have a 4(d) rule (Table 1). These rules are generally lengthier and more comprehensive than the FWS rules. The rule for all threatened anadromous fish, for example, is unusually lengthy and covers a range of activities including fish hatchery operations, water diversions and land development. Most of the activities are governed by conservation measures that are among the most comprehensive for any 4(d) rule we reviewed. For example, the exemption for municipal, residential, commercial and industrial development activities applies only if NMFS approves a development ordinance or plan after considering 12 criteria, including whether the ordinance or plan adequately avoids stormwater discharge impacts, protects riparian area and prevents erosion during construction. Likewise, the provisions for sea turtles are extensive, describing in detail the technical requirements for using turtle excluder devices and gillnets, resuscitation of turtles during fishing or scientific research and other activities. Overall, these and most of the other NMFS 4(d) rules appear more comprehensive than most of the FWS rules.

Of the 28 NMFS animal species currently without a 4(d) rule, the agency does not plan to issue a rule for at least three of them. The two scalloped hammerhead shark species listed in 2014 will not receive a rule because NMFS does not believe that applying section 9 prohibitions will “have a significant effect” on reducing the species’ extinction risk.¹³ A similar logic applies to the 2016 African coelacanth. For the remaining 25 species, 20 of which are corals, the agency has yet to decide whether to issue a rule.

Table 1. Number of threatened animal species that have been covered by a species-specific 4(d) rule (through May 2016)

	Animal species listed as threatened	Species with a 4(d) rule
FWS	238	116 (49%)
NMFS	71	43 (61%)

Although NMFS lacks a general 4(d) rule, its species-specific 4(d) rules resemble FWS’s approach to 4(d) rules in one important way. In general, NMFS rules extend the full protections of section 9 to a covered species and then carve out specific exemptions. For example, the rule for the Guadalupe fur seal states that “the prohibitions of section 9 of the Act (16 U.S.C. § 1538) relating to endangered species apply to the Guadalupe fur seal except as provided in paragraph (b) of this section.” This approach is similar to FWS’s use of a general 4(d) rule to extend full protections to threatened species and then limiting those protections through special rules.¹⁴

NMFS does have two 4(d) rules, one for a population of the Atlantic sturgeon and another for the Southern Distinct Population Segment of the spotted seal, that apply the full protections of section 9(a)(1) without exemptions.¹⁵ As a result, these rules operate identically to the FWS general 4(d) rule. Some other NMFS 4(d) rules have an effect similar to the salmon and seal rules, even though those rules contain exemptions. Notably, the Guadalupe fur seal rule exempts only take of a stranded seal done in a “humane manner” and “for the protection or welfare of the animal.”¹⁶ And the coral rule only exempts scientific research restoration and imports that comply with the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).¹⁷ These very narrow exemptions seem unlikely to diminish protections in any way that impedes recovery.

FWS special rules focus on fishes, mammals and reptiles. These groups represent 61 percent of all threatened animal species listed by FWS, but 85 percent of all FWS species with a special rule. Further, approximately 75 percent of all threatened FWS mammals and fishes are covered by a special rule (Table 2). By contrast, special rules do not cover most threatened amphibians, birds and insects and are entirely absent for clams, snails and plants. Clams and snails make up only 6 percent of FWS threatened species and are often difficult to detect, so it is unsurprising that none has prompted a special rule. But plants make up 40 percent of all FWS threatened species, and their complete omission from special rules may seem peculiar. We assume that FWS has not issued special rules for plants because of the limited opportunity to offer them additional protection under section 9. Unlike with animals, the ESA does not protect plants from take and relies on state laws to protect plants on private property. The only added protections that special rules could offer threatened plants are those that endangered plants received under the 1988 amendments to the ESA: prohibiting the malicious damage of plants on federal lands and the removal or damage of plants in knowing violation of a state law.¹⁸ Neither of these typically benefits plants on private property, where the primary gap in protection exists.

The last decade has seen a resurgence of special rules from FWS, with the Obama administration issuing rules more frequently than nearly every other administration.

FWS has issued special rules in 32 of the last 42 years, but some presidential administrations have been far more active than others in exercising their 4(d) authority. The Ford administration had the highest number of FWS species covered by special rules per year. In the administration's 29-month term, FWS applied special rules to 20 species, averaging 8.3 species per year (Table 3). This rate decreased with each succeeding administration until it bottomed at 1.1 species per year during the George W. Bush administration, partly because of the record low number of species listed over those eight years. FWS listed only nine species as threatened compared to 107 species during the preceding eight years under Clinton. Since that nadir, the Obama administration has resurrected special rules—so much that only the Ford administration has topped its current average of 4.7 species per year for FWS.

Compared to FWS, NMFS had a slow start with 4(d) rules (Figure 1). Its first rule was finalized in June 1987, by which time

Table 2. Percentage of taxon listed as threatened with a species-specific 4(d) rule

(parentheses shows number of species)

	FWS	NMFS
Mammals	76% (35)	100% (3)
Fishes	73% (35)	75% (24)
Reptiles	49% (29)	100% (14)
Amphibians	31% (5)	None listed
Insects	29% (4)	None listed
Birds	15% (6)	None listed
Clams, crustaceans, snails	7% (2)	None listed
Corals	None listed	9% (2)
Plants	0%	0%

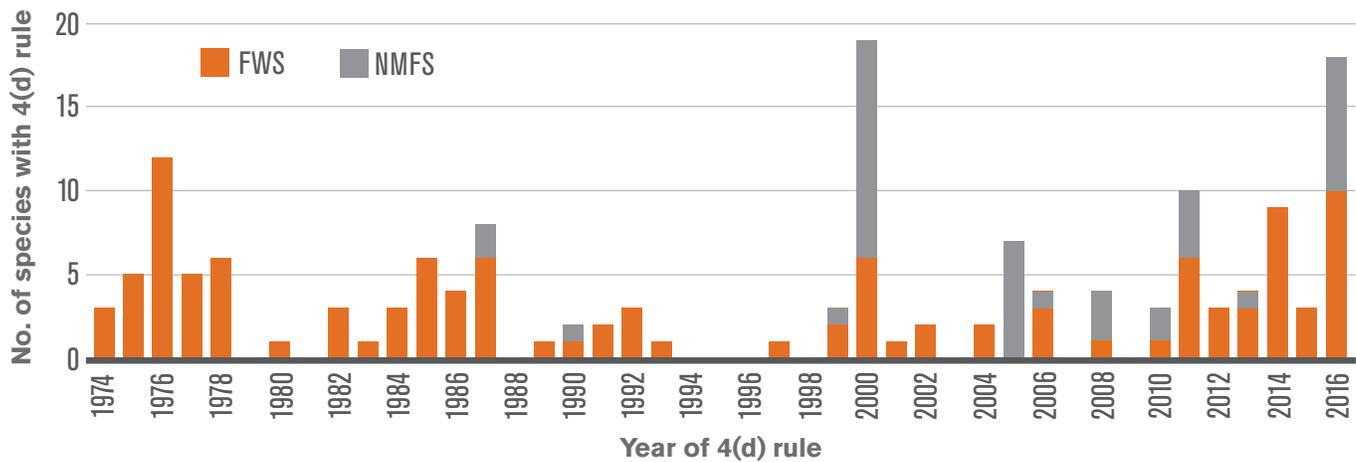
FWS had issued special rules covering 52 species. And among the 43 NMFS species with 4(d) rules, 26 received those protections only in the last 16 years. The main reason for this lag is that NMFS listed most of its threatened species only after 1996.

