

United States Court of Appeals
FOR THE EIGHTH CIRCUIT

Nos. 04-3629/3632

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|--|---|-------------------------------|
| Friends of the Boundary Waters | * | |
| Wilderness; Sierra Club; Superior | * | |
| Wilderness Action Network; American | * | |
| Lands Alliance, Minnesota Canoe | * | |
| Association, American Canoe | * | |
| Association, Minnesotans for | * | |
| Responsible Recreation, | * | |
| | * | |
| Plaintiffs/Appellees, | * | Appeal from the United States |
| | * | District Court for the |
| v. | * | District of Minnesota. |
| | * | |
| Dale N. Bosworth, Chief of the United | * | |
| States Forest Service; Mike Johanns, | * | |
| Secretary of Agriculture, ¹ | * | |
| | * | |
| Defendants/Appellants, | * | |
| | * | |
| <hr/> | | |
| Conservationists with Common Sense; | * | |
| Ely Outfitters Association; Gunflint | * | |
| Trail Outfitters Association; Seagull- | * | |
| Saganaga Homeowners Association, | * | |
| | * | |
| Intervenor Defendants/ | * | |
| Appellants. | * | |

¹ Pursuant to Federal Rule of Appellate Procedure 43(c)(2), Mike Johanns is automatically substituted for his predecessor, Ann Veneman, as Secretary of the Department of Agriculture and appellant in this case.

Submitted: September 16, 2005
Filed: February 15, 2006

Before BYE, HEANEY, and COLLOTON, Circuit Judges.

BYE, Circuit Judge.

The defendants and intervenor defendants, collectively referred to as the United States Forest Service (USFS), appeal the district court's grant of summary judgment to the plaintiffs, collectively referred to as the Friends of the Boundary Waters (Friends). Specifically, the USFS appeals the district court's ruling the USFS did not have authority to recalculate the average actual annual motorboat use during 1976-78 within certain lake chains of the Boundary Waters Canoe Area Wilderness (BWCAW) to include uses improperly excluded from its initial base period calculation. The USFS also appeals the district court's alternate finding the recalculation was arbitrary and capricious. We affirm in part and reverse in part.

I

A

The BWCAW was one of the first wilderness areas recognized under the Wilderness Act of 1964. 16 U.S.C. §§ 1131-36 & note. As the largest wilderness area east of the Rocky Mountains and north of Everglades National Park, it comprises approximately 1,080,300 acres of forest land encompassing over 1,175 lakes connected by several hundred miles of streams and rivers. See Minnesota v. Block, 660 F.2d 1240, 1247 (8th Cir. 1981). It provides habitat for hundreds of species, including the gray wolf, pine marten, bald eagle, black bear, moose, and lynx.

The Wilderness Act generally prohibits all motorboat use within wilderness areas protected by the Act. However, the BWCAW was excepted from this general prohibition insofar as established motorboat use within the BWCAW and other motorboat use not undermining the ability to maintain the “primitive character of the area” were permitted. 16 U.S.C. § 1133(d)(5) (1976). In 1978, however, Congress reconsidered the BWCAW exception to the Wilderness Act. “[I]n reaction to threatened deterioration of the wilderness from excessive use,” Congress enacted the Boundary Waters Canoe Area Wilderness Act, Pub. L. No. 95-495, 92 Stat. 1649 (BWCAW Act). See also Block, 660 F.2d at 1246.

The BWCAW Act prohibited all motorboat use within the BWCAW except on specifically enumerated lakes comprising approximately one-quarter of its waters.² The motorboat use allowed by the BWCAW Act is circumscribed: the Secretary of Agriculture is directed to establish motorboat quotas restricting use to less than or equal to the “average actual annual motorboat use of the calendar years 1976, 1977, and 1978.” BWCAW Act § 4(f).³ The quota levels are “based on such criteria as the size and configuration of each lake, and the amount of use on that lake.” Id. In determining the “average actual annual motorboat use,” motorboat use by “lake homeowners and their guests and resort owners and their guests on that particular lake” is not counted. Id.

² The lakes included Fall Lake, Newton Lake, Moose Lake, Newfound Lake, Sucker Lake, Snowbank Lake, East Bearskin Lake, South Farm Lake, Trout Lake, Saganaga Lake, and Basswood Lake. See Block, 660 F.2d at 1246 n.9 (citing BWCAW Act §4(c)). Motorboat use was phased out on other lakes by 1999. See id.

