

**SUMMARY OF FIRE CHEMICAL APPLICATIONS IN WATERWAYS AND/OR
THREATENED AND ENDANGERED SPECIES HABITAT
2009**

Order	Agency	Fire Name and Date of Occurrence	Location (include Lat/Long, district and forest)	Description of site, T&E or proposed species, waterway.	Direct/Indirect Environmental Effects of the Fire Chemical(s)	Estimated Quantity: a). in 300' buffer zone and/or b). in waterway	Product Applied	Exposure Method: (i.e. Large Airtanker, SEAT, Helibucket, Helitanker, Ground)	Accidental or an exception to 2000 Guidelines?
1	FS	Bailey; 3/27/09	Bailey Creek, West Fork, Bailey Canyon. Front Country RD, San Bernardino NF, CA. Lat. 34.21750 Long. 117.34083	No chemical avoidance areas or TES or habitat in affected area. Impact area does not contain suitable habitat for Southwestern Willow Flycatcher (TES), Mountain Yellow-Legged Frog, California Gnatcatcher, or Arroyo Toad.	No direct impacts to SWFL. With the exception of one Jerusalem cricket, no damage or mortality of animal or plant species observed. No emergency consultation necessary.	~ 4 gals. of 1% dilution into ~350' of waterway.	Phos-Chek WD 881 (foam)	Ground	Accidental
2	Multi (CDF-CalFire, County, City, FS, BLM)	Jesusita; 5/8/09	Maria Ygnacio Creek; T5NR28W, Sec. 26, below hwy 154, CA. Drop on Santa Barbara county-administered lands.	Area is habitat for Southern California <i>O. Mykiss</i> (TES). Drop was in a pool area. NOAA Fisheries personnel observed retardant settling on bottom of pool.	Apparent 100% fish mortality along ~ 2 miles of stream. Estimate of 30-50 fish, 3-9" long. Live fish were spotted up and downstream of impact area. Local ranch hand described water as "milky" to yellowish. No FS emergency consultation due to location on county lands.	Multiple drops over ~ 1 acre spot fire area and into creek. Unknown amount.	Phos-Chek 259F (retardant)	Helitanker & helibucket	Exception (pilots had been instructed to avoid 300' buffer; fire located in urban interface, city of Goleta threatened)

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3	Volunteer FD response to fire on FS land.	Upper Elk Lake #1; 6/28/09	Upper Elk Lake, Hood Canal RD, Olympic NF, WA. Lat. 47.899444; Long. 123.141111	No TES present. Numerous rough-skinned newts (<i>Taricha granulose</i>) observed in water. Many damselflies and dragonflies observed. Evidence of recent hatching of multiple amphibian species.	No visible or noticeable impacts. No apparent species mortality. One female hooded merganser (<i>Lophodytes cucullatus</i>) observed swimming on lake on 7/7/09.	Approx. 50 gals. of 0.1% solution. Runoff into lake	Tyco SilvEx (foam)	Ground	Accidental
4	FS	Backbone; 7/2/09	Horse Linto Creek and New River, Trinity River subbasin; Trinity-Alps Wilderness; Lower Trinity RD; Shasta-Trinity NF. Lat. 41.038282N Long. - 123.457976W	S. OR/N. CA coast Coho salmon (<i>O. kisutch</i>) ESU and habitat. Klamath Mtn. Steelhead (<i>O. mykiss</i>) ESU. Upper Klamath/Trinity Rivers spring-run Chinook (<i>O. tshawytscha</i>) and Upper Trinity fall-run Chinook ESU's. Chinook and Coho essential fish habitat.	No visible or noticeable impacts. No apparent species mortality. Affected area is heavily vegetated and >4 miles upstream of Steelhead, Chinook and coho salmon habitats. No emergency consultation necessary.	Approx. 1/2 load (300-500 gals.) dropped into buffer zones of ephemeral tributaries of Horse Linto and Soldier Cks. No direct impact to waterways.	Phos-Chek D-75F (retardant)	Large Airtanker	Exception
5	CDF-CalFire	Spring; 7/5/09	Cache Creek, NW of Indian Valley Reservoir. Lat. 39 09.509 Long. 122 36.798	Unknown if any TES species located in area.	Not known	~ 1/2 load dropped into buffer zone. Last part of drop fell within 50' - 100' of water.	Phos-Chek D-75F (retardant)	Large Airtanker (S2T)	Accidental