Table 3. Number of species covered by species-specific 4(d) rules for each presidential administration

Presidential administration	FWS species			NMFS species		
	Number of species covered by rule	Average number of species per year	Number of threatened listings*	Number of species covered by rule	Average number of species per year	Number of threatened listings*
Ford (Aug. 1974 – Jan. 1977)	20	8.3	19	0	0.0	0
Carter (Jan. 1977 – Jan. 1981)	12	3.0	47	0	0.0	2
Reagan (Jan. 1981 – Jan. 1989)	23	2.9	87	2	0.3	0
Bush H. (Jan. 1989 – Jan. 1993)	7	1.8	48	1	0.3	4
Clinton (Jan. 1993 – Jan. 2001)	10	1.3	107	14	1.8	19
Bush W. (Jan 2001 – Jan. 2009)	9	1.1	9	11	1.4	5
Obama (Jan. 2009 – through May 2016)	35	4.7	55	15	2.0	35

*For any presidential administration, the species covered by a species-specific 4(d) rule may not all have been listed during that administration. For example, the Bush W. administration issued special rules for nine FWS species, only seven of which were listed by the administration. The other two species were listed by earlier administrations. Likewise, the Ford administration covered more species with special rules than the number of species it listed, because some of those rules covered pre-1974 listings. We included the number of threatened listings to show their prevalence by administration, not to calculate the percentage of listings accompanied by a special rule during a particular administration. Further, because we had to obtain the numbers of listings using different sources (we found reliability issues with any single source), the exact number for each presidential administration may be inaccurate by a marginal amount.

Figure 1. Number of species covered by FWS special 4(d) rules and NMFS 4(d) rules through May 2016.*



*Jointly listed species are shown under both FWS/NMFS because each agency issues its own 4(d) rule for the species.

Species-specific 4(d) rules exempt a wide range of activities—in several broad categories—from the prohibitions for endangered species. Many appear designed to reduce for threatened species the ESA’s restrictions on land use, fishing, wildlife trade and other ordinary human activities.

Species-specific 4(d) rules exempt a variety of activities affecting threatened species from the section 9 prohibitions that apply to endangered species. We evaluated all exemptions and classified most of them according to the seven broad categories described in this section. Many rules have exemptions that fit multiple categories. For example, the NMFS salmonid rule exempts scientific research, fisheries activities and various land uses. There is also overlap among certain categories. Nonconservation activities (category 2), for example, can also be regulated under state laws (category 4). Because it is impossible to avoid all overlap, we classified each exemption based on the category that offered the best fit.

Category 1: Conservation and Research

This category captures scientific research and actions designed primarily to conserve species. Among the 116 FWS species with special rules, only 25 belong to category 1. The low percentage is surprising because legitimate conservation and research should further recovery and, hence, likely be deemed “necessary and advisable” for conservation. Often, the rules exempt any activity for “scientific or research purposes,” as is the case for five species ranging from the grizzly bear to the Madison Cave isopod. In other instances, the rules exempt scientific or conservation activities authorized by state law. For example, the rule for the Yaqui catfish and beautiful shiner exempts activities “for educational, scientific, or conservation purposes in accordance with applicable Arizona State laws and

regulations.” This type of state law exemption applies to 20 FWS species, 18 of which are freshwater fish. In all instances, a state has broad latitude to define what activities will be considered conservation or research under the special rule.

The special rule for the African lion is unusual in that it increases protections for the species beyond those offered by the general 4(d) rule.¹⁹ Under section 9(c)(2) of the ESA, the importation of wildlife that is not endangered, but that is listed in Appendix II of CITES, is “presumed” to comply with the ESA if the importation is noncommercial. The African lion fits both criteria, so sport-hunted trophies of the species could have been imported for personal use without an ESA permit. The special rule eliminated that option. FWS reasoned that some lion range countries lack well-managed lion hunting programs. Through case-by-case ESA permitting, FWS can restrict imports to those from range countries with scientifically sound management programs that address threats to the lion and are enhancing the species’ survival. Through May 2016, we found no other situation where FWS has used a special rule to rebut the section 9(c)(2) presumption (after we completed our analysis, FWS issued a special rule for African elephants that also declines to extend the section 9(c)(2) presumption for sport-hunted elephant trophies).²⁰

The agency, however, has issued other special rules that could be interpreted as promoting conservation beyond the prohibitions of section 9. For example, the coastal California gnatcatcher rule exempts incidental take covered by the California Natural Community Conservation Planning Act (NCCP).²¹ Because NCCP plans adopt broad ecosystem-based approaches to conserving biodiversity, they may protect more habitat than what is possible through section 9 prohibitions alone, especially considering the difficulty of enforcing the take provision. By covering activities approved through NCCP plans, the gnatcatcher rule may incentivize enrollment in those plans, which could increase the

acres of conserved habitat compared to alternative regulatory methods.²² According to the 2010 five-year status review for the species, the five NCCP habitat conservation plans at that time “regulate the destruction of gnatcatcher habitat (through clearing and grubbing ordinance, for example) and direct impacts toward certain areas and away from others, thereby providing for the establishment of habitat preserves consisting of large ‘core’ areas of gnatcatcher habitat and connecting ‘linkage’ areas.”²³ In total, FWS expects to permanently preserve over 182,976 acres of gnatcatcher habitat through the five plans.

As for NMFS, exemptions for conservation or research were present for 41 species (95 percent), but were generally less permissive than FWS rules. For example, the 4(d) rule for 13 salmonid species requires that NMFS review and approve all research resulting in direct take and that research results be provided to NMFS annually, including a report documenting the direct take.²⁴ Similarly, research on two coral species is exempt only if permitted by one of six federal or state agencies.²⁵ As previously noted, two NMFS rules extend the full protections of section 9, and several other rules exempt only conservation activities and scientific research. Consequently, a handful of NMFS rules belong only in category 1.

