FOR PUBLICATION

UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

CENTRAL DELTA WATER AGENCY; SOUTH DELTA WATER AGENCY; ALEXANDER HILDEBRAND; R.C. FARMS, *Plaintiffs-Appellants,* v. UNITED STATES OF AMERICA; UNITED STATES DEPARTMENT OF THE INTERIOR; GALE A. NORTON;* MICHAEL J. SPEARS, *Defendants-Appellees,* SAN JOAQUIN RIVER GROUP AUTHORITY, *Defendant-intervenor-Appellee.*	No. 01-16172 D.C. No. CV-99-05650-OWW ORDER AND AMENDED OPINION

Appeal from the United States District Court
for the Eastern District of California
Oliver W. Wanger, District Judge, Presiding

Argued and Submitted
March 12, 2002—San Francisco, California

Filed September 26, 2002
Amended October 21, 2002

Before: Alfred T. Goodwin, Stephen Reinhardt and
Ferdinand F. Fernandez, Circuit Judges.

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*GALE A. NORTON is substituted for her predecessor BRUCE BABBITT.

Opinion by Judge Reinhardt;
Dissent by Judge Fernandez

COUNSEL

Daniel A. McDaniel, Esq., Stockton, California, for the plaintiffs-appellants.

David C. Shilton, Department of Justice, Washington, D.C., for the defendants-appellees, and Tim O'Laughlin, Esq., Chico, California, for the defendant-intervenor-appellee.

ORDER

The majority opinion filed Sept. 26, 2002 is hereby amended as follows:

1. On page 15090, last paragraph, last full sentence of the page, add "both" before "to maintain"; replace "so long as" with "and to limit"; replace "remains" with "to." The sentence will then read:

   D-1422 authorizes the Bureau to release certain amounts of water from the Reservoir both to maintain local fishery populations and to limit the salinity concentration as measured downstream to no greater than 500 parts-per-million (ppm).

2. On page 15091, second line, replace the word "Sacramento" with the word "Stanislaus."

3. On page 15091, second full sentence, delete the word "not" and add at the end of the sentence the phrase "primarily in April, May, and October." The sentence will then read:

Water that is used for fishery habitats is released into the Stanislaus River primarily in April, May, and October.

4. On page 15091, revise the third full sentence to read:

   Plaintiffs contend that as more water is released for fish during this period, less water is available for releases during the drier periods of the year, with the result that salinity levels increase downstream at Vernalis, which is closer to the ocean.

5. On page 15092, second paragraph, second sentence, replace the phrase "flood fishery areas and thereby" with the phrase "provide flows to." The sentence will then read:

   Three specific aspects of the statute are relevant to this appeal, all of which relate to requirements that the Project divert water so as to provide flows to enhance the habitats of various aquatic life forms.

6. On page 15093, first full paragraph, revise the second full sentence to read:

   The Bureau began diverting for fishery habitat purposes water from the New Melones Reservoir that would otherwise have been available for other purposes.

7. On page 15094, first full paragraph,

   a. third line, replace the word "Authority" with the word "Agency."

   b. fourth line, replace the word "Authority" with the word "Agency."

8. On page 15094, footnote 6, replace "San Joaquin Water Authority" with "San Joaquin River Group Authority."

9. On page 15097, first paragraph, fourth line, replace "Stanislaus" with "San Joaquin."

10. On page 15098, last paragraph, end of first full sentence (fourth and third lines from the bottom of the page), replace the phrase "into sources other than the Stanislaus River" with the phrase "during April, May, and October, rather than when needed to meet the Vernalis standard." The sentence will then read:

    Applying *Laidlaw*, *Gaston Copper*, and *Pacific Lumber* here, we conclude that the necessary showing for standing purposes is not that the Vernalis standard has already been exceeded, or that plaintiffs' crops have already been damaged by excessively saline water, but that plaintiffs face significant risk that the crops that they have planted will not survive as a result of the Bureau's decisions to discharge water from the New Melones Reservoir during April, May, and October, rather than when needed to meet the Vernalis standard.

OPINION

REINHARDT, Circuit Judge:

This case raises an important practical question regarding the doctrine of standing. It requires us to address the circumstances under which a party that fears that it will be significantly injured by another's actions may bring a lawsuit to prevent the possible future injury. The dispute involves one the most contentious issues in the western United States: the management of water resources.

BACKGROUND

The Central Valley Project ("the Project") is the largest federal water management project in the United States. Origi-

nally authorized by the Rivers and Harbors Act of 1935, the project consists of 20 dams and reservoirs, 8 powerplants, and approximately 500 miles of major canals and aqueducts. The Project is located in the Central Valley Basin of California, which is roughly 400 miles long by 120 miles wide, and includes the major watersheds of the Sacramento and San Joaquin river systems. The two rivers meet at the Sacramento-San Joaquin Delta ("the Delta"), where the waters mix and then flow through the Carquinez Strait into San Francisco Bay, and ultimately, into the Pacific Ocean. Central Valley Project water is used for agricultural, municipal, industrial and environmental protection purposes. The Central Valley is the heart of California's renowned farm country, and the Project provides the water that is essential to its unparalleled productivity. In any given year, the Project manages water sufficient to irrigate one-third of the agricultural land in California.

