Endangered Species Act Biological Evaluation

Goleta Wastewater Treatment Plant

Prepared by: U.S. EPA Region IX

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Findings

The U.S. Environmental Protection Agency (EPA) is proposing to reissue an ocean discharge permit to the Goleta Wastewater Treatment Plant (WWTP), which authorizes the continued ocean disposal of municipal wastewater that does not meet federal secondary treatment standards. The applicant has agreed to a multi-year infrastructure development and implementation plan which will provide for secondary treatment of the facility's wastewater prior to the ocean discharge. Under the terms of its settlement agreement, the applicant is required to reach full secondary treatment by the year 2014.

Pursuant to section 7 of the Endangered Species Act (ESA), EPA has evaluated whether the proposed action may affect federally listed endangered or threatened species and designated critical habitat. Consultation with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) is required for any federal action that may affect endangered species.

Based on a review of the best scientific and commercial data available, including assessments made by USFWS, EPA and other relevant agencies, EPA Region IX has determined the following:

1. The continued wastewater discharge from the Goleta WWTP will not affect the California least tern, western snowy plover, and tidewater goby. None of these animals are found to occur, or are reasonably expected to occur, in the vicinity of the discharge or action area.

2. In the vicinity of the Goleta WWTP discharge, the southern sea otter is listed as an "experimental, non-essential population." As such, it is considered a "proposed species"

for which Section 7(a)(2) consultation is not required, unless the proposed action may affect the defined parent population of southern sea otters. EPA has determined that the continued wastewater discharge from the Goleta WWTP will not affect the parent population of southern sea otter. The southern boundary of the defined parent population is at least 40 miles north of the discharge and few, if any, individual sea otters occur within the management zone where the discharge is located. EPA has further determined that the continued discharge is not likely to jeopardize the continued existence of the "proposed" experimental population and thus, a conference with USFWS under Section 7(a)(4) of the ESA is not required.

Background

The Goleta Sanitary District ("the applicant") has requested re-issuance of a permit under section 301(h) of the Clean Water Act, 33 U.S.C. section 1311(h). Such a permit, or 301(h) waiver, allows for the ocean disposal of wastewater from a publicly owned sewage treatment plant that is not required to meet federal secondary treatment requirements, as contained in section 301(b)(1)(B) of the Act, 33 U.S.C. section 1211(b)(1)(B). The 301(h) waiver is being sought for the Goleta WWTP, which is a publicly owned treatment works (POTW).

In California, National Pollutant Discharge Elimination System (NPDES) permits are generally issued by the California Regional Water Quality Control Boards, which also administer the California Porter-Cologne Act. However, the Clean Water Act provides EPA must issue any permits authorized under section 301(h) of the Act. The applicant's request for continuance of its 301(h) waiver must be authorized via a NPDES discharge permit issued by EPA and Waste Discharge Requirements issued by the Regional Water Quality Control Board, Central Coast ("RB3"), pursuant to the Porter-Cologne Act. Re-issuance of the waiver and permit would continue to allow the applicant to discharge treated wastewater to the Pacific Ocean that is not required to meet otherwise applicable federal secondary treatment standards.

The applicant received its first 301(h) waiver from EPA and RB3 in 1985 (NPDES Permit No. CA0048160). This original permit expired in 1990 and has been reissued jointly by EPA and RB3 twice since, in July 1996 and November 2004. The current permit expired on November 19, 2009, and has been administratively extended until a final decision regarding the applicant's request for re-issuance of the waiver has been made. EPA is in the process of issuing its Tentative Decision Document (TDD) in response to the applicant's most recent application submitted on May 29, 2009. In the TDD, EPA proposes that the applicant be allowed to retain its 301(h) permit contingent upon the satisfaction of the following conditions, and that the applicant's NPDES permit be renewed in accordance with the applicable provisions of Title 40 of the Code of Federal Regulations (C.F.R.) Parts 122-125. The TDD provides that the applicant's renewal of a section 301(h) waiver is contingent upon:

1. Implementation of the approved monitoring program upon issuance of the renewed 301(h) modified permit [40 C.F.R. Section 125.63].

2. The California Coastal Commission determination that the applicant's proposal is consistent with the relevant State Coastal Zone Program [40 C.F.R. Section 125.59(b)(3)].