Category 2: Nonconservation Activities Specified in a Rule

Among FWS species with special rules, 29 (25 percent) have exemptions that belong to this category, making it the most common. Unlike the exemptions for conservation or research, these activities are not designed to directly conserve species by increasing their abundance or restoring habitat. Examples include:

- Removal of nuisance grizzly bears
- Sustainable timber harvests in Louisiana black bear habitat
- Use of northern sea otter skins by Alaskan Natives
- Maintenance of livestock tanks inhabited by Chiricahua leopard frogs
- Accidental capture of the Sonora chub as part of recreational fishing for other species
- Routine maintenance of airports in or adjacent to Mazama pocket gopher habitat

Some rules may even result in considerable loss to certain populations. Under the Utah prairie dog rule, authorized take of the species totaled 30,753 animals across four counties from 1985 to 2013.²⁶ Despite the harm allowed to individual



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The NMFS 4(d) rule for the green sea turtle has detailed measures to reduce bycatch from fishing.

animals, FWS often views this category of exemptions as a valuable conservation tool. One reason is reduced antagonism toward the species, which may encourage voluntary conservation efforts or at least help manage human-wildlife conflicts. The preamble to the prairie dog rule is telling:

The Utah Division of Wildlife Resources (Pers. Comm., 1984) feels that ranchers in the area will not continue to tolerate such large [crop] losses annually. Sooner or later they will take matters into their own hands and begin to illegally kill prairie dogs using methods which will have a far more catastrophic effect on the population [than the take allowed under the special rule].... Damage in the Cedar and Parowan Valleys has now reached the point at which there is genuine concern that local ranchers might take these illegal means of securing relief, and this could prove severely damaging to the remaining Utah prairie dog populations, perhaps even bringing about the extinction of the species in these valleys.²⁷

Among NMFS species with 4(d) rules, 88 percent belong to category 2. The rule for salmonids exempts certain road maintenance, water diversion, land management and other nonconservation activities.²⁸ And the rule for sea turtles exempts incidental take from regulated fishing activities.²⁹ To qualify for the exemption, fishermen must comply with specific requirements for using turtle excluder devices, which are designed to prevent turtles from drowning in fishing nets. The requirements for sea turtles and salmonids are considerably more specific and robust than those under nearly all FWS special rules and are comparable to the types of restrictions typically found in incidental take permits.

Category 3: Activities Authorized by a Voluntary Conservation Plan

Whereas category 2 covers activities specifically exempted by a 4(d) rule, category 3 takes the opposite approach. It covers 4(d) rules that exempt all actions authorized by a voluntary conservation plan for a species, without describing those actions in the rule. This approach gives the conservation plan more latitude to describe which actions are exempt and how to regulate them. FWS has issued only two special rules of this type: one for the coastal California gnatcatcher in 1993 and another for the lesser prairie chicken in 2014.³⁰ Under the gnatcatcher rule, section 9 prohibitions do not apply to incidental take of the species resulting from activities authorized by a conservation plan approved under the state of California's Natural Community Conservation Planning Act (NCCP). As of August 2015, the special rule covers nine NCCP conservation plans totaling over 3.8 million acres. The plans, rather than the special rule, describe the authorized land development and conservation measures.

The lesser prairie chicken rule was similarly broad, exempting all incidental take resulting from activities on nonfederal lands that are covered by a conservation plan spanning the species'

entire range. The plan is led by an association of western state wildlife agencies and is expected to cover a host of high-impact land use activities, including oil and gas development, wind energy development, road construction and agriculture. Only two months after the species was listed, the state agencies reported that approximately 160 oil, gas, wind, electric and pipeline companies had enrolled about 9 million acres under the range-wide plan, committing over \$43 million for conservation over the next three years.³¹ Even so, the plan remains controversial because of concerns about whether it requires enough conservation measures to offset such significant habitat development. In 2015, a federal court vacated the listing decision for the lesser prairie chicken, and FWS began reevaluating in 2016 whether to relist the species.

NMFS generally does not issue 4(d) rules that fall in category 3. One of the few exceptions is the rule that exempts activities under a tribal resource management plan that NMFS has determined will not appreciably reduce the likelihood of survival and recovery of salmonids.³² The rule, however, is unlike those from FWS because only a small percentage of people can qualify for the exemptions and it is not expected to result in widespread habitat development.



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The special 4(d) rule for the lesser prairie chicken exempted all activities authorized by a range-wide plan for the species.



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Throughout most of the bull trout’s range, a special 4(d) rule exempts state regulated fishing.

Category 4: Activities Regulated by State Law

For 12 percent of FWS species with special rules, any activity allowed by “applicable state law” is exempt from the take prohibition. As a result, states wield a lot of power to determine the protections for those species. Unless a development project involves federal agency action or permitting that is regulated under section 7 of the ESA, only section 9 protections apply, all of which are effectively determined by a state under such 4(d) rules. The San Marcos salamander and 13 freshwater fish species belong to this category. For many of the fish, the exemptions target sport fishing (even though this limitation is not reflected in the special rules). Often, the only rationale provided for the rule is that fishing is an acceptable method to prevent overpopulation of the covered species, which would result in habitat degradation. FWS, however, offered no data to suggest that overpopulation was likely to be a problem for a species threatened with extinction. Although all the rules in category 4 were finalized between 1975 and 1987, they remain in effect today and some may be at odds with two court opinions from the 1980s ruling that FWS may allow direct take under a 4(d) rule only if it “determines” that “population pressures within the ecosystem cannot otherwise be relieved.”³³

Category 5: Activities Regulated by Other Federal Laws

For four percent of FWS species with special rules, federal laws other than the ESA are allowed to exempt certain activities from section 9 prohibitions. For example, the special rule for polar bears exempts any activity authorized under the Marine Mammal Protection Act (MMPA).³⁴ The MMPA also overrides section 9 prohibitions for many uses of northern sea otter parts and products by Native Americans.³⁵ Other examples in this

category include the regulations of the National Park Service that “govern all taking of grizzly bears in National Parks” and those that allow fishing for bull trout in the lower 48 states.³⁶

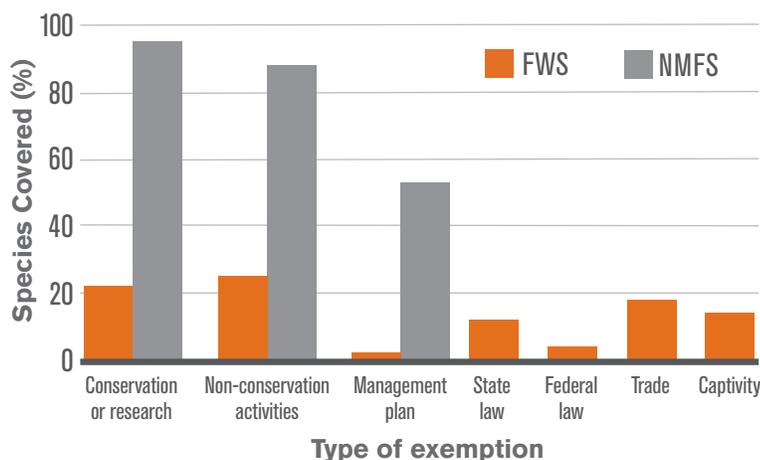
Category 6: Wildlife Trade

For 18 percent of FWS species with special rules, trade of individual animals or their parts is exempt to some extent. Many of these species have sizable commercial value, which is unusual for listed species, and 81 percent occur outside the United States. Examples include South American crocodilians used in the leather trade, Asian cockatoos kept as pets and beluga sturgeon that produce caviar.³⁷ Rules for foreign species often contain two primary exemptions related to trade. One covers imports and exports between the United States and a foreign country, if those activities comply CITES requirements. The idea is that additional ESA permitting is unnecessary in most cases because CITES already regulates imports of animals and parts into the United States. The second exemption covers interstate commerce, allowing the public to sell, buy or transport animals or their parts without an ESA permit.