The Project is operated by the United States Bureau of Reclamation ("the Bureau"), a division of the Department of the Interior. Pursuant to permits granted by the California State Water Resources Control Board ("the Board"), the Project appropriates water from various mountain sources, and delivers it for beneficial uses to central California areas. At issue in this case is the Bureau's operation of the New Melones Unit, one of the many water management units that constitute the Central Valley Project. The New Melones Unit consists of the New Melones Dam on the Stanislaus River, which is a tributary of the San Joaquin River. The dam diverts water into the New Melones Reservoir.

State Regulatory Framework

The Bureau operates the New Melones Unit pursuant to federal reclamation statutes as well as under four California water rights permits numbered 16597-16600, which were issued by the Board in water rights decision 1422 ("D-1422"), rendered in April, 1973. The permits allow for various uses of

the water stored in the reservoir, including power generation, consumptive use in certain counties, and the preservation of fish and wildlife. D-1422 authorizes the Bureau to release certain amounts of water from the Reservoir both to maintain local fishery populations and to limit the salinity concentration as measured downstream to no greater than 500 parts-per-million (ppm). The gauging station where salinity levels are measured is located just below the confluence of the San Joaquin and Stanislaus Rivers, at Vernalis, and the salinity standard has thus come to be called the "Vernalis standard." Water that is used for fishery habitats is released into the Stanislaus River primarily in April, May, and October. Plaintiffs contend that as more water is released for fish during this period, less water is available for releases during the drier periods of the year, with the result that salinity levels increase downstream at Vernalis, which is closer to the ocean. According to plaintiffs, water that exceeds the Vernalis salinity standard — that is, water that measures in excess of 500 ppm at Vernalis[1] — has a significant negative effect on certain types of crops, and thus the Bureau's compliance with the standard determines what kind of crops they are able to grow.

The permits to operate the New Melones project have been modified over the years in various ways, and those modifications reflect the intense competing demands for the reservoir's waters. Most relevant to this appeal, in 1995 the Board issued a new Bay Delta Water Quality Plan ("the Bay-Delta Plan"), which included general objectives for the water quality of the Central Valley Project waters. These objectives were agreed to by the state and federal governments, as well as by urban, agricultural and environmental interest groups. Soon thereafter, the Board issued water rights decision WR-95-6, which resolved some relatively minor inconsistencies between existing permits and the requirements of the Bay-Delta Plan. The new plan, *inter alia*, changed the unit of measurement for the

[1]As noted *infra*, the Vernalis standard now uses an electro-magnetic conductivity standard, not a measure of ppm.

salinity reading at Vernalis from a ppm standard for total dissolved solids to an electrical conductivity measure. It also established a lower salinity standard for the April-August peak irrigation season, and a correspondingly higher standard for other months.[2]

Federal Regulation: The Central Valley Project Improvement Act

In 1992, Congress enacted the Central Valley Project Improvement Act ("the Act") as Title XXXIV of the Reclamation Projects Authorization and Adjustment Act of 1992, Pub. L. 102-575, 106 Stat. 4600, 4706-31 (1992); the law took effect on October 31 of the same year. The passage of the Act followed significant lobbying efforts by environmental groups and consists primarily of provisions designed to ensure that the Project is managed to further the protection and restoration of the natural environment. *See* §§ 3402, 3406.[3]

The Act provides generally that the Central Valley Project shall be operated in accordance with all obligations under state and federal law, and specifically mentions the requirement of compliance with decisions of the Board that impose conditions on applicable licenses and permits governing the project. *Id.* Three specific aspects of the statute are relevant to this appeal, all of which relate to requirements that the Project divert water so as to provide flows to enhance the hab-

[2]WR-95-6 was an interim order designed to remain in effect while a comprehensive water rights proceeding was conducted to determine the responsibilities of water rights holders within the Delta in light of the Bay-Delta Plan. Because the water rights proceeding was not completed upon the expiration of WR-95-6, the Board issued WR-98-9 in 1998, which slightly modified the prior order but maintained the same salinity standards. Nothing in the record indicates that the Board has concluded the water rights proceeding at this time.

[3]Unless otherwise noted, statutory sections cited refer to provisions of the Act.

itats of various aquatic life forms. First, § 3406(b)(1) requires that the Bureau:

> [D]evelop within three years of enactment and implement a program which makes all reasonable efforts to ensure that, by the year 2002, natural production of anadromous fish in Central Valley rivers and streams will be sustainable, on a long-term basis, at levels not less than twice the average levels attained during the period of 1967-1991.[4]

Second, to implement this goal, § 3406(b)(2) specifies that the Bureau is required to manage 800,000 acre-feet of Project waters "for the primary purpose of implementing the fish, wildlife, and habitat restoration purposes and measures authorized by this title." § 3406(b)(2) also states that in so managing the Project, the Bureau must comply with "flow and operational requirements imposed by terms and conditions existing in licenses, permits, and other agreements pertaining to the Central Valley Project under applicable State or Federal law existing at the time of enactment of this title . . . ." Third, the statute authorizes the Bureau to "develop and implement a program in coordination and in conformance with the plan required under [§ 3406(b)(1)] for the acquisition of a water supply to supplement the quantity of water dedicated to fish and wildlife purposes under [§ 3406(b)(2)]." In short, the Act demands that the Project implement a significant fish habitat protection program, but that it do so in accordance with the applicable state water use permits.