3. Findings from the USFWS and NMFS that operation of the discharge will not adversely impact threatened or endangered species or critical habitats pursuant to the ESA [40 C.F.R. Section 125.59(b)(3)].

4. Final concurrence from RB3 on the approval of a section 301(h) variance [40 C.F.R. Section 125.59(i)(2)].

EPA's recommendation in the TDD for reissuance of the waiver is based in part on review of the scientific information collected by the applicant, which relates to the applicant's ocean discharge and its potential impact on the local marine environment.

In 2004, the applicant and RB3 agreed to a multi-year infrastructure development and implementation plan which will provide for secondary treatment of the facility's wastewater prior to discharge. The applicant is required under the terms of its settlement agreement to reach full secondary treatment by the year 2014. The applicant has requested that EPA continue to evaluate and consider the ocean waiver reapplication because until the applicant can provide advanced treatment for all the influent wastewater, it would need to operate under a 301(h) waiver.

Facility History and Operation

The Goleta WWTP is located approximately 10 miles west of the City of Santa Barbara and treats wastewater from the Goleta Sanitary District, the Goleta West Sanitary District, the University of California Santa Barbara, the Santa Barbara Municipal Airport and other facilities in Santa Barbara County. The applicant's service area involves over 190 miles of pipelines which collect wastewater at each participating agency's gravity-fed pump station, where it is then transferred to the treatment plant. The plant is designed to accommodate an average dry-weather flow of 9.0 MGD and a peak wet-weather flow of 25.4 MGD. According to the applicant, the actual annual average flow in 2008 was 5.0 MGD. The treatment plant's forty-three industrial users generate approximately 4% of the current flow.

Raw wastewater (influent) flows through a bar screen for removal of large debris, and is then routed to aerated grit tanks, where sand and grit settle out. Water from these tanks flows to three primary sedimentation basins, where settling solids and floatable materials are collected and sent to digesters. The primary effluent is then split with one portion receiving secondary treatment and the other portion routed directly to disinfection. Secondary treatment consists of a biofilter, a solids contact channel (for air injection and reintroduction of recirculated sludge) and secondary sedimentation tanks. A portion of the secondary flow is diverted to the water reclamation facility. The remaining secondary flow is combined with the primary flow where it is chlorinated in the chlorine contact tank by sodium hypochlorite and dechlorinated by sodium bisulfite before discharge to the ocean.

The disinfected effluent is discharged to the Pacific Ocean through a 5,912-foot outfall pipe which terminates in a 280-foot long multiport (34-port) diffuser at an average depth of 87 feet. The diffuser coordinates are Latitude 34° 24' 06" N and Longitude 119° 49' 27" W. The 4-inch-in-diameter ports are located on alternate sides of the diffuser and vary in depth from 74 to 92 feet below the mean lower low water surface.

Sludge from the primary process is treated through anaerobic digestion for approximately 55 days and sent to stabilization basins for 2 years. The stabilized sludge is dewatered by drying bed or belt press and then made available, as Class A biosolids, to the local community as a soil amendment. All debris and grit from the primary process are trucked to a landfill for disposal.

The applicant is permitted by RB3 (Order No. 91-03) to produce up to 3.0 MGD of reclaimed water. This water is distributed for use in landscape irrigation and dust control. A portion of the secondary effluent enters the reclamation facilities where it is mixed with aluminum sulfate and polymer and filtered through a bed of anthracite coal where floc is removed. The filtered water is then disinfected with sodium hypochlorite and stored in an underground storage tank until needed.

Endangered Species

As indicated in EPA's TDD, 40 C.F.R. Section 125.59(b)(3) provides that issuance of a 301(h) modified NPDES permit must meet requirements under the ESA.

The following species were included in the, "Listed Species which may occur near the Goleta Wastewater Treatment Plant Outfall, Goleta, Santa Barbara County, California," provided to EPA by USFWS in July 2009:

Birds:

California least tern (*Sterna abtillarum browni*) (federally listed as Endangered)
Western snowy plover (*Charadrius alexandrines nivosus*) (federally listed as Threatened)

Brown pelican (*Pelecanus occidentalis*) (Delisted*)

Mammals:

Southern sea otter (*Enhydra lutris nereis*) (federally listed as Threatened in California except for a Non-essential Experimental Population that occurs in all areas subject to U.S. jurisdiction south of Pt. Conception, California)

Fish:

Tidewater goby (*eucyclogobius newberryi*) (federally listed as Endangered)

*The brown pelican was subsequently delisted by USFWS on November 17, 2009, effective on December 17, 2009. [74 Fed. Reg. 59444 (November 17, 2009)].