Category 7: Captive Animals

For some listed species commonly kept as pets or used in research, special rules exclude captive individuals from the protections of section 9. Twelve species of primates, three species of foreign birds and the Canada lynx make up the 16 species that have been covered by a special rule in this category.³⁸

Figure 2. FWS/NMFS species with species-specific 4(d) rules, categorized by the types of exemptions in those rules.*



*Percentages indicate the proportion of species with rules covered by that type of exemption. Because many NMFS rules contain more than one category of exemption, the total percentage for NMFS exceeds 100.

3 APPROPRIATE USES OF SPECIES-SPECIFIC 4(D) RULES

When properly drafted, species-specific 4(d) rules can help integrate land use and other human activities with threatened species conservation. At a minimum, however, the rules must ensure that exempt activities do not impede species recovery. To further this goal, FWS should continue to extend the full protections of section 9 to threatened species by default, carving exemptions on a case-by-case basis. This position is consistent with everything we have learned about how the ESA is administered. When Congress enacted the ESA, it presumed that threatened species were less imperiled than endangered species to an extent that justifies reduced protections for the former. In practice, however, the distinction between a threatened and endangered species is often murky for all but the most obvious examples. As a result, we must scrutinize any presumption that a threatened species can recover with reduced protections.

An example of this murkiness comes from FWS's supplemental explanation for the legal basis of its 2008 decision to list the polar bear as threatened rather than endangered. In response to a federal court's request for an explanation of the phrase "in danger of extinction" as used in the definition of an endangered species, FWS stated that endangered species generally fall into four categories. One was "species with still relatively widespread distribution that have nevertheless suffered ongoing major reductions in its numbers, range, or both, as a result of factors that have not been abated." FWS then explained:

Threatened species typically have some of the characteristics of the fourth category above, in that they too have generally suffered some recent decline in numbers, range, or both, but to a less severe extent than endangered species. Whether a species in this situation is ultimately an endangered species or a threatened species depends on the specific life history and ecology of the species, the nature of the threats, and population numbers and trends.

The explanation never identifies how much "less severe" of a decline distinguishes a threatened species from an endangered one. What is the interplay between species life history and ecology, the nature of threats and population numbers and trends, such that one species is threatened and another endangered? Without clear sideboards, many species will fall into the gray space, one that relies on FWS/NMFS biologists to use their "best professional judgment" to arbitrate a species' status.

There are compelling reasons to believe that this approach can render inaccurate and inconsistent judgments of a species' true extinction risk. One of the few studies on this topic involved surveying FWS/NMFS biologists to determine how they judge degrees of endangerment in relation to species extinction probabilities and timing. It found that "even biologists experienced

with ESA listing decisions had difficulty judging endangerment and articulating their reasons for making particular judgments."³⁹ There was no consistency on basic questions such as "whether references to danger of extinction refer to absolute extinction, functional extinction, or another population level (e.g., quasi-extinction)" and "whether any consideration should be given to the effects of listing decisions or future management actions on species' danger of extinction...."⁴⁰

These findings are consistent with the recommendations of a 1995 National Academy of Sciences study observing that decisions about how to address uncertainty and risk in listing reviews "are complicated and consequential enough that unaided intuition cannot always be trusted to do a good job."⁴¹ "Different scientists can readily come to different conclusions about risk, depending on how they interpret in danger of, likely, foreseeable future, and significant portion."⁴² Until FWS/NMFS develop policies on evaluating extinction risk in listing decisions, the distinction between threatened and endangered species will often continue to be a shifting line in the sand, sometimes redrawn by politics. For this reason, FWS should continue defaulting to full protections for all threatened species under its general 4(d) rule. Likewise, NMFS should continue drafting 4(d) rules that extend the full protections of section 9 and then exempt specific activities as appropriate, or adopt a general 4(d) rule similar to FWS's rule.

Four Situations Conducive to Reduced 4(d) Protections

We believe there are four situations, however, in which reduced 4(d) protections are consistent with or even contribute to recovery. We recommend that FWS/NMFS consider these situations, which are described below, as guidelines for determining the appropriateness of drafting 4(d) rules.

1. Conservation Activities

The most obvious situation covers activities designed solely to conserve species, such as habitat restoration, scientific research and reintroduction of populations. Where these activities have a high likelihood of achieving their goals, the risk of impeding recovery is trivial. An example is the 4(d) rule for elkhorn and staghorn corals, which exempts only permitted scientific research and restoration completed by a government agency.⁴³ Another is the rule for the Okaloosa darter, which covers only incidental take from scientific research and conservation activities approved under the Eglin Air Force Base Integrated Natural Resources Management Plan (prescribed burns, instream habitat restoration, unpaved range road stabilization, and removal or replacement of culverts to decommission roads, improve fish passage, or enhance stream habitat).⁴⁴ These exemptions not only encourage scientists and conservationists to help recover the species, but also free



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The special 4(d) rule for the Utah prairie dog is one of the few that authorize shooting of the covered species and other forms of direct take.

FWS/NMFS resources by eliminating the need to review and issue scientific collection and conservation permits. We found very few 4(d) rules that fall in this category, and encourage more in the future to streamline recovery actions.

2. Conservation Neutral and *De Minimis* Activities

The second situation covers nonconservation activities that have no known harmful effects on recovery (“conservation neutral”) or only trivial effects (“*de minimis*”). An example of *de minimis* effects is seasonal disturbances to several populations of a wide-ranging species that continues to increase in abundance. The cost and staff time needed for FWS/NMFS to issue permits likely outweighs the marginal conservation benefits of permit issuance. Whether an activity produces *de minimis* effects can be highly context specific, however. An example comes from the special rule for the Lahontan cutthroat trout, which exempts state-regulated angling.⁴⁵ FWS acknowledged that “cutthroat trout are vulnerable to recreational angling,” but believed the exemption “does not pose a *significant* threat” to the trout outside the Western Lahontan Basin because fishing pressure is light, many waters are closed to fishing or specially regulated, and heavily fished areas are supplemented by stocking.

Harvest inside the basin, however, “does appear to pose a threat to [trout] recovery” because it impedes FWS from establishing recovery populations, understanding the life history needs of the fish and identifying recovery actions. Thus, the angling exemption seems consistent with recovery only if state management is adequate, and that can depend on the particular circumstances of different managed populations.