³ The “average actual annual motorboat use of the calendar years 1976, 1977, and 1978,” or base period calculation, establishes the maximum number of permits USFS may issue. The USFS may establish permit quotas lower than the base period calculation but may not establish quotas allowing more use than during the base period.

The BWCAW Act was passed to ensure the BWCAW's wilderness character would be preserved. See Block, 660 F.2d at 1250 (“Congress passed the BWCAW Act with the clear intent of insuring that the area would remain as a wilderness and could be enjoyed as such.”). Limiting motorboat use is integral to preserving the wilderness values and primitive character of the area. See United States v. Gotchnik, 57 F. Supp. 2d 798, 804 (D. Minn. 1999), aff'd, 222 F.3d 506 (8th Cir. 2000).

B

In 1981, the USFS initially calculated the “average actual annual motorboat use.” In doing so, the USFS considered computer data and analyses, wilderness permit data, records of motorboat use during 1976-78, public comments, and interviews. For three chains of lakes—the Moose Lake Chain, the Saganaga Lake Chain, and the Farm Lake Chain—the USFS deemed use by home and resort owners (as well as their guests) within the lake chain encompassing their property to be exempt from the base period use calculation. The USFS determined the Moose Lake Chain encompassed Moose, Sucker, Newfound, and Birch Lakes; the Saganaga Lake Chain included Saganaga Lake, Seagull River, and Gull Lake; and the Farm Lake Chain included White Iron, Farm, Garden, and South Farm Lakes.⁴ Accordingly, the USFS concluded motorboat use by homeowners, resort owners, and their guests did not affect the base period use calculation or quota system and did not require permits when such use was limited to their lake chain. The USFS calculated the base period

⁴ Only five of these lakes are located at least partially within the BWCAW and still allow motorboat use: Moose, Newfound, Sucker, Saganaga, and South Farm Lakes.

day use – as opposed to overnight use – as 14,925 day trips for the BWCAW. The base period use calculated for the three lake chains at issue was 3,205 day trips.⁵

In 1993, the USFS determined allowing motorboat use to the maximum extent possible under the statute was “strain[ing] the wilderness environment and [was] tending to degrade the intended primitive and unconfined recreation experience” of the BWCAW. It therefore established the Boundary Waters Canoe Area Wilderness Management Plan and Implementation Schedule of 1993 (1993 BWCA Plan) to set the motorboat day-use quotas at approximately seventy-five percent of the base period use calculation. The motorboat day-use permit quota was set at 7,902 permits for the entire BWACW. The day-use permit quota for the three lake chains was set at 2,376 day-use permits.⁶ One day-use permit can accommodate a group of up to four boats or multiple trips in one day. Admin. R. (A.R.) Exh. 14, at 82.

In 1999, this court concluded the USFS’s interpretation that homeowner, resort, and guest lake chain use did not require a permit was contrary to the plain language of the BWCAW Act. Friends of the Boundary Waters Wilderness v. Dombeck, 164 F.3d 1115, 1124-25 (8th Cir. 1999). The court concluded the term “particular lake” in the BWCAW Act did not mean a lake chain but referred to each individually-named lake. Id. Accordingly, Dombeck held use by homeowners, resort owners, and their

⁵ This includes 837 for Moose Lake Chain, 345 for Farm Lake Chain, and 2,023 for Saganaga Lake Chain.

⁶ This figure is lower than seventy-five percent of the base period use calculation because it also reflects the reduction in permits resulting from phase outs of motorboat use on various lakes within the lake chains.

guests is exempted from a permit requirement only when such use is limited to the lake adjoining the owners' properties. Use on any other lake requires a permit.⁷

Because the USFS did not include homeowner, resort, or guest non-exempt lake chain use when initially calculating the base period use, the quotas established by the USFS did not account for non-exempt lake chain use. Given the fixed quotas, the Dombeck ruling increased demand for permits as homeowners, resorts, and guests were required to obtain permits for non-exempt lake chain use. In 2002, the USFS responded to this increased demand by recalculating the base period use and correlated quotas to include non-exempt lake chain use. The recalculated base period use figures for the entire BWCAW establish a maximum quota of 15,999 day-use permits.⁸ The USFS applied the 1993 BWCA Plan to establish quotas at seventy-five percent of the recalculated base period use. Accordingly, pursuant to the 1993 BWCA Plan, the recalculated total quota for the three lake chains at issue is 6,892 day-use permits.⁹

Friends challenged the recalculated base period use figure, arguing the USFS lacks authority to recalculate the base period use and the recalculation was arbitrary

⁷ For purposes of this opinion, any lake adjoining the property owned by a homeowner or resort on which use by a homeowner, resort, or guest is considered exempt under Dombeck shall be referred to as the "particular lake" or "adjoining lake." Use on any other lake within a lake chain encompassing such "particular lake" shall be referred to as "non-exempt lake chain use."

