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Certificate of Determination
EXEMPTION FROM ENVIRONMENTAL REVIEW

Case No.:	**2011.1150E**
Project Title:	**Expansion of Plastic Bag Reduction Ordinance**
Zoning/Plan Area:	All zoning districts that allow retail uses
Block/Lot:	Varies
Lot Size:	Varies
Project Sponsor	Supervisor Ross Mirkarimi 415-554-7630
Staff Contact:	Wade Wietgrefe – (415) 575-9050 Wade.Wietgrefe@sfgov.org

PROJECT DESCRIPTION:

The proposed project is a City and County of San Francisco (San Francisco) Board of Supervisors proposed ordinance amending the San Francisco Environment Code by amending Chapter 17 to expand the scope of the City's existing plastic bag ban to cover all retailers and food establishments in San Francisco and impose a modest store charge for recycled-content paper, compostable, and reusable checkout bags. In addition, the proposed project proposes a community outreach program to increase reusable bag use.

[continued on next page]

EXEMPT STATUS:

Categorical Exemption, Class 7 & 8 [State CEQA Guidelines Sections 15307 & 15308]

DETERMINATION:

I do hereby certify that the above determination has been made pursuant to State and Local requirements.

Bill Wycko
Environmental Review Officer

November 10, 2011
Date

cc: **Jack Macy**, Department of Environment
Robert Selna, Supervisor Mirkarimi's office
Supervisor **Ross Mirkarimi**, District 5
Virna Byrd, M.D.F.

PROJECT DESCRIPTION (CONTINUED):

Background on Existing Plastic Bag Reduction Ordinance

In April 2007, the San Francisco Board of Supervisors adopted the Plastic Bag Reduction Ordinance, which required all "stores" to provide only the following as checkout bags to customers: "compostable plastic bags," and/or "recyclable paper bags," and/or "reusable bags." Under the existing ordinance, a "store" is defined as a retail establishment as either "a full-line, self-service supermarket with gross annual sales of two million dollars, or more, and which sells a line of dry grocery, canned goods, or nonfood items and some perishable items ...; or a retail pharmacy with at least five locations under the same ownership within San Francisco." "Compostable plastic bag," "recyclable paper bag," and "reusable bag" are defined in the ordinance to distinguish among the types of bags and provide minimum requirements for their product content (i.e., the materials the bag is made out of) and labeling. In addition, fines are established for violations of the ordinance. The ordinance became effective at supermarkets in October 2007 and at pharmacies in April 2008.

Proposed Amendments to the Plastic Bag Reduction Ordinance

The proposed project would amend the definition of "store", thereby expanding the scope of the existing ordinance's applicability and provide a charge for checkout bags starting July 1, 2012. A "store" would be redefined as a retail establishment that includes "any public commercial establishment engaged in the sale of personal consumer or household items to the customers who will use or consume such items" thus removing the limitation that the ban only applies to establishments with gross annual sales of two million dollars or more. This definition would expand the scope of the plastic bag ban and eliminate the distinction of supermarket and pharmacies within the existing ordinance. This definition would become effective July 1, 2012. In addition, effective July 1, 2013, "store" would also expand to "include any Food Establishment located within the geographical limits of the City and County of San Francisco." Food Establishment would be defined as "a food preparation and service establishment as defined in Health Code Section 451 and permitted under Health Code Section 452."

The proposed project would also amend the definitions of "checkout bag," "compostable plastic bag," "recyclable paper bag," and "reusable bag" to include new product content and labeling requirements for the three types of checkout bags and clarify what is a checkout bag. In particular, reusable bags would be required to have a minimum lifetime capability of 125 or more uses carrying 22 or more pounds over a distance of at least 175 feet, among other requirements. Checkout bags would not include "bags used by consumers inside stores" prior to the point of sale or "newspaper bags, door-hanger bags, laundry-dry cleaning bags, or bags sold in packages containing multiple bags intended for use as garbage, pet waste, or yard waste bags."