In sum, USFWS identified four species that may occur in the vicinity of the Goleta WWTP outfall. EPA conducted an analysis for each of these four species.

California Least Tern

Background

The California least tern is a small seabird measuring 10 inches in length with a 30 inch wingspan when fully grown. It has long, tapered wings and a forked tail. The black-capped head and black-tipped, pale gray wings contrast with its white body. The California least tern has a white forehead, a black-tipped yellow bill, and yellowish feet. It is the only subspecies of least tern found in California.

Least terns feed in shallow estuaries or lagoons where small fish are abundant. They feed on smelt, anchovies, silversides, and other small, near-shore prey. When looking for prey, they hover above the water and plunge to its surface when fish are spotted.

The California least tern once nested widely along the central and southern California coast and the Pacific coast of Mexico. Nesting today is limited to colonies in San Francisco Bay, Sacramento River delta, and areas along the coast from San Luis Obispo County to San Diego County. The greatest concentrations of breeding pairs nest in Los Angeles, Orange and San Diego counties. Locations of California least tern nesting sites are illustrated in **Figure 1**, below.

California least terns breed in loose colonies. Each colony usually contains 30-50 nesting pairs. Breeding birds are present at the colony from April through September. Nesting starts in mid-May. After mating, females lay their eggs in shallow depressions on barren to sparsely vegetated sites near water, usually on sandy or gravelly substrate. Clutches of 2-3 eggs are typical, with both adults sharing incubation duties. Young are hatched after 3-4 weeks, and are fed by both adults. They learn to fly at about 3 weeks of age, leaving the colony at 4-5 weeks. Young continue to be fed by both parents until two weeks after they leave the colony.

Historical nesting locations have been disturbed or eliminated by urban development. Because they need to nest close to shoreline areas where prey is abundant, the birds are often forced to concentrate their colonies in areas that are too small, making them more vulnerable to predation and disturbance. American kestrels, burrowing owls, feral cats, nonnative red foxes, American crows and other predators all take their toll. The terns are particularly vulnerable to predation when nesting grounds are located near developed areas, where they are prey to domestic cats and human-tolerant native species such as raccoons.

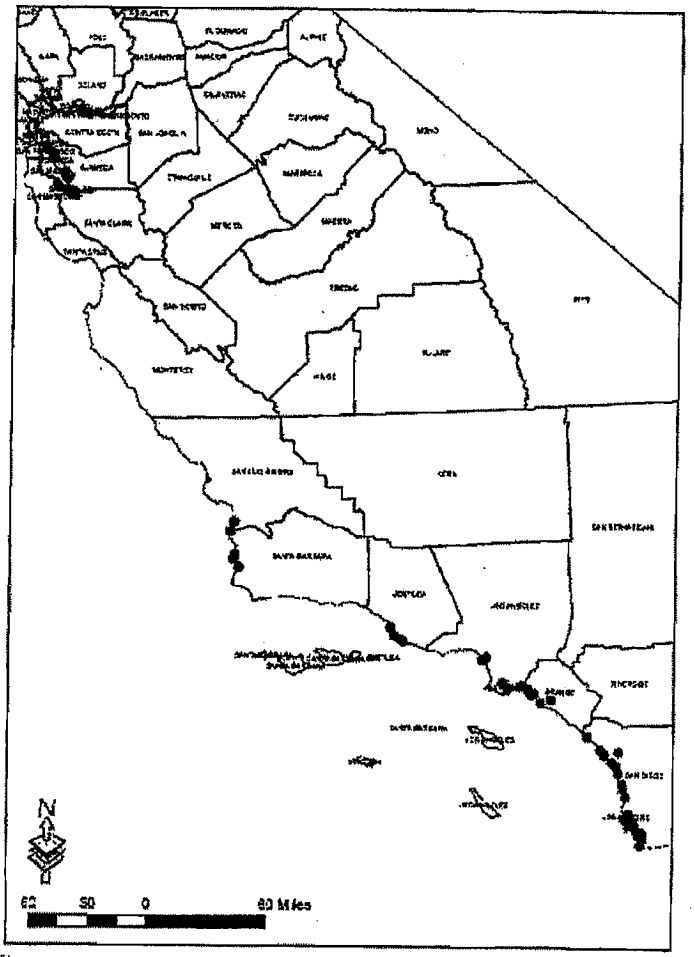

Figure 1: Locations of California least tern nesting sites (CNDDB 2006)