⁸ This is an increase of 5,830, or 3,045 for the Moose Lake Chain; 1,393 for the Saganaga Lake Chain; and 1,392 for the Farm Lake Chain.

⁹ This constitutes an increase of 4,516, or a 290% increase over the previously calculated 1993 quota levels for the three lake chains. The resulting quotas are: 2,895 for the Moose Lake Chain; 2,653 for the Saganaga Lake Chain; and 1,344 for the Farm Lake Chain.

and capricious. Friends also challenged USFS's recalculated quotas as exceeding the base period use in violation of the BWCAW Act. The district court agreed with Friends, ruling at summary judgment the USFS was without authority to recalculate the base period use and the recalculation was arbitrary and capricious. The district court did not reach Friends' challenges to the quotas established by the USFS.

II

A

We review *de novo* a district court's grant of summary judgment, applying the same legal standards used by the district court. Voyageurs Nat'l Park Ass'n v. Norton, 381 F.3d 759, 763 (8th Cir. 2004). Summary judgment is proper when there is "no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c); Employers Mut. Cas. Co. v. Wendland, 351 F.3d 890, 893 (8th Cir. 2003). "We may affirm the district court's grant of summary judgment on any ground supported by the record." Woods v. DaimlerChrysler Corp., 409 F.3d 984, 990 (8th Cir. 2005).

We view the evidence and all reasonable inferences drawn therefrom in the light most favorable to the nonmoving party. In re Derailment Cases, 416 F.3d 787, 792 (8th Cir. 2005). An issue of fact is genuine when a "reasonable jury could return a verdict for the nonmoving party." Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986). However, "[t]he nonmoving party may not rest on mere allegations or denials, but must show a genuine issue of material fact (or that the movant is not entitled to judgment)." Wenzel v. Mo.-Am. Water Co., 404 F.3d 1038, 1039 (8th Cir. 2005) (internal quotation omitted).

B

Judicial review of federal agency administrative decisions is, unless expressly stated otherwise, governed by the Administrative Procedures Act (APA). 5 U.S.C. § 706; In re Sac & Fox Tribe of Miss. in Ia./Meskwaki Casino Litig., 340 F.3d 749, 755 (8th Cir. 2003). Under the APA, an agency administrative decision may be set aside only if it is “arbitrary, capricious, and an abuse of discretion, or otherwise not in accordance with law,” 5 U.S.C. § 706(2)(A), “in excess of statutory . . . authority,” id. § 706(2)(C), or “without observance of procedure required by law.” Id. § 706(2)(D). However, we are “not obliged to stand aside and rubberstamp [the district court’s] affirmance of administrative decisions that [we] deem inconsistent with a statutory mandate or that frustrate the congressional policy underlying a statute.” Nat’l Labor Relations Bd. v. Brown, 380 U.S. 278, 291 (1965).

“When reviewing an agency’s construction of a statute, the court first considers whether the intent of Congress is clear; if so, the court’s inquiry is over, ‘for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress.’” Dombeck, 164 F.3d at 1121 (quoting Chevron U.S.A. Inc. v. Natural Res. Def. Council, 467 U.S. 837, 842-43 (1984)); see also Cuadra v. Gonzales, 417 F.3d 947, 950 (8th Cir. 2005).

Where Congress has explicitly or implicitly left a gap in a statute to be filled by a particular agency, the agency’s interpretations of the statute having the force of law are entitled to substantial deference under Chevron. United States v. Mead Corp., 533 U.S. 218, 230 (2001). Chevron deference requires courts to give “considerable weight . . . to an executive department’s construction of a statutory scheme it is entrusted to administer.” Chevron, 467 U.S. at 844. This considerable weight has been interpreted by the Eighth Circuit to mean controlling weight unless “arbitrary, capricious, or

manifestly contrary to the statute.” In re Old Fashioned Enters., Inc., 236 F.3d 422, 425 (8th Cir. 2001).