[4]Anadromous fish are born in fresh water, migrate to the ocean to grow into adults, and then return to fresh water to spawn. The anadromous fish of principal concern to the management of the Central Valley Project is the Chinook salmon, although other species of salmon and trout, also anadromous fish, live in the Central Valley Project Waters. *See* Ludwig A. & Ellen Teclaff, *Restoring River and Lake Basin Ecosystems*, 34 Natural Resources J. 905, 914 (1994).

Soon after the passage of the Act, the Bureau adjusted its operations so as to comply with the statutory directives. The Bureau began diverting for fishery habitat purposes water from the New Melones Reservoir that would otherwise have been available for other purposes. Nothing in the Act requires the Bureau to take water from the New Melones Reservoir, as opposed to the many other Central Valley Project reservoirs, in order to comply with the fish habitat restoration requirements of § 3406(b). Nevertheless, as part of its efforts to meet those requirements, the Bureau exercised its discretion to divert water from that source. In 1999, the Bureau adopted the New Melones Interim Operations Plan, which provided for the release of water from the New Melones Reservoir in April, May and October to supplement fishery flows in the Delta, as well as the purchase of water from other users for the same purpose.[5] That operations plan remains in effect at present.

The Parties

This lawsuit was brought by four plaintiffs, two agencies chartered by the State of California and two private parties. The state agencies, the Central Delta Water Agency ("Central Delta") and the South Delta Water Agency ("South Delta") are political subdivisions of the State of California, created by the legislature in 1973 to ensure that the lands within their respective jurisdictions have a dependable supply of water of suitable quality sufficient to meet present and future needs. The charters of the two agencies allow them to commence litigation to further their goals. *See* Cal. Water Code Appendix §§ 116-4.2(b), 117-4.3(b).

The two private parties are both farmers. R.C. Farms, Inc., owns farmland that is within the Central Delta area and ripar-

[5]The plaintiffs participated in the planning process that produced the Plan, and do not challenge the legal sufficiency of the process under NEPA or similar procedural statutes.

ian to the channels of the Delta. Alexander Hildebrand owns approximately 150 acres of land adjacent and riparian to the San Joaquin River, in the South Delta area. Hildebrand also possesses various appropriative rights to divert water from the Project waterways. The plaintiffs sued the Bureau, and two other municipal agencies intervened.[6]

Procedural History

This action was filed in May, 1999, after the Project adopted the New Melones Interim Operations Plan, and began releasing water from New Melones in order to comply with §§ 3406(b)(1)-(2) of the Act. The plaintiffs sought a temporary restraining order preventing the release of such water unless the Bureau reserved an amount of water sufficient to meet the Vernalis standard. After a hearing, at which the district judge expressed his skepticism regarding the immediacy of the harm involved, the plaintiffs withdrew their motion.

The parties filed cross-motions for summary judgment, and after oral argument on the motions, the district court granted defendants' motion with respect to all plaintiffs' claims except for Stockton's, ruling that they did not have standing, and that the claims were precluded under principles of claim and issue preclusion. The district court granted permission for an interlocutory appeal, pursuant to 28 U.S.C. § 1292(b), and permission for an interlocutory appeal was also granted by this court pursuant to that same statute.

[6]The first, the Stockton East Water District, intervened as a plaintiff and alleged that the water allocations made by the Bureau violated a 1987 agreement between the Bureau and the California Fish and Game Department. The district court denied defendants' motion for summary judgment with regard to Stockton's claims, and that action continued to be litigated after the issuance of the summary judgment order at issue in this appeal. The second intervenor, the San Joaquin River Group Authority, joined the action as a defendant, and is a party to this appeal.

DISCUSSION

A. Standing

The district court granted summary judgment in favor of the defendants on the claims of the individual and the agency plaintiffs, concluding that none of the plaintiffs had standing to challenge the Bureau's release of water from New Melones. We reverse.

1. General Principles of Standing

[1] Article III, § 2 of the Constitution states that the federal courts may only adjudicate "cases" and "controversies," and thus imposes what the Supreme Court has called "the irreducible constitutional minimum of standing." *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1992). The requirement of standing "tends to assure that the legal questions presented to the court will be resolved, not in the rarified atmosphere of a debating society, but in a concrete factual context conducive to a realistic appreciation of the consequences of judicial action." *Valley Forge Christian College v. Americans United for Separation of Church & State*, 454 U.S. 464, 472 (1982).