Potential for Effect

EPA has determined that the California least tern has no nexus with the deep ocean discharge from the Goleta WWTP, beyond speculative incidental contact based on the following considerations:

1. The Goleta WWTP ocean discharge is approximately one mile offshore and 74 feet deep.

2. The least tern is a beach and near-shore bird. It nests on land and feeds in shallow estuaries or lagoons where small fish are abundant and water is relatively calm.

3. The closest recognized nesting location of the least tern from the city and the Goleta WWTP is more than 40 miles down the ocean shoreline in Ventura County.

Accordingly, it is EPA's determination that the continued wastewater discharge from the Goleta WWTP will have "no effect" on the California least tern.

Western Snowy Plover

Background

The western snowy plover is a small shorebird weighing from 34 to 58 grams (1.2 to 2 ounces) and ranging in length from 15 to 17 centimeters. It is pale gray-brown above and white below, with a white hindneck collar and dark lateral breast patches, forehead bar, and eye patches. The bill and legs are blackish. Individual birds 1 year or older are considered to be breeding adults. The mean annual life span of western snowy plovers is estimated at about 3 years, although at least one individual was recorded to be at least 15 years old.

A large amount of breeding data indicated that the Pacific coast population of the western snowy plover is distinct from western snowy plovers breeding in the interior. The Pacific coast population of the western snowy plover breeds primarily on coastal beaches from southern Washington to southern Baja California, Mexico. Sand spits, dune-backed beaches, beaches at creek and river mouths, and salt pans at lagoons and estuaries are the main coastal habitats for nesting. This habitat is unstable because of unconsolidated soils, high winds, storms, wave action, and colonization by plants. Less common nesting habitats include bluff-backed beaches, dredged material disposal sites, salt pond levees, dry salt ponds, and river bars.

Western snowy plovers are primarily visual foragers, using the run-stop-peck mothod of feeding typical of Charadrius species. They forage on invertebrates in the wet sand and

amongst surf-cast kelp within the intertidal zone, in dry sand areas above the high tide, on salt pans, on spoils sites, and along the edges of salt marshes, salt ponds, and lagoons. They sometimes probe for prey in the sand and pick insects from low-growing plants.

Potential for Effect

EPA has determined that the western snowy plover has no nexus with the deep ocean discharge from the Goleta WWTP, beyond speculative incidental contact based on the following considerations:

1. The Goleta WWTP ocean discharge is approximately one mile offshore and 74 feet deep.

2. The western snowy plover nests and feeds on land or shallow waters where the bird can stand comfortably.

Accordingly, it is EPA's determination that the continued wastewater discharge from the Goleta WWTP will have "no effect" on the western snowy plover.

Southern Sea Otter

According to USFWS's regulations, the southern sea otter is not listed as "endangered" or "threatened" under the ESA in the vicinity of the Goleta WWTP outfall, but rather as an "experimental population, non-essential" (EXPN). 50 C.F.R. Sections 17.11(h) and 17.84(d). The southern sea otter is listed as "threatened except where EXPN." 50 C.F.R. Section 17.11(h). The range of EXPN is specified as "All areas subject to U.S. jurisdiction south of Pt. Conception, CA (34°26.9' N. Lat.)."