Even where an agency is accorded deference, the “agency must provide a satisfactory explanation for its actions based on relevant data.” Niobrara River Ranch, L.L.C. v. Huber, 373 F.3d 881, 884 (8th Cir. 2004). This requires an analysis of whether the decision was “based upon consideration of the relevant factors and whether there has been a clear error of judgment.” Citizens to Preserve Overton Park, Inc. v. Volpe, 401 U.S. 402, 416 (1971). If an agency’s decision to which deference is afforded may be supported on any rational basis, we must uphold it. Voyageurs Nat’l Park Ass’n, 381 F.3d at 763; Sw. Bell Tel. Co. v. Fed. Comm. Comm’n, 153 F.3d 523, 554 (8th Cir. 1998) (“If an agency . . . does not attempt either to close itself off from informed opinion or to extend its reach beyond the scope of permissible authority, then it is our duty to accept that judgment if it is rational and not unreasonable.”). Therefore, even if the agency’s underlying data are flawed, substantial deference requires the ruling be reversed only if “there is a significant chance that but for the errors the agency might have reached a different result.” Cent. S.D. Co-op. Grazing Dist. v. Sec’y of the United States Dep’t of Ag., 266 F.3d 889, 899 (8th Cir. 2001) (quoting Dombeck, 164 F.3d at 1129).

Because an agency’s choice of methodology is typically borne out of the agency’s expertise, we defer to an agency’s choice of methodology so long as it is not arbitrary or without foundation. See Dombeck, 164 F.3d at 1130 (citing Minn. Pub. Interest Res. Group v. Butz, 541 F.2d 1292, 1302 (8th Cir. 1976)). A decision is arbitrary or capricious if

the agency relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs contrary to the evidence

before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.

Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 43 (1983).

III

A

The USFS appeals the district court's ruling it had no authority to recalculate the base period use. The USFS argues Dombeck requires the USFS to recalculate the base period use to ensure Congress's intent in passing the BWCAW Act is fulfilled. The USFS interprets the BWCAW Act to give it the authority to correct a major error in its initial base period calculation made evident by a court ruling. Friends argues Dombeck does not require the USFS to recalculate the base period use and also argues that any recalculation of the base period use calculation effectively undermines the fixed nature of the quota maximum.

The USFS's interpretation of Dombeck is not entitled to deference. See Ass'n of Civilian Technicians v. Fed. Labor Rel. Auth., 353 F.3d 46, 50 (D.C. Cir. 2004); Donovan v. Anheuser-Busch, Inc., 666 F.2d 315, 326 (8th Cir. 1981). We agree with Friends Dombeck does not mandate the USFS to recalculate the base period use, since its holding was limited to requiring a permit for homeowners and resorts when they engage in non-exempt lake chain use. Dombeck, 164 F.3d at 1124-25. However, our analysis does not end there. The USFS also interprets the BWCAW Act as authorizing it to recalculate the base period use. Accordingly, we must analyze this agency interpretation for reasonableness.

In determining whether to afford deference to the USFS's interpretation of the BWCAW Act, we must first determine whether the congressional intent is clear. Specifically, we must determine whether Congress intended the USFS to have the authority to recalculate the statutory cap based upon legal error. See Chevron, 467 U.S. at 842-43.

The BWCAW Act prohibits the use of motorboats within the BWCA except as specifically authorized by the Act. BWCAW Act § 4(c), 92 Stat. at 1650. The Act does not directly address whether the USFS has authority to recalculate the “average actual annual motorboat use of the calendar years 1976, 1977, and 1978 for each lake.” We have not been directed to any legislative history materials directly addressing the issue.

Agencies given the authority to promulgate a quota are presumed to have the authority to adjust that quota. See United Gas Improvement Co. v. Callery Props., Inc., 382 U.S. 223, 229 (1965) (“An agency, like a court, can undo what is wrongfully done by virtue of its order.”); see also Regions Hosp. v. Shalala, 522 U.S. 448, 457-58 (1998) (concluding an agency decision to recalculate a base amount in a fixed reimbursement system to prevent the distortion of future reimbursements was reasonable); Dun & Bradstreet Corp. Found. v. United States Postal Serv., 946 F.2d 189, 193 (2d Cir. 1991) (“It is widely accepted that an agency may, on its own initiative, reconsider its interim or even its final decisions, regardless of whether the applicable statute and agency regulations expressly provide for such review.”);

The BWCAW Act creates a gap which must be filled by the USFS (or, more precisely, by the Secretary of Agriculture): the determination of the “average actual motorboat use of the calendar years 1976, 1977, and 1978.” The USFS is given no significant direction regarding this calculation. See Dombeck, 164 F.3d at 1122.