Additionally, the proposed project would add checkout bag charge requirements in a new Section, 1703.5, as follows:

- "Beginning July 1, 2012, no Store shall provide a Recyclable Paper Bag or Reusable Bag to a customer at the point of sale, unless the Store charges the customer a Checkout Bag Charge of at least ten cents ($0.10) per bag.

- Beginning July 1, 2013, no Store, including a Food Establishment, shall provide a Compostable Plastic Bag to a customer at the point of sale, unless the Store charges the customer a Checkout Bag Charge of at least ten cents ($0.10) per bag.
- Beginning July 1, 2014, no Store, including a Food Establishment, shall provide a Recyclable Paper Bag, Reusable Bag, or Compostable Plastic Bag to a customer at the point of sale, unless the Store charges the customer a Checkout Bag Charge of at least twenty five cents ($0.25) per bag."

Finally, the proposed project would add new Sections 1703.5(b), (c), and (d) to require a separate checkout bag charge to be displayed on receipts, allow exemptions to certain customers to the checkout bag charge, and allow waivers by owners or operators of a store to the checkout bag charge, respectively.

Proposed Public Outreach

Implementation of the proposed project by San Francisco Department of Environment would also include partnering with local non-profit environmental groups in a public awareness campaign promoting reusable bags. The campaign may include reusable bag giveaways, developing lesson plans for school children, and targeted outreach to low income and elderly communities.

REMARKS:

Background on Checkout Bags

In California, single-use plastic bags (i.e., point of sale plastic bags) account for approximately 0.13% of California's total waste stream.[1] Single-use plastic bags are typically made out of thin, lightweight high-density polyethylene (HDPE) or low-density polyethylene (LDPE). Single-use plastic bags are currently allowed at all businesses in San Francisco except those defined as "stores" in the existing San Francisco Plastic Bag Reduction Ordinance. Single-use plastic bags typically weigh between 5-9 grams. Because most recycling facilities reject single-use plastic bags because they get caught in recycling machinery, causing malfunction, only approximately 5% of single-use plastic bags are recycled in California and nationwide.[2] Single-use plastic bags biodegradability rate varies, with estimates ranging from a few years to several hundreds of years.[3]

In California, single-use paper bags (i.e., bags and sheets made from kraft paper, includes point of sale paper bags) account for approximately 0.4% of California's total waste stream.[4] Single-use paper bags are currently allowed at all businesses in San Francisco except those defined as "stores" in the existing San

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[1] CEQA Environmental Review Initial Study/Mitigated Negative Declaration, Single Use Bag Reduction Ordinance, Santa Cruz County, February 10, 2011, p. 11.

[2] According to the US EPA's 2009 Municipal Waste Characterization Study, the recycling rate for plastic HDPE films (plastic bags, sacks, & wraps), which is generally what plastic bags are made from, was 6.1%. This statistic is artificially high when used as a reference point for plastic carryout bag recycling (by proponents of plastic bag manufacturing industry) because it includes all wraps and packaging, like "industrial stretch films" used in shipping, not just plastic bags. See United States Environmental Protection Agency, Municipal Solid Waste in the United States, 2009 Facts and Figures at 53; see also CEQA Environmental Review Initial Study, Santa Cruz County, p. 11.

[3] See Rhian Tough, "Plastic Shopping Bags: Environmental Impacts and Policy Options," October 2007, p. 30 where the author analyzed a variety of studies done on the biodegradability of plastic bags.

[4] CEQA Environmental Review Initial Study/Mitigated Negative Declaration, Single Use Bag Reduction Ordinance, Santa Cruz County, February 10, 2011, p. 12.