[2] In *Defenders of Wildlife*, 504 U.S. at 560, the Supreme Court summarized the three well-established elements that are required in order for a party to have standing to bring a lawsuit. First, the plaintiff must have suffered an "injury in fact." *Id.* An injury in fact is an invasion of a legally protectable interest which is both "concrete and particularized," as well as "actual or imminent, not conjectural or hypothetical." *Id.* (citing *Sierra Club v. Morton*, 405 U.S. 727, 740-41 n.16 (1972)). Second, there must be a "causal connection between the injury and the conduct complained of." *Defenders of Wildlife*, 504 U.S. at 560. In other words, the injury must be "fairly traceable" to the actions of the defendant. *Simon v. Eastern Ky. Welfare Rights Organization*, 426 U.S. 26, 41-42 (1976). Third, and finally, it must be "likely" that the injury com-

plained of can be redressed by a favorable court decision. *Defenders of Wildlife*, 504 U.S. at 561.

[3] The burden of establishing these three elements falls upon the party asserting federal jurisdiction. *Id.* The elements of standing are "not mere pleading requirements." *Id.* Rather, they are an "indispensable part of the plaintiff's case," and accordingly must be supported at each stage of litigation in the same manner as any other essential element of the case. *Id.* Thus, at the summary judgment stage the plaintiffs need not establish that they in fact have standing, but only that there is a genuine question of material fact as to the standing elements. *See Steel Company v. Citizens for A Better Environment*, 523 U.S. 83, 104 (1998) (holding that because defendants moved to dismiss pursuant to Fed. R. Civ. P. 12(b)(6), plaintiffs need only show that the facts alleged, if proved, would confer standing).

[4] There is little dispute that the salinity level of Project waters is under the control of the Bureau, and that any violation of the Vernalis standard (and resulting injury to plaintiffs' crops) would be "fairly traceable" to the Bureau's decision to release waters from the New Melones Reservoir. Thus, the second standing requirement is satisfied. Similarly, there is little doubt that a court order could remedy any resulting injury to plaintiffs by ordering the Bureau to select different means to comply with the Act, so that the proper salinity levels in the San Joaquin River are maintained. Plaintiffs thus also satisfy the third standing requirement of redressability. It is the first of the three standing elements — the requirement of "injury in fact" — that is at issue in this case. Because the standing of the two state agencies depends in part on whether the two individual plaintiffs have standing, we discuss the alleged injury to the individual plaintiffs first, and then turn to the agency plaintiffs' alleged injury.

2. Injury In Fact — Individual Plaintiffs

[5] R.C. Farms and Hildebrand, the two individual plaintiffs, contend that the Bureau's current method of operating

the New Melones Unit is highly likely to cause the salinity of the water in the Stanislaus River to exceed the Vernalis standard at various times. Because they use the water to irrigate their crops, plaintiffs contend that their ability to grow those crops will be severely hampered by the excessively saline water. The injury alleged has not yet occurred; it is threatened. Nevertheless, the possibility of future injury may be sufficient to confer standing on plaintiffs; threatened injury constitutes "injury in fact." *Ecological Rights Foundation v. Pacific Lumber Co.*, 230 F.3d 1141, 1151 (9th Cir. 2000) (hereinafter "*Pacific Lumber*"). "The Supreme Court has consistently recognized that threatened rather than actual injury can satisfy Article III standing requirements." *Friends of the Earth v. Gaston Copper Recycling Corp.*, 204 F.3d 149, 160 (4th Cir. 2000) (en banc) (hereinafter "*Gaston Copper*"). The Court most recently recognized this principle in *Friends of the Earth v. Laidlaw*, 528 U.S. 167, 180-81 (2000). (holding that "the threat of . . . 'injury in fact' " is sufficient to confer standing.)

[6] In *Laidlaw*, the Supreme Court also explained that in cases alleging environmental injury, the "relevant showing for purposes of Article III standing . . . is not injury to the environment, but injury to the plaintiff." *Id.* at 181. Relying on *Laidlaw*, we then explained in *Pacific Lumber*, a case involving an alleged Clean Water Act violation, that "to require actual evidence of environmental harm, rather than an increased risk based on a violation of the statute, misunderstands the nature of environmental harm, and would undermine the policy of the . . . Act." 230 F.3d at 1151. The en banc Fourth Circuit reached a similar conclusion in *Gaston Copper*. There, it explained:

> Threatened environmental harm is by nature probabilistic . . . . By producing evidence that Gaston Copper is polluting Shealy's nearby water source, CLEAN has shown an increased risk to its member's downstream uses. This threatened injury is sufficient

> to provide injury in fact. Shealy need not wait until his lake becomes barren and sterile or assumes an unpleasant odor and smell before he can invoke the protections of the Clean Water Act. Such a novel demand would eliminate the claims of those who are directly threatened but not yet engulfed by an unlawful discharge. Article III does not bar such concrete disputes from court.