As noted earlier, this second situation also covers “conservation neutral” activities—those that neither impede nor improve recovery. One example is rules that exempt interstate transport of foreign bird species imported under CITES as captive born specimens.⁴⁶ In these situations, propagation of captive individuals is unlikely to exacerbate any illegal trade overseas and might even advance conservation by encouraging interstate transport of animals for breeding programs among zoos and private breeders. For foreign species threatened primarily by habitat loss, reducing the regulatory barriers to interstate transport can help guard against inbreeding depression in captive assurance colonies. Other examples of properly regulated trade under CITES, such as commerce in crocodilian parts, would also likely qualify as conservation neutral activities.

One of the main challenges with this second situation is assessing the cumulative effects of multiple exempt activities, each of which is trivial on its own. Unlike with section 10 permitting or section 7 consultations, where FWS/NMFS could in theory track the cumulative incidental take based on permittee reporting requirements, monitoring and reporting are absent from many 4(d) rules. As a result, FWS/NMFS cannot easily evaluate when a series of trivial impacts rises to the point of impeding recovery. For that reason, we urge FWS/NMFS to carefully monitor the status of species covered by the second category of exemptions. The Utah prairie dog rule is an example of one that has been well monitored. The levels of take have been tracked since 1985 and average less than 3 percent of the range-wide population size during this time. Even though take was highest in the Iron County/West Desert recovery unit for the species, that unit has grown the most and is almost five times its recovery goal.

3. Mitigated Activities

The third situation involving exempt activities is the most difficult to evaluate and may present the highest risk to the species but also the highest reward for conservation. It covers activities that could meaningfully impede recovery unless the effects are offset through conservation measures required by a 4(d) rule. If those measures succeed, the overall effect on the species would be minimal or even positive. For example, if invasive plants are the main threat to a bird species, a 4(d) rule could require contributions to a mitigation fund devoted to eradicating the plant in exchange for allowing certain land-use practices. The net effect would be positive if the benefits of the eradication outweigh the harmful effects of the exemption. Disease and poaching are other threats that, in certain situations, could be alleviated through carefully managed offset programs funded by exempting less significant threats.

A 4(d) rule should rely on offsets only if they are likely to achieve their conservation goal. For most listed species, there are limited data about which offsets are effective. As a result, this third situation should be used judiciously and monitored closely. To date, few special rules have relied on offsets. One that does is the argali rule, which allows for importation of sport-hunted trophies of the species because funds generated from the imports are used primarily for conservation.⁴⁷ Likewise, the rule for the California gnatcatcher exempts take for habitat development authorized under the NCCP, provided the impacts are partially offset.⁴⁸ While both of these rules have generated information on how the offsets have been implemented, we were unable to determine the extent that species have benefited from those measures.

The use of offsets would also need to align with established mitigation principles, including those in FWS's mitigation policies. For example, the 4(d) rule must follow the mitigation hierarchy of avoidance, then minimization, and finally offsets, unless a departure benefits the species. "Additionality" is another important principle—we consider habitat preservation an offset only if it protects land that would have otherwise been lost. If those lands were under no threat of development, then preservation has not offered any additional conservation benefit. FWS should also strive for a no net loss or net benefit goal for mitigation, as stated in the 2015 Presidential Memorandum on Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment.⁴⁹

Monitoring and reporting are rarely incorporated into FWS special rules, but would be vital for any rule that relies heavily on mitigation. The uncertainty surrounding many mitigation techniques, combined with the potential to impede recovery, heighten the need for monitoring and reporting.

4. Segue to Delisting

The fourth and final situation covers delisting species. In this situation, FWS/NMFS often confront public opposition even

when species have exceeded their biological recovery criteria (e.g., abundance, distribution, fecundity). One reason is public concern about whether the loss of ESA protections would threaten a species and require it to be relisted in the future. Even when FWS/NMFS offer a good explanation for a proposed delisting, there often remains considerable uncertainty about the fate of the species, particularly whether there are adequate regulations to sustain the recovery. Rarely are quantitative models available to explain how any future changes in threats would affect species biology and demographics.⁵⁰ Also unclear is how private landowners and state agencies will respond to reduced protections.

One way to minimize the uncertainty is to use 4(d) rules to evaluate how reduced protections would affect a species' ability to meet its biological recovery criteria. The rules can replicate some of the effects of delisting by eliminating specific protections under section 9. If carefully monitored, these regulatory experiments can provide qualitative and quantitative data to inform a decision on whether a species is ready for delisting, particularly the adequacy of protections from state and other federal laws. With better data, arguments that favor or oppose delisting can be based less on conjecture and more on science.

Not every threatened species is amenable to a 4(d) rule that attempts to model the effects of delisting. For many species, the uncertainty about these effects is not significant enough to affect a delisting decision. For example, a species that occurs primarily on federal lands may receive limited protection from section 9 because section 7 regulates most activities that affect the species. A 4(d) rule that eliminates section 9 protections will reveal little about the species' fate after delisting because the rule will not suspend section 7 protections. By contrast, species that occur mostly on nonfederal lands may benefit tremendously from section 9 protections. If there is considerable uncertainty about how those species would respond to the complete elimination of protections after delisting, an intermediate step is to reduce some of the protections through a 4(d) rule. If the response is troubling, FWS can rescind the rule, which is far easier than relisting the species. For these regulatory experiments to generate useful information, FWS must monitor how a species responds to a special rule and then use that information when evaluating a delisting proposal. For example, does a species' abundance decline when certain forms of habitat alteration are exempt? If used strategically, a 4(d) rule can create a safe stepping stone to eventually delisting a species.

Despite the controversy surrounding 4(d) rules, Defenders views them as an important tool for minimizing the regulatory impact of the ESA without impeding recovery. We believe species-specific 4(d) rules are appropriate in the four situations we have described. The next and final section offers recommendations for improving how FWS/NMFS implement 4(d) rules.

4 RECOMMENDATIONS FOR IMPROVED IMPLEMENTATION OF 4(D) RULES

Our general recommendations for improving the implementation of 4(d) rules address the need for overall guidance from FWS/NMFS and suggest measures for improving the application of species-specific rules. We also offer recommendations for proper implementation of 4(d) rules that exempt all activities that comply with voluntary conservation plans managed by states or other entities.

General Recommendations for FWS/NMFS

1. Issue a handbook, guidelines or policies on when and how 4(d) rules will be used.

Species-specific 4(d) rules have become an alternative to securing incidental take authorization through section 10 permits and section 7 consultations, but without comparable consistency, accountability, transparency or nationwide guidance. Sections 7 and 10 permitting are each covered by a comprehensive handbook, implementing documents and regulations. Species-specific 4(d) rules are not governed by equivalent guidance, even though they also allow activities to proceed without violating section 9. Another difference is that section 7 requires permittees to minimize the effects of incidental take (through reasonable and prudent measures), and section 10(a)(1)(B) requires minimization and mitigation to the “maximum extent practicable.” No comparable requirements exist for 4(d) rules, and many have no minimization or mitigation requirements. We recognize that decades ago, when 4(d) rules were rarely used, the need for nationwide consistency was limited. But as our analysis shows, FWS/NMFS have issued 4(d) rules with increasing regularity. The rules are now prevalent and controversial enough to warrant a set of best practices and sideboards on when and how they should be used.