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6	CDF-CalFire	Creek CAMEU 005238; 7/18/09	Elk Horn Creek, CalFire Mendocino Unit, MPM 40 Hwy 128, Yorkville, CA. Lat. 38 54.221; Long. 123.10.992	N/A	No observed fish mortality	Approx. ¼ of load into 300' buffer zone and waterway. ~ 24 gal. estimated to enter waterway.	Phos-Chek D75-F (retardant)	Large Airtanker	Exception; watershed and structures threatened
7	FS	Bridge; 7/19/09	Tropic Reservoir, Powell RD, Dixie NF, UT. Lat. 37 35.83; Long. 112 15.18	No TES present, but area is a sport fishery with multiple trout (stocked) and native species. Reservoir is ~179 acres.	No reports of fish mortality. No observed effects.	Approx. 25 gals. of 1.0% solution, directly into water.	Tyco SilvEx (foam)	Helitanker	Accidental
8	FS	Ponderosa; 8/6/09	Negro Creek near Ponderosa Camp; Upper Nacimiento River; Los Padres NF	No known TES. Steep canyon; heavily wooded bottom area; intermittent water flow.	No observed mortality of aquatic species. Drop area was completely burned over after application.	Approx. 1/10 of load (50 gals). in buffer zone; ~2 gals. into waterway	Phos-Chek D75-F (retardant)	SEAT	Accidental
9	FS	Reservoir; 8/9/09	Blue Ridge Reservoir (CC Cragin Dam); E. Clear Creek drainage; Mogollon Rim RD; Coconino NF. Lat. 34.33.26 Long. 111.10.57	Little Colorado Spinedace - <i>Lepidomeda vittata</i> (critical habitat); Mexican Spotted Owl – <i>Strix occidentalis lucida</i> (TES and critical habitat). Area affected was ~3775' x 100'. Retardant was applied over a period of 4 hrs.	Drop area represents less than 0.0001% of owl habitat. Chemical not expected to impact owl. Primary concern is from noise from aircraft over 4 hr. time period. Runoff from monsoon rains 2 days after drops could have some indirect effect on Spinedace. BA required (expect 2/10).	~27,817 gals. (13 loads) were dropped into TES habitat. No direct impact to waterways.	Phos-Chek LC-95A (retardant)	Large Airtanker	Drops took place >400 ft. from waterway

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10	FS	Summit; 8/12/09	Trout Creek near Fouts Camp, Gindstone RD, Mendocino NF, CA. Lat. 39 362; Long. 122.731	Potential California red-legged frog (TES) habitat located ~4 miles downstream. None found in area of drop.	No observed mortality of insects, fish or amphibians within drop zone or downstream area. Aquatic invertebrate diversity and abundance were similar immediately upstream and drop zone.	Full load dropped into and parallel to creek. Drop measured ~1000' x ~400' with stream meandering through it.	Phos-Chek D75-R (retardant)	Large Airtanker (S2T)	Accidental
11	FS	Taylor; 8/16-17/09	Sycamore Canyon Wilderness, adjacent and north of Buck Ridge; Peaks RD; Coconino NF.	Mexican Spotted Owl critical habitat. Applied to steep, rocky slopes in Sycamore Canyon. Extreme topography.	No direct or indirect effects to critical habitat expected from chemical. Some direct effects to species due to noise disturbance from aircraft.	Retardant used for line-building. Estimate 40,000 gals. (33 loads) delivered over 2 days.	Unknown retardant	Large Airtanker	Drops took place outside of 300' buffer zone in TES habitat.
12	FS	Canal Creek; 8/27/09	Tributary of Elk Creek, Sweet Home RD, Willamette NF, OR. Lat. 44° 38' 30" N. Long. 122° 17' 40" W.	No listed or proposed ESA plant or animal species in area. Closest listed fish (Upper Willamette River spring Chinook Salmon (<i>O. tshawytscha</i>), is hatchery-derived, and located ~5 miles downstream.	No observed mortality and no expectation of direct or indirect effects to fish.	~2082 gals. dropped into 300' buffer zone, ~75' from and parallel to stream.	Phos-Chek LC-95A (retardant)	Large Airtanker	Accidental