204 F.3d at 159-60.

[7] Applying *Laidlaw*, *Gaston Copper*, and *Pacific Lumber* here, we conclude that the necessary showing for standing purposes is not that the Vernalis standard has already been exceeded, or that plaintiffs' crops have already been damaged by excessively saline water, but that plaintiffs face significant risk that the crops that they have planted will not survive as a result of the Bureau's decisions to discharge water from the New Melones Reservoir during April, May, and October, rather than when needed to meet the Vernalis standard. The threat of injury resulting from the Bureau's employing an operational plan that will likely lead to violations of the Vernalis standard is sufficient to confer standing on plaintiffs. Plaintiffs need not wait to challenge the Bureau's action until the Bureau's water management policy results in a violation of the Vernalis standard, and their crops are damaged or destroyed. Put differently, they need not wait until the Bureau violates the Act, which requires the Bureau's compliance with applicable state regulations, including the Vernalis standard.

Plaintiffs have at the very least raised a material question of fact with respect to the issue whether they suffer a substantial risk of harm as a result of the Bureau's policies. The plaintiffs base their showing of threatened harm on modeling prepared by the Bureau itself. As part of its planning for the reservoir's current operational plan, the Bureau prepared a forecast of future violations of the Vernalis standard that would result from various alternatives. In a modeling exercise

based on data about water conditions over the past 71 years, a Bureau engineer concluded that under the plan now in effect, the Vernalis standard will be violated at least one month a year in 41% of the next 71 years. Moreover, the majority of the months during which the standard would be exceeded are projected to be peak-irrigation months during plaintiffs' growing seasons. According to the Bureau model, under the 1999 operations plan, about 16% of the months during the time when plaintiffs depend on New Melones water for irrigation will see salinity higher than that permitted by the applicable Board permits, although as of the time of oral argument in this case, the Vernalis standard had not yet been exceeded.

In support of their contention that a violation of the Vernalis standard would cause them harm, Plaintiffs submitted reports of the U.S. Salinity Laboratory and the University of California Extension Service documenting the negative effects of increased salinity on the various crops that they grow. Plaintiffs also note that their harvests were damaged in the past due to high salinity in the water resulting from insufficient water flows from New Melones.[7]

Defendants contend that *Laidlaw*, *Gaston Copper*, and *Pacific Lumber* are inapplicable here because all of those cases involve alleged ongoing violations of the Clean Water Act. According to defendants, those three cases simply stand for the proposition that in Clean Water Act cases, a violation of the statute is sufficient to confer standing, even if there is not yet evidence of environmental harm. We disagree. The reasoning in the cases does not require that a statutory viola-

[7]We do not construe plaintiffs' standing argument as resting on the doctrine of recurring harm as set forth in *City of Los Angeles v. Lyons*, 461 U.S. 95 (1983). We take note of plaintiffs' allegations that their crops were damaged by excessively saline water in the past only as evidence creating a material question of fact as to whether the Bureau's violation of the Vernalis standard would cause harm to plaintiffs' interests.

tion have occurred in order for standing to exist to challenge threatened environmental harm. For instance, in *Laidlaw*, the Supreme Court stated that the "affiant members' reasonable concern about the effects of [the defendant's] discharges, directly affected those affiants' recreational, aesthetic, and economic interests." 528 U.S. at 183-84. Standing resulted not from the existence of an ongoing statutory violation, but because of the threatened future damage to plaintiffs' environmental interests.

[8] A number of other circuits have recognized that governmental action that creates a risk of environmental harm may be challenged before the potential harm occurs, even when a statutory violation has not yet occurred. For instance, in *Village of Elk Grove v. Evans*, 997 F.2d 328, 329 (7th Cir. 1993), the Seventh Circuit held that the plaintiff, a town located on a flood plain, suffered threatened injury conferring standing as the result of the planned construction of a radio tower that, if built, would have increased the risk of flooding in the town. No statutory violation had yet occurred. The court held that "[t]he injury is of course probabilistic, but even a small probability of injury is sufficient to create a case or controversy—to take a suit out of the category of the hypothetical—provided of course that the relief sought would, if granted, reduce the probability." The District of Columbia Circuit reached the same conclusion in *Mountain States Legal Foundation v. Glickman*, 92 F.3d 1228, 1234 (D.C. Cir. 1996), in which plaintiffs challenged a Forest Service decision to select a logging plan that created a slightly greater likelihood of a wildfire occurring. The Forest Service selected a logging plan that reduced potential wildfire fuels by 5.4%, rather than plaintiffs' preferred plan, which reduced the fuels by 14.2%. 92 F.3d at 1234. No statutory violation had occurred. Nevertheless, the increased risk of wildfire was, under the circumstances, substantial, and the court held that "the incremental risk is enough of a threat of injury to entitle plaintiffs to be heard." *See also Dimarzo v. Cahill*, 575 F.2d 15, 18 (1st Cir. 1978) (holding that inmates have standing to challenge gov-

ernment actions that create an enhanced risk of fire at the jail where they are being confined).