2. Adopt measures to improve how species-specific 4(d) rules are applied.

These measures—many of which come from existing rules, suggesting that they are feasible to implement—include the following:

Geographically tailored exemptions

Species do not always recover uniformly across their range, particularly wide ranging species whose conservation depends on the decisions of multiple states and private landowners. FWS/NMFS often seek to reward jurisdictions that have excelled at recovering a species by reducing the ESA regulatory restrictions in those areas. One way is to designate and immediately delist a distinct population segment (DPS) of a species. This approach, however, was rejected by a federal district court in *Humane Society of the United States v. Jewell*, which concerned the FWS’s decision to create and simultaneously delist the Great Lakes DPS of the gray wolf.⁵¹

Although not having the same effect as a delisting, special rules can offer a legally defensible path to flexibly manage populations in areas that have met recovery targets, while applying the full section 9 protections in all other areas. FWS has rarely used geographically tailored special rules, but the Gila trout rule illustrates the potential.⁵² The rule allows take of the species by state-regulated recreational fishing except in four creeks inhabited by relict populations of the trout. FWS deemed these populations especially important to recovery and inappropriate for fishing. All other bodies of water, however, contained reintroduced specimens that FWS thought could be managed for fishing consistent with recovery:

In general, establishment of recreational [fishing] opportunities can be developed in recovery waters that have stable or increasing numbers of individuals (as measured by population surveys) and where habitat conditions are of sufficient quality to support viable populations of Gila trout (populations having annual recruitment, size structure indicating multiple ages, and individuals attaining sufficient sizes to indicate 3 to 7 years of survival). In addition, recreational opportunities may be developed in non-recovery or enhancement waters.⁵³

This type of 4(d) rule allows FWS/NMFS to fine-tune the level of section 9 restrictions. In doing so, the agencies can reward recovery partners while focusing their section 9 compliance efforts in areas where species are most vulnerable.

Avoidance and minimization requirements

As explained earlier, 4(d) rules can eliminate the need for incidental take authorization under section 10(a)(1)(B). To obtain those authorizations, a person must minimize and mitigate to the “maximum extent practicable.” Likewise, section 7 requires minimization in the form of reasonable and prudent measures if incidental take is expected. It thus makes sense for FWS/NMFS to consider whether similar requirements are needed in 4(d) rules. To date, most FWS 4(d) rules do not require avoidance or minimization, whereas most NMFS rules do. We encourage FWS to develop best practices to minimize the effects of exempt activities for species and incorporate them into special rules.

Current FWS rules that have avoidance and minimization requirements often include spatial or timing restrictions. For example, the rule for the Preble’s meadow jumping mouse requires that exempt ditch maintenance activities “result in the annual loss of no more than 1/4 mile of riparian shrub habitat per linear mile of ditch...” and “are performed within the historic footprint of the surface disturbance associated with ditches and related infrastructure.”⁵⁴ Similarly, the rule for the California red-legged frog exempts rodent control using discing and grading only if it occurs outside of 0.7 mi. of known or potential breeding ponds for the species.⁵⁵

Some rules also adopt restrictions at the population or species level. The Utah prairie dog rule prohibits take on properties within 0.5 mi. of conservation lands “in excess of the baseline population.”⁵⁶ This standard prevents a net loss of prairie dogs on those properties. The NMFS rule for anadromous fish adopts a viability standard, requiring that exempt harvest activities “impacting populations that are functioning at or above the viable threshold must be designed to maintain the population or management unit at or above that level.”⁵⁷ Maximum harvest rates must also not “appreciably reduce the likelihood of survival and recovery” of a protected species.

Clear modification and withdrawal standards

In contrast to incidental take permits and biological opinions, most 4(d) rules do not specify when FWS/ NMFS would modify or withdraw the rules. Adopting clear standards would be useful because the threshold for approving 4(d) rules—“necessary and advisable” to conserve a species—is ambiguous. Clear standards could also improve the rate of self-compliance with the rules. Although FWS/NMFS always have the authority to withdraw a 4(d) rule, many people may not realize it or view it as a credible threat unless reminded through a modification or withdrawal provision in the rule.

Some 4(d) rules do include withdrawal standards, but they are vague. For example, the rule for the Louisiana black bear, which was delisted in 2016, stated that the exemption for forest management activities is “subject to modification or withdrawal if the Service determinates that this provision fails to further the conservation” of the species.⁵⁸ There are no clear metrics for how the rule would “further the conservation” of the species. The rule for the Utah prairie dog likewise states that if take is “having an effect that is inconsistent with the conservation of the Utah prairie dog, the Service may immediately prohibit or restrict such take as appropriate for the conservation of the species.”⁵⁹ Future rules should include more specific triggers that, at a minimum, would ensure no appreciable loss to a species’ long-term persistence.

NMFS has adopted more specific revocation standards in some of its rules. The rule for anadromous fish, for example, exempts road maintenance activities under a NMFS-approved program. Periodically, NMFS will identify ways to strength the program, especially if the program is not protecting habitat or supporting population productivity levels needed to conserve a species. If a jurisdiction “does not make changes to respond adequately to the new information in the shortest amount of time feasible, but no longer than one year, NMFS will publish notification in the Federal Register announcing its intention to withdraw the limit so that take prohibitions would then apply to the program....”⁶⁰ After a 30 day comment period, NMFS will decide whether to continue exempting the activity. This example is far more specific than the FWS examples summarized earlier, and explains that NMFS

“will” proceed with a proposed withdrawal if improvements are not adopted within a specific timeframe. By contrast, the FWS rules typically use a “may” standard.

Expiration dates

Some species-specific 4(d) rules may benefit from an expiration date. The only example of this approach is the 1999 rule for the Jarbidge River distinct population segment of the bull trout, which states that the exemptions in the rule “will be in effect until April 9, 2001. At that time, all take prohibitions of the Act will be reinstated” unless FWS issues another special rule.⁶¹ FWS intended to issue the subsequent rule to encourage Idaho and Nevada to develop a conservation plan for the species, but never did because it revised the listing status of the fish. Nonetheless, the 1999 special rule suggests that limiting the duration of a special rule could encourage states and private landowners to carry out certain conservation measures in order to increase the likelihood of FWS issuing a subsequent special rule with more favorable exemptions. This approach is similar to how the deadlines under FWS’s multidistrict litigation settlement have prompted unprecedented levels of voluntary conservation to avoid listing certain species. In both cases, deadlines underscore the importance of acting within a defined timeframe and give FWS/NMFS leverage in negotiating conservation measures.