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13	NPS	Big Meadow; 8/26-9/2/2009	Crane Creek, W. of Foresta, S. of Big Oak Flat Rd. Yosemite NP, CA. Lat. 37 43.895; Long. 119 46.237	No known TES.	No observed effects.	Entire load hit within 300' buffer zone. Estimate ~2 gals. entered waterway.	Phos-Chek D75-R & D75-F (retardant)	Large Airtanker	Accidental
14	FS	Needles; 8/28/09	Near Needles in Gold Fork area. Cascade RD. Boise NF, ID. Lat. 44 44 17.2; Long. 115 50 04.2	No known TES. Creek does not appear to be fish-bearing.	No observed mortality of aquatic species. One frog seen swimming in water on 8/30.	2 drops (~150 gallons) entered waterway. One drop was perpendicular to water, the other was parallel and hit entire length.	Phos-Chek LC-95A (retardant)	SEAT	Accidental
15	Multi?	Station; 9/3/09	Devil's Canyon, San Gabriel River RD, Angeles NF. Lat. 34.325479415; Long. 117.936963259	Drop was directly into a stream containing Mountain Yellow-legged frog (TES). Approx. 5600' of stream was affected. Stream is approx. 15' wide, 1'-4' deep.	Area (inc. retardant drop area) was completely burned over with several inches of ash present. USGS personnel removed ~20 tadpoles (post-fire) to minimize impacts. No observed mortality. BA Required.	Widespread, continuous coverage. Full load entered waterway.	Phos-Chek D75-F (retardant)	Large Airtanker	Exception; FARSITE indicated fire was reaching a critical control point.
16	FS	Tate; 9/13/09	North Kaibab RD; Kaibab NF. Lat. 36.47010 Long. 112.07722 NAD 83	Mexican Spotted Owl critical habitat.	No direct or indirect effects to critical habitat expected.	One full load dropped into critical habitat. Area affected approx. 650' x 15'	Phos-Chek LC-95A (retardant)	Large Airtanker	Accidental

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17	FS	Silver; 9/19/09	Spanish Creek, Mt. Hough RD, Plumas NF, CA. Lat. 39.949; Long. 121.082	No known TES.	No observed effects.	Approx. ¼ of load hit within buffer zone. Estimate 20 gal. entered waterway.	Phos-Chek D75-? (retardant)	Large Airtanker	Accidental
18	FS	251; 9/24/09	Standard Creek headwaters, Blue Mountain RD, Malheur NF, OR. Lat. 44.33.308; Long. 118.39.341	Intermittent stream with some subsurface flow. Drop occurred ~600-700' upstream of perennial fish-bearing stream. Containing MCR Steelhead (TES), rainbow trout, and westslope cutthroat.	No observed mortality of fish, other vertebrates or invertebrates at drop site to ~ 1.5 miles downstream. Incident reported to NOAA fisheries biologist on 9/30/09. No emergency consultation necessary.	Three loads hit buffer zone. Estimate 5-10 gals. entered waterway.	Phos-Chek LC-95A (retardant)	SEAT	Accidental
19	CDF-CalFire	Loma; 10/25/09	CZU, San Mateo/Santa Cruz Unit. Lat. 37° 05.483; Long. 121° 51.088	N/A	N/A	Estimate 200-400 gals. entered waterway.	Phos-Chek D75-F (retardant)	Large Airtanker	Accidental

Total # of gallons of retardant from helicopter and fixed-wing bases in 2009, nationwide = ~17,984,132

Total # of retardant drops from helicopter and fixed-wing bases in 2009, nationwide = ~11,781

Percentage of drops into waterways = 0.0288%