Accordingly, the statute is silent on the issue and we must accord the USFS deference to its interpretation of the statute.

USFS's interpretation that the BWCAW Act allows it to recalculate the base period use to correct a major error made manifest by court opinion is reasonable and not contrary to the purposes of the BWCAW Act. The USFS recalculated the base period use as a means of addressing the increased permit demand after the Dombeck ruling. The purpose of the BWCAW Act is to protect the wilderness values of the BWCAW while maintaining limited motorized access not inconsistent with those values. See Dombeck, 164 F.3d at 1122-23. Indeed, the purpose of the BWCAW Act is to establish a maximum level of motorboat use based upon use patterns in 1976-78. The USFS recalculation, if performed accurately, would not result in a base period use calculation higher than the "average actual annual motorboat use of the calendar years 1976, 1977, and 1978." Rather, if performed accurately, it would produce the actual use figure contemplated by the legislature in passing the BWCAW Act. The USFS therefore acted reasonably and not contrary to the purposes of the statute when it recalculated the base period use to include uses previously excluded because of significant legal error made apparent by a court ruling. As such, the USFS's reasonable interpretation must be upheld whether afforded deference under Skidmore v. Swift & Co., 323 U.S. 134, 139-40 (1944), or Chevron. Accordingly, the judgment of the district court as to the issue of the USFS's authority to recalculate the base period use is reversed.

B

Having determined the USFS has authority to recalculate the base period use to correct a significant legal error made manifest by court order, we now must determine whether the USFS recalculated the base period homeowner and resort use arbitrarily, capriciously, or in a manner contrary to its statutory authority.

The USFS claims “the specific means of implementing motorboat use quotas is left to the discretion of the Secretary.” Appellants’ Reply at 7 (citing Dombeck, 164 F.3d at 1121). The USFS also argues because “[t]he methodology was tailored to the USFS’s knowledge of, and the best available information regarding, varying patterns of motorboat use within the three lake-chains, . . . that methodology is entitled to deference.” Appellants’ Br. at 31.

While the methodology used by an agency is generally entitled to deference, this is only true where the methodology is not arbitrary, without foundation, or “so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” See Dombeck, 164 F.3d at 1130; State Farm Mut. Auto. Ins. Co., 463 U.S. at 43. It is our view that some of the data relied upon and calculations performed by the USFS are so unreliable or inadequately explained as to make reliance on them arbitrary and capricious.

The USFS, in recalculating the base period use, sought to determine the amount of non-exempt lake chain use. To do this, the USFS first estimated total homeowner and resort lake chain use. The USFS then estimated what percentage of such use was non-exempt lake chain use. Because the USFS relied upon different data and methodologies for each lake chain recalculation, we analyze the USFS’s calculations with respect to each lake chain separately.

1

We begin by analyzing the recalculated base period use on Moose Lake Chain. We conclude the USFS recalculated the Moose Lake Chain base period use in an arbitrary and capricious manner.

In calculating what percentage of use during the base period was non-exempt lake chain use, the USFS relied upon deficient homeowner and resort owner surveys. The USFS acknowledges the surveys were not conducted in a statistically valid manner. However, it claims the surveys were adequate for the purposes for which they were used: to supplement other data or to reduce use estimates from other data sources. Accordingly, we must determine whether the USFS's reliance upon the survey results was reasonable. We conclude it was not.

Based upon aerial photographs from 1982, the USFS concluded sixty-two residences (sixteen of which were resort residences or staff cabins) existed on Moose Lake during the base period. The survey data relied upon by the USFS was obtained from a 1999 survey completed by thirteen homeowners on Moose Lake. The USFS limited its survey to current owners of Moose Lake properties who maintained ownership since the base period. The survey respondents were aware the survey was related to the USFS's recalculation of the base period use. The survey asked two questions of property owners. The survey asked of 1998 use: "How many days did you use your stickered motorized watercraft in the BWCAW on Moose, Sucker, and Newfound [Lakes]?" Of 1978 use, the questionnaire asked: "What percentage of your motorized watercraft use in the BWCAW was for accessing Basswood, Birch, and/or Knife [Lakes]?" Only five of the thirteen survey respondents provided answers to the survey question pertaining to 1978 motorboat use. Those responses varied greatly by individual. We conclude the survey design and implementation was so inadequate as to make any reliance upon the data obtained from the survey unreasonable.