Public Law 99-625:

The EXPN is a result of Public Law 99-625 which specifically authorized the translocation and management of southern sea otters. Pub.L. 99-625 § 1, 16 U.S.C. §

1536 Historical and Statutory Notes. This law, and USFWS' implementing regulations, specified two zones for the EXPN: a translocation zone and a management zone. Pub.L. 99-625 §1(b), 50 C.F.R. §17.84(d)(4) & (5). The translocation zone is defined to comprise of "San Nicolas Island, the Begg Rock, and surrounding waters [within specific coordinates]..." 50 C.F.R. §17.84(d)(4)(i). The management zone is defined to comprise of "all waters, islands, islets, and land areas seaward of mean high tide subject to the jurisdiction of the United States and located south of Point Conception, California (34°26.9' N. Latitude), except for any area within the translocation zone." 50 C.F.R. §17.84(d)(5)(i). The Goleta WWTP outfall is located approximately 40 miles downcoast of Point Conception and 60 miles north of the translocation boundary and thus, is within the designated management zone. The EXPN includes all southern sea otters found within the translocation zone or the management zone. Pub.L 99-625 § 1 (b)(4);50 C.F.R. § 17.84(d)(2). The EXPN within the management zone shall be treated for purposes of Section 7 as a species proposed to be listed under the ESA. Pub.L 99-625 §1 (c)(2); 16 U.S.C. § 1539(j)(2)(c)(i); 50 C.F.R. §17.83(a). Consultation under Section 7(a)(2) of the ESA is not required for "proposed species". 16 U.S.C. § 1536(a)(2). In the preamble to the regulations implementing Public Law 99-625, USFWS explains:

> Pub. L. 99-625 establishes precise limits on the applicability of section 7(a)(2) to an experimental sea otter population. Under Pub. L. 99-625 the location of the Federal action is controlling: . . . if [a] proposed action is to be implemented within the management zone (although adverse effects could spill over into the translocation zone), then section 7(a)(2) does not apply, unless the proposed action "may affect" the parent population of southern sea otters [defined as the population of sea otters existing in California on the date of the proposed relocation regulations -- August 15, 1986]. Pub.L. 99-625 further provides that the informal conference requirement of section 7(a)(4) of the ESA applies to Federal activities within the management zone...

52 Fed. Reg. 29754, 29770 (August 11, 1987).[1]

Thus, the Section 7(a)(2) consultation requirements do not apply to the Goleta WWTP continued discharge, which occurs within the EXPN management zone, unless the proposed action "may affect" the defined parent population of sea otters.

Parent Population:

EPA considers the Goleta WWTP discharge likely to have a de minimus, if any, impact on the parent population of southern sea otters. The southern boundary of the parent population, defined as north of Pt. Conception, is approximately 40 miles upshore (to the north and west) of the Goleta WWTP discharge. Additionally, in 2007, EPA conducted an extensive analysis of the potential effects of the Morro Bay WWTP's wastewater discharge on the southern sea otter [See: September 7, 2007 EPA Morro Bay ESA Biological Evaluation (copy attached as Attachment 1)]. In analysis, EPA concluded the Morro Bay WWTP continued discharge (located within the parent population range) was not likely to adversely affect the southern sea otter. USFWS concurred with EPA's determination [See: December 21, 2007 USFWS Concurrence correspondence on Morro Bay (copy attached as Attachment 2)]. EPA is unaware of any additional scientific and commercial data that has become available since that evaluation which would change the evaluation or indicate that the Goleta WWTP discharge (located well south of the parent population range) would have a potential to adversely affect the parent population of sourthern sea otters.

Accordingly, it is EPA's determination that the continued wastewater discharge from the Goleta WWTP will have "no effect" on the parent population of southern sea otter.

[1] The range of the "parent population", as defined under Public Law 99-625, was the population of sea otters existing in California at the time of the relocation regulations, which USFWS determined was from Ano Nuevo, Santa Cruz County in the north - to the Santa Maria River, San Luis Obispo County in the south. 52 Fed. Reg. 29754 (August 11, 1987). The Santa Maria River is located well north of Point Conception, California.

Experimental Population:

Section 7(a)(4) of the ESA requires Federal agencies to confer with the Services on agency actions that are likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat. 16 U.S.C. §1536 (a)(4); 50 C.F.R. §402.10(a). The EXPN is considered a proposed species within the management zone. Based on the best scientific and commercial data available, including EPA's September 2007 Biological Evaluation for the Morro Bay WWTP and USFWS' concurrence, EPA has determined that the Goleta WWTP discharge is not likely to jeopardize the continued existence of the EXPN. Few sea otters occur within the management zone and EPA has found no studies or data that indicate wastewater discharges from the Goleta WWTP or any similar WWTP have had a detrimental effect on the EXPN. Moreover, USFWS has determined that: "By definition, a 'nonessential experimental population' is not essential to the continued existence of the species. Therefore no proposed action impacting a population so designated could lead to a jeopardy determination for the entire species." U.S. Fish & Wildlife Service and National Marine Fisheries Service Endangered Species Consultation Handbook, March 1998, at 2-6.