Francisco Plastic Bag Reduction Ordinance. However, the stores subject to the ordinance are currently required to provide 100% recyclable overall, 40% post-consumer recycled content, paper bags. Single-use paper bags are heavier than single-use plastic bags, typically weighing between 50 – 100 grams. Single-use paper bags also have higher recycling rates than single-use plastic bags, with an estimated paper recycling rate of 37% nationwide, and 60% in San Francisco.[5]

Single-use compostable plastic bags were not accounted for in California's most recent study of total waste stream.[6] Single-use compostable plastic bags are currently allowed at all businesses in San Francisco. Compostable plastic bags have a weight similar to single-use plastic bags, typically weighing between 5-18 grams.[7] Compostable plastics are a subset of biodegradable plastics that are defined according to American Society for Tresting and Materials (ASTM) D6400 standards as those biodegradable plastics that will decompose during composting at a rate consistent with other known compostable materials and leave no visible distinguishable or toxic residue.[8] With this standard, compostable plastic bags have been incorporated into San Francisco's food scraps collection program. Compostable plastic bags cannot be recycled with other single-use plastic bags. If they enter the recycling material stream, they could contaminate the resulting recycled material, making it unusable.[9]

Reusable bags were not accounted for in California's most recent study of total waste stream,[10] likely because the intent is to reuse the bags hundreds of times before disposing them. Reusable bags are being used more and more, as evident by businesses routinely selling them at checkout and government agencies adopting regulations to discourage single-use bags. Reusable bags are made of various materials including polyethylene, plastic, polypropylene plastics, multiple types of cloth, and recycled plastic beverage containers among others. Reusable bags typically weigh 10 times more than a single-use plastic bag and 2 times more than a single-use paper bag, and require greater material consumption on a per bag basis than single-use plastic bags. It is unknown of how many reusable bags are recycled, or what the biodegradation time of reusable bags is, because no comprehensive California-specific life-cycle study has been conducted of the reusable bags commonly used in the state.[11]

Background on Charging for Single-use Checkout Bags and User Choice

Varying studies from different locations indicate a substantially different mix of bag use among customers depending on whether or not there is a charge for single-use carryout bags. Several studies focus on the impacts of charges for single-use plastic bags only. These studies have indicated a reduction

[5] See CEQA Environmental Review Initial Study/Mitigated Negative Declaration, Single Use Bag Reduction Ordinance, Santa Cruz County, February 10, 2011, p.12.
[6] California Integrated Waste Management Board, California State Waste Characterization Study, August 2009.
[7] www.ecoproducts.com, "Plastic" grocery bags, accessed October 14, 2011.
[8] See CEQA Environmental Review Initial Study Initial Study/Mitigated Negative Declaration, Single Use Bag Reduction Ordinance, Santa Cruz County, February 10, 2011, p. 13.
[9] Ibid, p. 14.
[10] California Integrated Waste Management Board, California State Waste Characterization Study, August 2009.
[11] See CEQA Environmental Review Initial Study/Mitigated Negative Declaration, Single Use Bag Reduction Ordinance, Santa Cruz County, February 10, 2011, p.15.

in single-use plastic bag use and a reduction in single-use bag use overall.[12] Because the Expansion of the Plastic Bag Reduction Ordinance would not allow single-use plastic bags and other single-use bags and eventually charge for all single-use bags, including recycled-content paper and compostable bags, at "stores", it is difficult to determine the effects on user choice from these studies. Additional studies have projected consumer behavior from fees on single-use plastic and paper bag fees, but these projections have not been verified with actual consumer behavior following the implementation of the single-use plastic and paper bag fees.[13] However, the following studies do provide an applicable comparison.

In Australia, a study from September to November 2007 was conducted of approximately 800 retail sale exit observations at a range of locations: inner city, suburban, and regional; and retail sectors: supermarket, other food and liquor, general merchandise and apparel, fast food, convenience and service station, and other retail. The observations included a comparison between retail outlets that charge a fee for single-use bags and those that do not. In stores where single-use bags (HDPE, LDPE, or paper) were available for free, more than two-thirds of customers chose single-use bags as the method to transport goods out of the store. In contrast, only one-third of customers chose single-use bags in stores where a charge existed for each single-use bag (Table 1).[14]

Table 1
Distribution of Bags at Checkout – Australia

	Supermarket/Grocery Stores		All Retail Outlets	
	No Charge for Single-Use Bag	Charge a fee for Single-Use Bag	No Charge for Single-Use Bag	Charge a fee for Single-Use Bag
Single-use carryout bag	67%	31%	72%	27%
Reusable bag	16%	31%	13%	33%
No bag*	17%	39%	15%	40%

*No bag transactions include no bag, and bags and containers other than purpose-built reusable shopping bags, such as shopping trolleys, back packs, and handbags.