To establish the trustworthiness of a survey, it must be shown: (1) that a proper "universe" was examined and a representative sample was chosen; (2) that the persons conducting the survey were experts; (3) that the data were properly gathered and accurately reported; [and] (4) that the sample design, the questionnaires, and interviewers, as well as the respondents, were unaware of the purpose of the survey.

Lutheran Mut. Life Ins. Co. v. United States, 816 F.2d 376, 378 (8th Cir. 1987). Although mechanical application of these factors may not be appropriate in every case, see id., we are of the opinion the uses to which the survey results were put by the USFS counsel in favor of a more trustworthy survey.

The design of the survey was flawed for a number of reasons. First, there is no record evidence the USFS considered various sample populations to determine which respondents, if any, would provide accurate and representative results. There is no record evidence the USFS contemplated surveying property owners during the base period who have since transferred title or conducting other surveys to obtain more robust survey data. Given the significant variation in the survey responses, we find it unreasonable for the USFS to rely upon the responses of only five current homeowners without considering other means, including performing additional interviews or surveys, to validate the responses. Although the USFS attempts to justify its reliance by suggesting its approach is similar to statistically valid surveys involving a small percentage of the total population, this argument lacks merit. There is a substantial difference between relying upon survey data results from thousands of responses and relying upon five responses. Indeed, the USFS acknowledges its survey was not statistically valid. While this does not invalidate the possibility of using survey data, it cautions the agency to identify the potential weaknesses in the data and to seek validation of the results obtained through other means or to apply correction factors to the survey data. See Menorah Med. Ctr. v. Heckler, 768 F.2d 292, 295-96 (8th Cir. 1985) (noting the failure to respond to criticisms that a survey was untrustworthy makes reliance upon the survey arbitrary and capricious); see also St. James Hosp. v. Heckler, 760 F.2d 1460, 1467 n.5 (7th Cir. 1985) (“[I]t is an agency’s duty to establish the statistical validity of the evidence before it prior to reaching conclusions based upon that evidence.”).

Second, neither Basswood nor Knife Lake was considered part of the Moose Lake Chain in the USFS's initial base period calculation; the lakes had their own quotas. Birch Lake is considered part of Moose Lake, but motorized access to Birch Lake ended in 1984 and the Moose Lake Chain quota was reduced accordingly. Accordingly, the percentage of motorized use on Basswood, Birch, and Knife lakes is irrelevant to the recalculation of the base period use on the Moose Lake Chain, as adjusted for closures to motorized access pursuant to the BWCAW Act. Nevertheless, based upon answers to the second question, the USFS concluded thirty-one percent of BWCAW use was located outside the Moose Lake Chain. This conclusion cannot be reasonably drawn from the survey results because it is dependent upon an incorrect determination Birch Lake exists outside the Moose Lake Chain. Further, the question does not consider the possibility use occurred outside the Moose Lake Chain to lakes other than Basswood, Birch, or Knife. We therefore find the USFS's conclusion that thirty-one percent of BWCAW use by Moose Lake Chain resort and home owners was outside the Moose Lake Chain to be arbitrary and capricious.

Similarly, the USFS's correlated conclusion sixty-nine percent of BWCAW use by Moose Lake Chain resort and home owners during the base period was within the Moose Lake Chain must be re-examined. The conclusion is questionable because, assuming *arguendo* the accuracy of the figure, it may not be reasonable to conclude all use on the Moose Lake Chain was non-exempt lake chain use. The record evidence clearly establishes some Moose Lake Chain homeowner use was limited to Moose Lake. A.R. Exh. 61, at 3. The USFS did reduce by thirty-one percent its estimated actual use figure for the Moose Lake Chain, but that reduction was based on survey results for use on Bass, Birchwood, and Knife lakes, not based on use of Moose Lake only. Thus, the USFS's conclusion all use on the Moose Lake Chain was non-exempt lake chain use is unsupported by the record.