[9] In sum, we agree with those circuits that have recognized that a credible threat of harm is sufficient to constitute actual injury for standing purposes, whether or not a statutory violation has occurred. The ability to challenge actions creating threatened environmental harms is particularly important because in contrast to many other types of harms, monetary compensation may well not adequately return plaintiffs to their original position. The extinction of a species, the destruction of a wilderness habitat, or the fouling of air and water are harms that are frequently difficult or impossible to remedy. Thus, as the Fourth Circuit noted in *Gaston Copper*, plaintiffs need not wait until the natural resources are despoiled before challenging the government action leading to the potential destruction. Nor did *Gaston Copper* require that a statutory violation occur before permitting such a challenge.

Finally, defendants contend that plaintiffs do not face a credible threat of injury because a series of contingencies must occur in order for the Vernalis standard to be exceeded. Specifically, the Bureau argues that it may adopt some other operational plan in the future that would prevent the violation of the Vernalis standard in a dry year. The Bureau thus contends that *Nelson v. King County*, 895 F.2d 1248, 1251-52 (9th Cir. 1984), bars plaintiffs' claims. In *Nelson*, we concluded that a standing determination should not be based only on statistical probabilities if other specific circumstances render the threat of injury more or less likely than the statistics might otherwise suggest. We stated that an analysis of the likelihood of future harm "must be individualized and must consider all the contingencies that may arise in the individual case before the future harm will ensue." *Id.* at 1251.

Although *Nelson* certainly requires us to consider all the circumstances related to a threatened future harm, including whether the threatened harm may result from a chain of con-

tingencies, the possibility that defendants may change their course of conduct is not the type of contingency to which we referred in *Nelson*. It would be inequitable in the extreme for us to permit one party to create a significantly increased risk of harm to another, and then avoid the aggrieved party from trying to prevent the potential harm because the party that created the risk promises that it will ensure that the harm is avoided, yet offers no specific or concrete plan of action for doing so. Here, the Bureau's own modeling concludes that the Vernalis standard will be violated during 16% of the months that comprise plaintiffs' growing season. Plaintiffs need not be required to disregard that hard evidence in favor of the Bureau's general and unsupported protestations that it does not intend to violate the standard.

[10] In short, we conclude that the risk of harm to plaintiffs' crops created by the Bureau's water management procedures is not so speculative or diffuse as to render the controversy a hypothetical one. Rather, the risk is sufficient to afford plaintiffs standing.

3. *Injury In Fact — Agency Plaintiffs*

[11] A "public agency has standing to seek judicial review of governmental action that affects the performance of its duties . . . ." *Washington Utilities & Transp. Comm'n v. F.C.C.*, 513 F.2d 1142, 1151 (9th Cir. 1975). Because the Central Delta and South Delta Water Agencies are charged by the State of California with protecting a dependable supply of high-quality water for the Delta areas concerned here, CAL. WATER CODE APPENDIX, § 116-4.1, both agencies have standing to bring this action under the test established by the Supreme Court in *Hunt v. Washington State Apple Advertising Commission*, 432 U.S. 333 (1977).

In *Hunt*, the Supreme Court set forth a three-part test that must be satisfied in order for a plaintiff to obtain associational standing:

> [A]n association has standing to bring a suit on behalf of its members when: (a) its members would otherwise have standing to sue in their own right; (b) the interests it seeks to protect are germane to the organization's purpose; and (c) neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.

432 U.S. at 343.[8]

Because we have determined, *supra*, that the individual plaintiffs have standing, the first *Hunt* factor is satisfied. We also conclude that the two state agencies seek to protect interests germane to their purposes; the agencies are charged by statute with "assur[ing] that the lands within the agency [have] a dependable supply of water of suitable quality . . . ." Cal. Water Code App. §§ 116-4.1(a)(2), 117-4.1(a)(2). More specifically, each entity is also charged with ensuring that its constituent users have water of acceptable salinity. *Id.*, § 116-4.1(a)(1). Thus, this action, which relates to Central and South Delta water salinity, falls squarely within the agencies' pur-

[8]The organizational plaintiffs here are government agencies, not private associations. Nevertheless, the associational standing analysis prescribed in *Hunt* is applicable to the question whether the Central and South Delta Water Agencies have standing. The plaintiff in *Hunt* was a state commission formed to support the apple-growing industry; the Supreme Court concluded that "the Commission, while admittedly a state agency, for all practical purposes, performs the functions of a traditional trade association representing the Washington apple industry . . . ." *Id.* at 344. The Central and South Delta Water Agencies are analogous to the Apple Commission in *Hunt*. For instance, the two agencies' charters provide that those entities must represent their constituent water users' interests. CAL. WATER CODE APP. §§ 116-4.1(a)(2). The board of directors of each group is elected by the water users within the agency's jurisdiction; each landowner may cast a ballot that is proportional in weight to the assessed value of his land. *Id.* at § 116-2.2. Like the Apple Commission in *Hunt*, these government agencies have qualities often found in private associations. Thus, following the Supreme Court's practice in *Hunt* itself, we apply that case's well-known test for organizational standing here.

poses. Finally, we see no reason why the individual landowners within the agencies' jurisdictions (other than the individual plaintiffs) need be parties to this case.[9] Accordingly, the Central and South Delta Water Agencies have standing to pursue this action.