Source: Environment Protection and Heritage Council, "Plastic Retail Carry Bag Use, 2006 and 2007 consumption, final report," February 7, 2008, Tables 6-13 and 6-14.

In Washington D.C., a $0.05 fee went into effect January 1, 2010 for all businesses selling food or alcohol for each single-use paper or plastic carryout bag. City officials estimated that in 2009, residents used approximately 270 million single-use bags. For 2010, city officials estimated residents were on pace to

[12] Examples include Ireland and Toronto, Canada, where a government imposed single-use plastic bag fee resulted in a 94% and 70% reduction in single-use plastic bag use and a similar reduction in overall single-use bags overall, respectively. See Metropolitan Washington Council of Governments, "Plastic Bag Report," October 14, 2009.

[13] An example includes San Jose, California, where a government imposed single-use plastic and paper bag fee is estimated to result in 65% of customers using reusable bags and 35% paper (40% recycled content) bags, respectively. See CEQA Environmental Review Initial Study/Negative Declaration, Single-Use Carryout Bag Ordinance, Santa Clara County, October 8, 2010, p.12. Also, see Herrera et al, 2008, "Alternatives to Disposable Shopping Bags and Food Service Items," January 2008.

[14] Environment Protection and Heritage Council, "Plastic Retail Carry Bag Use, 2006 and 2007 consumption, final report," February 7, 2008, Tables 6-13 and 6-14.

use approximately 55 million single-use bags, an approximately 81% decrease.[15] A telephone survey of 600 randomly selected D.C. residents and one-on-one interviews with 51 D.C. based businesses conducted by a non-profit organization provided similar estimates. On the resident survey, approximately 75% of D.C. residents answered they reduced their plastic bag usage, approximately 21% said they had not reduced their plastic bag usage, and approximately 4% said they never use bags or were unsure about their bag usage since the ordinance went into effect. On the business survey, estimates of the reduction in bag usage by their own customers ranged from just a few percentage points to 80% lower, with a majority of the businesses who offered an estimate saying their consumption of bags is at least 50% lower.[16]

Businesses in the United Kingdom have also voluntarily imposed fees at their own stores. IKEA found that a 10 pence (~ $0.15 in US 2010 dollars) charge on all single-use bags result in a 95% drop in consumption, whereas Marks & Spencer realized an 80% drop in consumption after implementing a 5 pence (~$0.07 in 2010 US dollars) charge.[17]

Environmental Impacts Associated with Single-Use Plastic Bags and the Proposed Project

A number of CEQA documents, life-cycle analyses, and other studies have studied the environmental impacts of the carryout bags addressed by the proposed project. A Master Environmental Assessment (MEA) was completed in 2010 on the subject of carryout bags.[18] The analysis below largely uses this MEA and other information cited above.

Aesthetics

Litter can substantially degrade the existing visual character or quality of the site and its surroundings in San Francisco. Single-use plastic bags are a major source of litter in San Francisco Bay. One study in 2007, removed approximately 25,000 plastic bags in one day from San Francisco Bay.[19] Litter impacts can occur when single-use plastic bags are not properly disposed (i.e., not recycled or sent to a landfill). Regardless of whether single-use plastic bags are or are not properly disposed, these bags may be blown away from receptacles or landfills due to their light weight and slow biodegradability time. Single-use plastic bags are currently allowed at all businesses in San Francisco except those defined as "stores" in the existing San Francisco Plastic Bag Reduction Ordinance. The proposed project would expand the definition of stores, thereby eliminating single-use plastic bags from retail and food establishments. This would protect the environment and associated aesthetic impacts from single-use plastic bag litter.