Aside from the survey design flaws and the arbitrary conclusions resulting therefrom, the survey was also performed in a manner to make the results unreliable. In particular, we find it unreasonable to rely exclusively upon survey results, without analyzing the potential for bias or adjusting the data based upon any bias found, when the respondents are aware of the purpose of the survey.¹⁰ See Lutheran Mut. Life Ins. Co., 816 F.2d at 378; Menorah Med. Ctr., 768 F.2d at 295-96; St. James Hosp., 760 F.2d at 1467 n.5. Further, it is unreasonable to rely upon survey responses regarding behavior twenty years earlier without considering the possibility such responses are not wholly accurate and either applying correction factors to the responses determined to be less than wholly accurate or attempting to verify the responses through other means. We are especially troubled by the USFS's complete reliance upon the survey data, without even studying the results for possible inaccuracies, in spite of the fact only five of the thirteen respondents answered the survey question regarding use patterns in 1978.

We agree with the district court that “[o]ne does not need to be a statistician to apprehend the numerous flaws in this sample.” Friends of the Boundary Waters Wilderness v. Bosworth, No. Civ. 03-624, 2004 WL 2066848, at *10 (D. Minn. Aug. 26, 2004). Sample size, potential for bias, interviewing techniques, reliability of extrapolating data, and poor recollection are all relevant factors the agency failed to properly consider in analyzing the survey results, making the resulting estimates arbitrary and capricious. We believe these survey deficiencies are so obvious the

¹⁰ The USFS argues “[i]t seems unlikely that better results would be obtained by going back now to the same sources with a different interview form, after years of litigation and explication of the methodology.” Although the history and prominence of this litigation within the BWCAW and knowledge of the surveys previously conducted might affect the reliability of future surveys, this concern neither eliminates the possibility of estimating base period use through means other than surveys, additional interviews, or both. Accordingly, such a concern is insufficient to support the USFS's reliance upon the flawed survey data.

USFS should have considered the potential impact these deficiencies might have on the trustworthiness of the surveys. Its failure to do so renders reliance upon the survey results arbitrary and capricious. See Menorah Med. Ctr., 768 F.2d at 295-96. Further, the survey results did not support the conclusions the USFS drew from them. We therefore conclude the USFS's recalculation of non-exempt Moose Lake Chain use during the base period was arbitrary and capricious.

2

The USFS non-exempt Saganaga Lake Chain use calculations are also arbitrary and capricious or otherwise lack foundation. The USFS determined, based primarily upon Cook County records, there were thirty-four residences on Seagull River and Gull Lake within the Saganaga Lake Chain in 1976-78. Eight of these residences were resort residences or resort crew cabins.

In 1981, the USFS assumed 512 day-use permits were attributable to exempt use. In its recalculation, the USFS does not use the figure from 1981, but arrives at a new estimate by relying on USFS records showing an average of fifteen trips per household per season, multiplying that number by a total of thirty-four homeowners, and then adding an estimated 883 trips by resort guests. It is unclear whether the figure 512 applied in 1981 represented use by homeowners only or use by a combination of homeowners and resort guests. We conclude that before the USFS may discard the apparent assumption from 1981 that exempt use amounted to 512 day-use permits, it must explain adequately how the 512 figure relates to its current analysis or why the original figure should be discarded.

Even more troubling is the fact the USFS justifies its recalculation by stating: "it is unsurprising that the estimated use of Saganaga Lake by the affected parties of

1,622 is much greater than the number of permits attributed to them because most exempt users did not get day-use permits.” The USFS points to no record evidence suggesting the USFS attempted to ascertain what percentage of homeowners or other exempt users did not obtain day-use permits when traveling either on their particular lake or when engaged in non-exempt lake chain use. Accordingly, the USFS claim most “exempt users did not get day-use permits” presently lacks foundation.

The USFS’s recalculated resort non-exempt lake chain use must also be set aside because it relies upon unreliable and faulty survey data. The USFS validated its estimate that resort guests and staff used Saganaga Lake six days per week with interviews of one former resort owner, two current resort owners, and one former neighbor. Viewing this data in the light most favorable to the USFS, we conclude the data is insufficiently reliable to justify disregarding, without adequate explanation, its prior calculation, which was made closer in time to the base period and formed the basis for the Saganaga Lake Chain quotas for twenty years, that approximately forty percent of occupied resort sites used Saganaga Lake daily. A.R. Exh. 86, at 25; see Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Svcs., 125 S. Ct. 2688, 2699 (2005) (holding a reversal of a longstanding agency position requires adequate justification to avoid being arbitrary and capricious); Good Samaritan Hosp. v. Shalala, 508 U.S. 402, 417 (1993) (providing considerably less deference to agency reversals of position than to longstanding agency views). For the reasons stated above, we conclude the USFS’s recalculation of homeowner and resort non-exempt Saganaga Lake Chain use was arbitrary and capricious.