B. Claim and Issue Preclusion

The district court also found that plaintiffs lacked standing for a second, independent reason; it held that previous administrative and judicial proceedings regarding the management of the New Melones Unit barred this action on the grounds of claim and issue preclusion. We disagree, and reverse this determination as well.[10]

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[9]The first two *Hunt* factors are necessary to meet the "case or controversy" standard of Article III, by ensuring that the action will be vigorously pursued. *Pacific Lumber*, 230 F.3d at 1147, n.6. In contrast, the third factor is "merely prudential," and designed to promote efficiency in adjudication. *Id.* (citing *United Food & Commercial Workers Union, Local 751 v. Brown Corp.*, 517 U.S. 544, 555-57 (1996)).

[10]Preliminarily, we note that we have the authority to review the district court's preclusion ruling. Appellants maintain that because the district judge's order certifying this interlocutory appeal stated that he was granting their "motion for certification on the issue whether they have standing," that he certified only the merits of the standing determination and not the preclusion ruling. We disagree. First of all, the district court's preclusion ruling related to whether or not the plaintiffs "have standing," and thus appears covered by the terms of his certification order. Even if it were not, however, when a district court order is certified for appeal pursuant to 28 U.S.C. § 1292(b), as was the summary judgment order in this case, the *entire* order is certified for appeal. *Yamaha Motor Corp. v. Calhoun*, 516 U.S. 199, 205 (1996); *Lee v. American National Ins. Co.*, 260 F.3d 997, 1000 (9th Cir. 2001) ("Our jurisdiction under § 1292(b), it is worth noting, is not limited to deciding the precise question the district court certified to us. Rather, we are reviewing the district court's order . . . and may address any issue fairly included within that order"). Thus, we have jurisdiction to review the instant preclusion ruling.

Because appellants misconstrued the certification order, they did not discuss preclusion in their opening brief. We generally do not consider

Claim preclusion, or res judicata, applies where: (1) the same parties, or their privies, were involved in the prior litigation, (2) the prior litigation involved the same claim or cause of action as the later suit, and (3) the prior litigation was terminated by a final judgment on the merits. *Blonder-Tongue Laboratories v. University of Ill. Foundation*, 402 U.S. 313, 323-24 (1971). Here, the second of the three criteria is not satisfied by any of the prior actions involving these parties.

In determining whether a prior action involved the same "claim or cause of action," we have held that four factors must be considered. The fourth of the factors, "whether the two suits arise out of the same transactional nucleus of facts," is the most important. *Fund for Animals v. Lujan*, 962 F.2d 1391, 1398 (9th Cir. 1992).[11] None of the prior actions cited by the appellees as preclusive arises out of the same "nucleus of facts," because none of those actions challenged releases of water from the New Melones Unit pursuant to the current operational plan.[12] The most similar of the various actions was

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issues raised in a reply brief. *United States v. Birtle*, 792 F.2d 846, 849 (9th Cir. 1986). Here, however, because appellees raised the issue in their brief, we have the benefit of briefing from both parties on the issue. *United States v. Bohn*, 956 F.2d 208, 209 (9th Cir. 1992) (per curiam) ("Although we ordinarily decline to consider arguments raised for the first time in a reply brief, we may consider them if, as here, the appellee raised the issue in its brief."); *Eberle v. City of Anaheim*, 901 F.2d 814, 818 (9th Cir. 1990) (same). Accordingly, we exercise our discretion to consider the arguments regarding issue and claim preclusion.

[11]The other three factors include "(1) whether rights or interests established in the prior judgment would be destroyed or impaired by prosecution of the second action, (2) whether substantially the same evidence is presented in the two actions; and (3) whether the two suits involve infringement of the same right." *Fund for Animals v. Lujan*, 962 F.2d 1391, 1398 (9th Cir. 1992).

[12]For instance, the district court cited as preclusive: (1) Board decision D-1628, which involved protests by South Delta and Hildebrand against certain water rights applications on the San Joaquin River; (2) water rights ruling WR 95-6, which involved a Central Delta challenge to the salinity

a case before Judge Burrell in the Eastern District of California (which we will refer to as "the prior action"), which involved the question whether the management plan in effect prior to the plan at issue here would have led to violations of the Vernalis standard. Judge Burrell held that the plaintiffs lacked standing because the harm in that case was speculative. Because the prior action involved a different management plan and releases of lesser amounts of water, however, it does not preclude the instant case. We are guided in this regard by *Fund for Animals*, a case in which plaintiffs challenged the bison management practices of the federal government in Yellowstone National Park. There, we held that an action challenging bison management practices five years earlier did not have preclusive effect, because the earlier action challenged different governmental conduct than that involved in the later action, even though the harm alleged was the same. 962 F.2d at 1398. In sum, when considering whether a prior action involved the same "nucleus of facts" for preclusion purposes, we must narrowly construe the scope of that earlier action. Applying that narrow approach, we conclude that here the earlier action before Judge Burrell did not involve the same "nucleus of facts."