Expiration dates may also be useful in other situations. If there is considerable uncertainty about how an exempt activity would affect a species, an expiration provision would help limit the harm to the species. It would also remind FWS to assess the effectiveness of a rule, which should inform whether to issue a subsequent rule and what exemptions to include. Because threats to a species can change radically over time, some exemptions may be inappropriate to carry over to a future rule. Threat evaluations in five-year status reviews can also help determine which activities are appropriate to exempt.

Recommendations for 4(d) Rules Covering Voluntarily Conservation Plans

Some 4(d) rules exempt all activities that comply with voluntary conservation plans managed by state or other entities (see page 10), an approach that presents benefits and drawbacks. On the one hand, a conservation plan can describe in great detail the requirements that apply to covered activities. And if properly implemented, plans can offer more monitoring, reporting, adaptive management and other benefits that are beyond the reach of most 4(d) rules. One reason is that a plan is often actively managed by the entity that created it, and thus more akin to section 10 habitat conservation plans. Plan participants must be enrolled and comply with mitigation, reporting and other requirements. Because most 4(d) rules do not cover conservation plans, they are only passively

managed: people determine on their own whether their activities qualify for exemptions, and have no monitoring or reporting obligations. From this perspective, 4(d) rules that rely on conservation plans can offer meaningful benefits to species.

If improperly implemented, however, conservation plans can create significant risks for species because they tend to cover many acres and exempt high-impact activities. *The Lesser Prairie Chicken Range-Wide Conservation Plan*, for example, has been mired in controversy over inadequate mitigation standards and transparency, and failure to meet certain deadlines. Another problem is if 4(d) rules allow plan administrators to expand the range of covered activities or reduce species protections without FWS approval. In those situations, FWS might be placed in the uncomfortable position of having to withdraw or amend the 4(d) rule to address the problem. A properly crafted 4(d) rule can address many of these problems by limiting the types of conservation plans that qualify for coverage and by setting clear triggers for revoking the rule. One of the best examples of this approach is the NMFS anadromous fish rule, which establishes many requirements that Fishery Management and Evaluation Plans must meet before they qualify for take exemptions.⁶²

The recommendations below summarize some of the most important requirements and include best practices from other rules:

1. Set minimum biological standards for the management plan.

Species-specific 4(d) rules should specify biological standards for management plans. For example, the salmonid rule sets maximum harvest rates and regulates fishing depending on whether a population exceeds “viability” thresholds. Minimum standards should be tied to the take exemption, such that the failure to meet them would suspend the exemption.

2. Require FWS/NMFS approval of management plans and incorporate public notice and comment.

FWS/NMFS should review and approve management plans before they qualify for coverage under 4(d) rules. The approval should be based on whether a plan meets the biological standards in the rule. FWS/NMFS should also allow public notice and comment on draft plans. The anadromous fish rule offers a good example, committing NMFS to at least 30 days of public notice and comment on draft Fishery Management and Evaluation Plans.

3. Require monitoring, reporting and periodical evaluation.

These requirements can come in several forms. The anadromous fish rule requires that “at a minimum, harvest monitoring programs must collect catch and effort data, information

on escapements, and information on biological characteristics, such as age, fecundity, size and sex data, and migration timing.” States must also “monitor the amount of take of listed salmonids occurring in its fisheries” and report the summarized data to NMFS periodically. Now that free aerial images are widely available, monitoring provisions should state a preference for that type of data. The anadromous fish rule offers a good example, requesting “aerial photography” of each exempt municipal, residential, commercial, and industrial development “at sufficient detail to demonstrate the width and vegetation condition of riparian set-backs.”

4. Ensure open data and transparency.

Copies of all management plans, enrollment documents and monitoring reports should be posted online, with any confidential information redacted. By making this information easily accessible, FWS/NMFS will encourage the public to help the agencies monitor the implementation of management plans. Considering that FWS/NMFS lack the resources to closely monitor most ESA conservation plans and incidental take authorizations, open data and transparency are two of the most effective ways to help overcome these challenges.



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The special 4(d) rule for the California red-legged frog covers all routine ranching activities.

CONCLUSION

Species-specific 4(d) rules are a sensible tool if properly used. Like every management tool under the ESA, these rules can either be abused or compatible with recovery. Many activities that result in take have trivial, neutral or even beneficial effects on recovery. By avoiding the need to review and approve permits for these activities, FWS/NMFS can focus their limited resources on projects that warrant greater scrutiny. Public support for endangered species conservation also improves as the cost of interacting with the ESA decreases. But special 4(d) rules also pose risks to threatened species if they too broadly exempt activities that can harm the species. We have described four situations that could warrant exemptions through these 4(d) rules. We have also recommended ways to improve how rules are drafted and applied. FWS/NMFS should develop a policy or handbook on species-specific 4(d) rules that considers these situations and recommendations. Such documents would bring greater consistency and predictability to the use of 4(d) rules, reducing public skepticism about the tool. Most important, improved standards for 4(d) rules would help ensure these measures further the ESA's ultimate goal of recovery.



ENDNOTES

- ¹ 50 C.F.R. § 17.31.
- ² *Sweet Home Chapter of Cmities. for a Great Oregon v. Babbitt*, 1 F.3d 1, 8 (D.C. Cir. 1993), *modified on other grounds on reh'g*, 17 F.3d 1463 (D.C. Cir. 1994), *rev'd on other grounds*, 515 U.S. 687 (1995).
- ³ 50 C.F.R. § 17.71.
- ⁴ Pub. L. No. 100-478, § 1006, 102 Stat. 2306, 2308 (1988).
- ⁵ *Sweet Home Chapter of Cmities. for a Great Oregon v. Babbitt* at 6 (“And appellants’ claim that the clear meaning of the first sentence should control our interpretation of the second is not necessarily valid, for, as appellees argue, the two sentences may represent separate grants of authority. It is possible that it is the second sentence alone that grants the agency authority to extend the § 1538(a)(1) prohibitions to threatened species.”).
- ⁶ *In Re Polar Bear Endangered Species Act Listing*, 818 F.Supp.2d 261, 262 (D.D.C. 2011).
- ⁷ See Frank R. Lupo, *Species-Specific Regulation of Threatened Species Under Section 4(d) of the Endangered Species Act: Learning the Lessons of the Past*, in *Endangered Species Act: Current & Emerging Issues Affecting Resource Development* (2015).
- ⁸ 50 C.F.R. § 17.40 l(2)(iv).
- ⁹ U.S. Fish & Wildlife Serv. & Nat’l Marine Fisheries Serv, *Draft Revisions to Endangered Species Act Section 7 Consultation Handbook* (2016).
- ¹⁰ U.S. Fish & Wildlife Serv. & National Marine Fisheries Service, *Endangered Species Act Section 7 Consultation Handbook* (1998).
- ¹¹ The experimental population provision appears in 16 U.S.C. § 10(j)(2)(C) while the similarity of appearance provision appears in § 4(e).
- ¹² Some 4(d) rules cover multiple species, while some species are covered by multiple 4(d) rules. For example, the 4(d) rule for primates at 50 CFR § 17.40(c) covers 11 species, while the loggerhead sea turtle is covered by a 4(d) rule from FWS and a separate rule from NMFS. This report focuses on the number of species covered by a 4(d) rule, rather than the number of 4(d) rules FWS/NMFS have issued.
- ¹³ National Oceanic and Atmospheric Administration. *Final Rule for Threatened and Endangered Status for Distinct Population Segments of Scalloped Hammerhead Sharks*, 79 Fed. Reg. 38,239 (July 3, 2014).
- ¹⁴ 50 C.F.R. § 223.201(a).
- ¹⁵ 50 C.F.R. §§ 223.211 & 223.212.
- ¹⁶ 50 C.F.R. § 223.201(b)(2).
- ¹⁷ 50 C.F.R. § 223.208(c).
- ¹⁸ Under the 1988 amendments to the ESA, protection for endangered plants was extended to include a prohibition on malicious destruction on federal land and on removing, cutting, digging up, or damaging or destroying any such plant in knowing violation of any state law. These prohibitions are not in the current general 4(d) rule for threatened plants because the rule was most recently amended in 1985 and, hence, does not incorporate the 1988 amendments. As a result, the rule does not extend to threatened plants the protections from malicious destruction and knowing violation of state laws that endangered plants enjoy.
- ¹⁹ 50 C.F.R. § 17.40(n)(2).
- ²⁰ U.S. Fish and Wildlife Service, *Revision of the Section 4(d) Rule for the African Elephant (Loxodonta africana)*, 81 Fed. Reg. 36,388 (June 6, 2016).