Accordingly, EPA finds conference with USFWS on the southern sea otter EXPN under 50 C.F.R. §402.10(a) and Section 7(a)(4) of the ESA is not required.

Tidewater Goby

Background

The tidewater goby is a small, elongated, grey-brown fish rarely exceeding 50 millimeters standard length. It is characterized by large pectoral fins. The pelvic or ventral fins are joined below the chest and belly from below the gill cover back to just ahead of the anus, forming an abdominal disc. Male tidewater gobies are nearly transparent, with a mottled brownish upper surface, and generally remain near the breeding burrows. Female tidewater gobies develop darker colors, often black, on the body and dorsal and anal fins.

The tidewater goby, a fish species endemic to California, is found primarily in waters of coastal lagoons, estuaries and backwater marshes that are adjacent to the Pacific Ocean. Tidewater gobies are most commonly found in waters with relatively low salinities, i.e., less than 10 to 12 parts per thousand (ppt). The species can, however, tolerate a wide range of salinities and is frequently found in coastal habitats with higher salinity levels. The species has been collected in salinities as high as 42 ppt. The species' tolerance of high salinities likely enables it to withstand some exposure to the marine environment, allowing it to recolonize nearby lagoons and estuaries following flood events. However, tidewater gobies have only rarely been captured in the marine environment and they appear to enter the ocean only when flushed out of lagoons, estuaries, and river mouths by storm events or human-caused breaches of sand bars.

Tidewater gobies are most commonly collected in water less than 6 feet deep. However, recently tidewater gobies were collected in Big Lagoon in Humboldt County during the breeding season at a water depth of 15 ft. Tidewater gobies tend to avoid currents and concentrate in slack-water areas; this suggests they are less likely to occur in areas with a steep gradient or microhabitats that have a substantial current.

Many of the locations occupied by the tidewater goby closely correspond to stream drainages. Under natural conditions, these stream drainages and the marine environment collectively act to produce sandbars that form a barrier between the ocean and the lagoon, estuary, backwater marsh, and freshwater stream system. These sandbars tend to be present during the late spring, summer and fall seasons. The presence of a sandbar can create a lower salinity level (5 to 10 ppt) in the area up gradient from the sandbar that would not otherwise exist if there were no sandbar. Tidewater gobies are more commonly associated with these lower salinity levels than with the salinity levels that occur in the ocean or an estuary without a sandbar (about 35 ppt).

Potential for Effect

EPA has determined that the tidewater goby has no nexus with the deep ocean discharge from the Goleta WWTP, beyond speculative incidental contact based on the following considerations:

1. The Goleta WWTP ocean discharge is approximately one mile offshore and 74 feet deep.

2. The tidewater goby occurs in lagoons, estuaries, and backwater marshes that are near- or on-shore and have a relatively low salinity. Although tidewater gobies can tolerate ocean salinity, only rarely do they get temporarily flushed out into the marine environment.

3. The tidewater goby are most commonly collected in water less than 6 feet deep, but not deeper than 15 feet.

Accordingly, it is EPA's determination that the continued wastewater discharge from the Goleta WWTP will have "no effect" on the tidewater goby.

Conclusion

Based on review of the best scientific and commercial data available, including assessments made by USFWS and other relevant agencies, EPA Region IX has determined that the continued wastewater discharge from the Goleta WWTP will have "no effect" on the California least tern, western snowy plover, or tidewater goby. EPA has also determined that the continued wastewater discharge will have "no effect" on the defined parent population of southern sea otters. The non-essential experimental population of southern sea otters is considered a "proposed species" for which consultation under Section 7 of the ESA is not required. A Section 7(a)(4) conference concerning that proposed species is also not required as EPA has determined the continued wastewater discharge is not likely to jeopardize the continued existence of that proposed species.

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