By eliminating single-use plastic bag use at more "stores" covered by the ordinance, the proposed project would result in greater use of single-use paper bags, single-use compostable bags, and reusable bags. An increase in single-use paper bags and reusable bags would result in fewer impacts to aesthetics from litter because these bags are heavier and/or more recyclable and/or more reusable than single-use plastic bags.

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[15] The Washington Post, "District businesses not harmed by bag tax," February 24, 2011.
[16] Opinion Works, "Public Perceptions and Willingness to Address Litter in the District of Columbia," February 15, 2011, p. 6.
[17] See AEA Consulting, "Welsh Assembly Government, Single Use Bag Study," August 26, 2009, Table 6.
[18] Green Cities California, "Master Environmental Assessment on Single-Use and Reusable Bags," March 2010.
[19] Save the Bay, "Save the Bay Launches Campaign to Eliminate Plastic Bag Pollution in California," April 14, 2009, http://www.savesfbay.org/sites/default/files/SAVETHEBAYRELEASE_4.14.09_FINAL.PDF.

An increase in single-use compostable plastic bags would result in similar impacts as single-use plastic bags because consumers may improperly dispose of them believing them to biodegrade quickly in a non-composting environment, their light weight may lead them to blow away, and recycling facilities cannot currently handle them. However, single-use compostable plastic bags would biodegrade at a considerably faster rate than single-use plastic bags, thereby reducing the amount of time in the litter stream. In addition, the proposed project would impose a fee on all allowable single-use bags, including recycled-content paper and compostable bags, and studies have shown that establishing a fee results in an increase in reusable bag and no bag use and a decrease in single-use bag use.[20] Lastly, the proposed project would include a public education campaign aimed at promoting reusable bags to further reduce impacts from single-use carryout bags. Therefore, the proposed project would result in a beneficial impact to aesthetics from less litter.

Air Quality and Greenhouse Gas Emissions

Carryout bag manufacture, transport, and disposal all result in greenhouse gas (GHG) emissions, criteria air pollutant, and ground level ozone formation. GHG emissions contribute to the global problem of climate change, whereas criteria air pollutants and ground-level ozone generally creates air pollution problems in a local air basin. A number of life-cycle assessments have been conducted concerning the air quality and GHG emissions resulting from carryout bags.[21] The parameters used in the assessments varied; therefore, the results of the amount of emissions for each type of carryout bag differed. However, the assessments did commonly conclude that the manufacture, transport, and disposal of single-use plastic bags do result in a substantial amount of emissions.[22] Single-use plastic bags are currently allowed at all businesses in San Francisco except those defined as "stores" in the existing San Francisco Plastic Bag Reduction Ordinance. The proposed project would expand the definition of stores, thereby eliminating single-use plastic bags from retail and food establishments. This would protect the environment and associated climate change and air pollution impacts from single-use plastic bag manufacture, transport, and disposal.

As stated above, the proposed project would eliminate single-use plastic bags and as a result, the proposed project would result in greater use of single-use paper bags, single-use compostable bags, and reusable bags. The aforementioned life-cycle assessments commonly concluded that the manufacture, transport, and disposal of single-use paper and compostable bags result in more emissions than single-use plastic bags, while reusable bags result in fewer emissions. However, these assessments did not address the strict requirements for paper bag or compostable bag use content and reusable bag durability as proposed by the project, therefore the studies may not accurately represent the actual emission factors represented by the proposed project.

[20] Refer to "Background on Charging for Single-Use Checkout Bags and User Choice" section above for studies.
[21] See for example Boustead Consulting and Associates Ltd, "Life Cycle Assessment for Three Types of Grocery Bags – Recyclable Plastic; Compostable, Biodegradable Plastic; and Recycled, Recyclable Paper," 2007; Environment Australia, "Plastic Shopping Bags – Analysis of Levies and Environmental Impacts," December 2002; or ExcelPlas Australia, Centre for Design at RMIT, and NOLAN-ITU, "The Impacts of Degradable Plastic Bags in Australia," 2004; or Hyder Consulting, "Comparison of existing life cycle analyses of plastic bag alternatives," 2007.
[22] See for example Boustead Consulting and Associates Ltd, "Life Cycle Assessment for Three Types of Grocery Bags – Recyclable Plastic; Compostable, Biodegradable Plastic; and Recycled, Recyclable Paper," 2007, Tables 14A, 14B, 14C, and 14D; or Environment Australia, "Plastic Shopping Bags – Analysis of Levies and Environmental Impacts," December 2002, Table 4-3.