Issue preclusion, or collateral estoppel, is also inapplicable here, for essentially the same reason. Issue preclusion applies when three conditions are met: the issue in question must have been resolved by a judgment on the merits in a prior suit, the second action must involve the same parties or their privies, and the second action must be based on the same cause of action. *Jackson v. Hayakawa*, 605 F.2d 1121, 1126 (9th Cir. 1979). In order for the final factor to be satisfied, the

standard itself, (3) WR 94-14, which was a motion to reconsider WR 95-6; (4) WR 97-05, in which the plaintiffs sought to require the Calaveras County Water District to release certain water; and (5) the federal lawsuit in front of Judge Burrell, which involved an interim water release plan for 1995-97. None of these is sufficiently similar to constitute the same nucleus of transactional facts.

issues litigated must not be "merely similar," but must be "identical." *Fund For Animals*, 962 F.2d at 1399. The facts of the prior federal action are *similar* to those of this case;[13] in that case too, plaintiffs challenged the effect of releases from the New Melones reservoir, maintaining that they would raise the salinity standard at Vernalis above permissible levels. That case involved actions from 1995-97, however, whereas the instant action challenges Bureau decisions to release water pursuant to a different plan that was adopted in 1999. The two actions are therefore not "identical" for estoppel purposes, and we reverse the district court's determination that this case is barred by principles of collateral estoppel.

CONCLUSION

For all of the foregoing reasons, the district court's grant of summary judgment in favor of defendants is REVERSED, and the case is REMANDED for proceedings consistent with this opinion.

REVERSED AND REMANDED.

FERNANDEZ, Circuit Judge, Dissenting:

Because I do not believe that Central Delta Water Agency[1] has demonstrated that it has standing, I respectfully dissent. What is significant here is the fact that the United States has not violated any law, rule, regulation, or contract. Nor has it threatened that it will do so in the future. There is not a scintilla of evidence of any kind of minatory behavior.

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[13]That action is the only of the purportedly preclusive administrative and judicial determinations that may plausibly be argued to be identical to the instant action.

[1]What I say here about Central Delta applies equally to South Delta Water Agency, Alexander Hildebrand, and R.C. Farms, Inc.

For its part, Central Delta has no right whatsoever to require that a certain amount of water be kept behind the New Melones Dam; likewise, it has no right to the water stored in that dam during the period of storage. It only has a right to have sufficient water supplied to maintain water quality downstream. That right has not been violated, and the government has no intention of violating it. Thus, this case is not at all like cases where some sort of wrongdoing has endangered the existing rights of a party.[2] Of course, when there is any kind of relationship between parties, it is always possible that somebody will not perform a duty someday. But if standing is to mean anything, we must not confer it upon those whose rights are not being affected at all, especially when their alleged antagonist insists that it fully intends to respect those rights. Again, the government has indicated that it will do whatever is required to keep the water at the proper level of quality. It will even acquire water elsewhere, if that becomes necessary. Thus, Central Delta's speculation that under some conditions at some later time the government may breach its legal duty to supply water is entirely insufficient to show that "invasion of a legally protected interest" is more than " 'conjectural' or 'hypothetical.' " *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560, 112 S. Ct. 2130, 2136, 119 L. Ed. 2d 351 (1992) (citation omitted). Central Delta simply cannot prove that "the irreducible constitutional minimum of standing" exists. *Id.* In other words, one does not have to be afflicted

[2]For example, this is not a case where the government has arbitrarily and capriciously selected a forest plan that could, at any moment, lead to eruption of a destructive conflagration. *Cf. Mountain States Legal Found. v. Glickman*, 92 F.3d 1228, 1231 (D.C. Cir. 1996). Nor is it a case where an improperly issued construction permit may result in a devastating flood. *Cf. Village of Elk Grove Village v. Evans*, 997 F.2d 328, 328-29 (7th Cir. 1993). Nor, again, is it a situation where prisoners are housed under dangerously defective conditions. *Cf. Dimarzo v. Cahill*, 575 F.2d 15, 16, 18 (1st Cir. 1978). Finally, it is not a case where a defendant is (or has been) violating a statute by polluting the environment. *See Friends of*

with misocainea in order to reject the new and expanded standing doctrine pressed upon us in this case.

Thus, I respectfully dissent.

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the Earth, Inc. v. Laidlaw Envtl. Servs., Inc., 528 U.S. 167, 175-76, 120 S. Ct. 693, 701-02, 145 L. Ed. 2d 610 (2000); *Ecological Rights Found. v. Pac. Lumber Co.*, 230 F.3d 1141, 1145 (9th Cir. 2000); *Friends of the Earth, Inc. v. Gaston Copper Recycling Corp.*, 204 F.3d 149, 150-51 (4th Cir. 2000) (en banc).