The USFS’s recalculated base period use for the Farm Lake Chain is similarly arbitrary and capricious and must be set aside. Although the USFS claims it “considered use patterns particular to home and resort owners in the different lake

areas in making its estimates,” the USFS did not adequately explain its extrapolation of Moose Lake Chain use data to the Farm Lake Chain. Indeed, the record establishes South Farm Lake was fished approximately one fourth as often as Moose Lake. A.R. Tab C.

Further, it is unclear from the record whether Farm Lake Chain homeowners located outside the BWCAW (only South Farm Lake is located within the BWCAW) were included in the USFS’s initial base period use calculation for the Farm Lake Chain. That is, we cannot determine from the record whether the USFS, in its initial calculation, considered Farm Lake Chain homeowners located outside the BWCAW exempt from the quota system.

Similarly, the USFS’s recalculation of non-exempt resort Farm Lake Chain use is arbitrary and capricious. The USFS concluded resorts in the Farm Lake Chain were not entirely focused on BWCAW use. Accordingly, the USFS interviewed three resorts and extrapolated the results obtained to the four resorts having exempt permits in 1998. The three interviewed resorts had capacities of 4 rental units, 12 rental units, and 13 rental units, and estimated motorboat use per week of 2 days, 7 days, and 39 days, respectively.

The complete reliance upon such limited survey data to determine resort use on the Farm Lake Chain, without study to determine the reliability of the results obtained, is arbitrary and capricious. Given the wide variety of responses, we find it troubling the USFS did not interview the fourth resort regarding its use of South Farm Lake or attempt to validate the responses in any way. For the foregoing reasons, we conclude the USFS’s recalculation of the base period motorboat use within the Farm Lake Chain was arbitrary and capricious.

Because we conclude the USFS recalculated the base period homeowner and resort motorboat use on the Moose, Saganaga, and Farm Lake Chains in an arbitrary and capricious manner, we affirm the district court on these issues.

C

Friends also challenges the USFS's recalculation of the towboat quotas. The towboat quotas are separate from the homeowner and resort motorboat quotas, though total motorboat use by homeowners, resorts, their guests, and towboats cannot exceed the base period use. See Dombeck, 164 F.3d at 1121-22. The USFS has the responsibility of allocating motorboat use among homeowners, resorts, guests, and towboats in a manner consistent with the BWCAW Act. Currently, the towboat quota occupies the space between the maximum homeowner and resort quota and the base period quota maximum. See A.R. Exh. 47, at 63. That is, towboats are allowed to the extent their use, when added to the homeowner, resort, and guest use, does not exceed the base period use.

The record is not clear as to whether towboats were included in the original base period use. See A.R. Exh. 53, at 2; A.R. Exh. 81, at 3. The USFS must explain adequately why it concludes towboat use was exempted or otherwise not counted during the 1981 calculation of actual use before it undertakes any future recalculation of towboat use.

D

Although the district court did not reach this issue, both parties agree judicial economy is best served by our ruling on the USFS's adjusted motorboat quotas based upon its recalculated base period use. We agree there is no need to remand this issue

to the district court for initial determination. Having determined the USFS improperly recalculated the base period use, we conclude the USFS must recalculate the quotas consistent with BWCAW Act and the views expressed herein.

IV

We reverse the district court insofar as we conclude the USFS has authority to recalculate the base period use to correct a significant legal error made manifest by the Dombeck ruling. We affirm the district court by concluding the USFS's homeowner and resort non-exempt lake chain use recalculation for the Moose, Saganaga, and Farm Lake Chains was arbitrary and capricious. We remand to the district court with directions to remand to the USFS for a recalculation of the base period use and motorboat quotas consistent with the BWCAW Act and the opinion. The agency should do so at the earliest practicable time and include the Friends, Conservationists with Common Sense, and other affected parties in the rule-making process.