A switch to reusable bags is predicted to result in decreased transport-related emissions due to less bag manufacturing and collection at disposal. However, because single-use plastic bags have substantially lower volume than paper or reusable bags, a switch from single-use plastic may result in short-term increase in transportation and local air quality emissions. However, this increase would be insignificant, as any additional trucks would be spread throughout San Francisco and the day. Therefore, the proposed project would not result in any significant impacts to air quality.

The impacts of this proposed project in terms of GHG emissions are both indirect and difficult to predict. San Francisco has adopted a number of policies over the past decade to reduce GHG emissions. These policies are comprehensively provided in the San Francisco's *Strategies to Address Greenhouse Gas Emissions*. The policies have proven to be successful as measured by a number of things: San Francisco GHG emissions levels in 2005 were lower than in 1990, San Francisco has met and exceeded State Assembly Bill 32 GHG reduction goals for the year 2020, current and probable future state and local GHG reduction measures will continue to reduce San Francisco's contribution to climate change, and *Strategies to Address Greenhouse Gas Emissions* has been determined to be a "Qualified GHG Reduction Strategy" by the Bay Area Air Quality Management District, the air district which adopted GHG thresholds of significance for the San Francisco air basin. Because these policies have proven and are projected to continue to be successful, projects in San Francisco would be subject to these policies and therefore would not have a cumulative considerable impact to GHG emissions.

The proposed project would impose a fee on all allowable single-use bags, including recycled-content paper and compostable bags, and studies have shown that establishing a fee results in an increase in reusable bag and no bag use and a decrease in single-use bag use.[23] Lastly, the proposed project would include a public education campaign aimed at promoting reusable bags to further reduce impacts from single-use carryout bags. Therefore, any additional greenhouse gas impacts that may result from the proposed project (i.e., consumers switching from single-use plastic bags to single-use paper or compostable bags instead of reusable bags) would not be cumulatively considerable.

Hydrology and Water Quality

Single-use carryout bags can have substantial impacts on hydrology and water quality inside and outside of San Francisco. Hydrology is impacted when litter blocks waterways (primarily storm drains) resulting in contamination and changes in waterflow to surrounding areas. As mentioned above, single-use plastic bags are a major source of litter. Water quality is impacted when litter enters water bodies and from the manufacturing of single-use plastic bags causing eutrophication (e.g., nitrate and phosphate emissions into water that stimulate excessive growth of algae and other aquatic life). The proposed project would expand the definition of stores, thereby eliminating single-use plastic bags from retail and food establishments. This would protect the environment and associated hydrological and water quality impacts from single-use plastic bag manufacture and litter.

As stated above, the proposed project would eliminate single-use plastic bags and as a result, the proposed project would result in greater use of single-use paper bags, single-use compostable bags, and

[23] Refer to "Background on Charging for Single-Use Checkout Bags and User Choice" section above for studies.

reusable bags. An increase in single-use paper bags and reusable bags would result in fewer hydrological impacts than single-use plastic bags because these bags would result in less litter and less potential time blocking a waterway than single-use plastic bags. An increase in single-use compostable plastic bags would result in similar hydrological impacts as single-use plastic bags because of similar litter impacts. However, single-use compostable plastic bags would biodegrade at a considerably faster rate than single-use plastic bags, thereby reducing the potential time a bag would block a waterway.

An increase in single-use paper bags and compostable bags would result in no impact to water quality because even though the manufacturing of these bags would result in greater eutrophication than single-use plastic bags, impacts would be similar to single-use plastic bags because of the lesser potential for litter entering surface waters from single-use paper and compostable bags than single-use plastic bags. An increase in reusable bags would have a beneficial impact on water quality because of the reusability of the bag and small potential for these bags entering surface waters.