- ²¹ 50 C.F.R. § 17.41(b).
- ²² U.S. Fish and Wildlife Service, Special Rule Concerning Take of the Threatened Coastal California Gnatcatcher, 58 Fed. Reg. 65,088 (Dec. 10, 1993) (“While participation in the NCCP program is voluntary, the special rule provides incentives for participation by eliminating the necessity and costs of procuring incidental take permits under section 10(a) of the Act on an individual project basis and facilitating comprehensive planning for the conservation of the gnatcatcher and other coastal sage scrub species on a regionwide basis. Such regional planning is expected to afford significant protection for the gnatcatcher and the entire coastal sage scrub ecosystem, thus reducing threats to other coastal sage scrub species and providing a significant measure of certainty for future development in the region.”).
- ²³ U.S. Fish and Wildlife Service, Carlsbad Office, Coastal California Gnatcatcher (*Poliophtila californica californica*) 5-year Review: Summary and Evaluation 14 (2010).
- ²⁴ 50 C.F.R. § 223.203(b)(7).
- ²⁵ 50 C.F.R. § 223.208(c)(1).
- ²⁶ Utah Division of Wildlife Resources, Utah Prairie Dog Management Plan for Non-federal Lands 7 (2015) (“This rule was amended in 1991 to increase the amount of regulated take to 6,000 Utah prairie dogs annually. As of 2013, 1,404 permits have been issued with a maximum allowed take of 64,149 animals. A total of 30,753 animals have been reported taken throughout the duration of the program, representing a 48 % success rate.”).
- ²⁷ U.S. Fish and Wildlife Service, Final Rule To Reclassify the Utah Prairie Dog as Threatened, With Special Rule to Allow Regulated Taking, 49 Fed. Reg. 22,330 (May 29, 1984).
- ²⁸ 50 C.F.R. § 223.203(b).
- ²⁹ 50 C.F.R. §§ 223.206 – 207.
- ³⁰ 50 C.F.R. §§ 17.41(b) & (d).
- ³¹ Western Association of Fish and Wildlife Agencies, Press Release: WAFWA Lesser Prairie-Chicken Range-Wide Plan Nears 4 Million Acres (July 1, 2014).
- ³² 50 C.F.R. § 223.204.
- ³³ *Sierra Club v. Clark*, 755 F.2d 608 (8th Cir. 1985) (affirming the district court’s ruling “that before the taking of a threatened animal can occur, a determination must be made that population pressures within the animal’s ecosystem cannot otherwise be relieved.”). *Christy v. Hodel*, 857 F.2d 1324 (9th Cir. 1988) (upholding the regulated taking provision of the grizzly bear special rule by finding that the agency “expressly determined that the population of grizzly bears in the Bob Marshall Ecosystem created pressures that could not be relieved other than through carefully regulated sport hunting.”).
- ³⁴ 50 C.F.R. § 17.40(q)(2).
- ³⁵ *Id.* at § 17.40(p)(3).
- ³⁶ *Id.* at §§ 17.40(b)(i)(F) & 17.44(w)(2).
- ³⁷ *Id.* at §§ 17.42(c), 17.41(c), & 17.44(y).
- ³⁸ *Id.* at §§ 17.40(c), 17.41(c), & 17.40(k).
- ³⁹ Jean F. Cochrane et al., How Biologists Judge Species Endangerment 5 (2011).
- ⁴⁰ *Id.* at 36.
- ⁴¹ National Research Council, Science and the Endangered Species Act 14 (1995).
- ⁴² Robin S. Waples et al., *A Tale of Two Acts: Endangered Species Listing Practices in Canada and the United States*, 63 BioScience 9 (2013).
- ⁴³ 50 C.F.R. § 223.208.
- ⁴⁴ 50 C.F.R. § 17.44(bb).
- ⁴⁵ *Id.* at § 17.44(a).
- ⁴⁶ *Id.* at § 17.41(c).
- ⁴⁷ *Id.* at § 17.40(j).
- ⁴⁸ *Id.* at § 17.41(b).
- ⁴⁹ The White House, Presidential Memorandum: Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment (2015).
- ⁵⁰ One of the few examples of linking changes in threats with changes in demography is Michael C. Runge et al., A Quantitative Threats Analysis for the Florida Manatee (*Trichechus manatus latirostris*) (2007).
- ⁵¹ *Humane Society of the United States v. Jewell*, 2014 WL 7237702 (D.D.C. 2014).
- ⁵² 50 C.F.R. § 17.44(z).
- ⁵³ U.S. Fish and Wildlife Service, Reclassification of the Gila Trout (*Oncorhynchus gilae*) From Endangered to Threatened; Special Rule for Gila Trout in New Mexico and Arizona, 71 Fed. Reg. 40,657 (2006).
- ⁵⁴ 50 C.F.R. § 17.40(l).
- ⁵⁵ *Id.* at § 17.43(d).
- ⁵⁶ *Id.* at § 17.40(g)(3)(iii)(D).
- ⁵⁷ *Id.* at § 223.203(b)(4)(i).
- ⁵⁸ *Id.* at § 17.40(i)(3).
- ⁵⁹ *Id.* at § 17.40(g)(6).
- ⁶⁰ *Id.* at § 223.203(b)(10).
- ⁶¹ *Id.* at § 17.44(x)(2).
- ⁶² *Id.* at § 223.203(b)(4)(i).