The proposed project would impose a fee on all allowable single-use bags, including recycled-content paper and compostable bags, and studies have shown that establishing a fee results in an increase in reusable bag and no bag use and a decrease in single-use bag use.[24] As a result, any impacts would be reduced to insignificant levels. Lastly, the proposed project would include a public education campaign aimed at promoting reusable bags to further reduce impacts from single-use carryout bags. Therefore, the proposed project would not result in a significant impact to hydrology and water quality.

Water Usage

Single-use carryout bags can have substantial impacts on water usage inside and outside of San Francisco. As with air quality and GHG emissions, a number of life-cycle assessments have been conducted concerning the water usage resulting from carryout bags.[25] The parameters used in the assessments varied; therefore, the results for each type of carryout bag differed. However, the assessments did commonly conclude that the manufacture of single-use plastic bags do result in a substantial amount of water usage.[26] Single-use plastic bags are currently allowed at all businesses in San Francisco except those defined as "stores" in the existing San Francisco Plastic Bag Reduction Ordinance. The proposed project would expand the definition of stores, thereby eliminating single-use plastic bags from retail and food establishments. This would protect the environment and associated water usage impacts from single-use plastic bag manufacture.

As stated above, the proposed project would eliminate single-use plastic bags and as a result, the proposed project would result in greater use of single-use paper bags, single-use compostable bags, and reusable bags. The aforementioned life-cycle assessments commonly concluded that the manufacture of single-use paper and compostable bags result in more water usage than single-use plastic bags, while

[24] Ibid.
[25] See for example Boustead Consulting and Associates Ltd, "Life Cycle Assessment for Three Types of Grocery Bags – Recyclable Plastic; Compostable, Biodegradable Plastic; and Recycled, Recyclable Paper," 2007; or Hyder Consulting, "Comparison of existing life cycle analyses of plastic bag alternatives," 2007.
[26] See for example Boustead Consulting and Associates Ltd, "Life Cycle Assessment for Three Types of Grocery Bags – Recyclable Plastic; Compostable, Biodegradable Plastic; and Recycled, Recyclable Paper," 2007, Tables 12A and 12B.

reusable bags result in less water used. However, these assessments did not address the strict requirements for paper bag and compostable bag use content and reusable bag durability as proposed by the project, therefore the studies may not accurately represent the actual water consumption represented by the proposed project.

The impacts of this proposed project on water consumption in areas in and outside San Francisco are both indirect and difficult to predict. If production were to increase for single-use paper or compostable bags, manufacturing facilities in California may need to expand or additional facilities may need to be constructed and an increase in water used in manufacturing could result to meet the demand generated by San Francisco; however, the expansion or addition of these facilities would be subject to environmental review, including an evaluation of impacts to groundwater and water supply. Such expansion is speculative, and even if it were to occur, any resulting impacts are not reasonably foreseeable at this time. Moreover, the proposed project would impose a fee on all allowable single-use bags, including recycled-content paper and compostable, and studies have shown that establishing a fee results in an increase in reusable bag and no bag use and a decrease in single-use bag use.[27] As a result, any impacts would be reduced to insignificant levels. Lastly, the proposed project would include a public education campaign aimed at promoting reusable bags to further reduce impacts from single-use carryout bags. Therefore, the proposed project would not result in a significant impact to water consumption.

Biological Resources

Litter can have important impacts on biological resources inside and outside of San Francisco. As stated above, single-use plastic bags are a major source of litter. Impacts occur when single-use plastic bags are not properly disposed or recycled, and, regardless if single-use plastic bags are or are not properly disposed of, these bags may be blown away from receptacles or landfills due to their light weight and slow biodegradability time. When single-use plastic bags enter the environment as this litter, plastic debris can negatively impact wildlife species. Over 260 species of wildlife, including invertebrates, turtles, fish, seabirds, and mammals, have been reported to ingest or become entangled in plastic debris. The results include impaired movement and feeding, reduced reproductivity, lacerations, ulcers, and death. Single-use plastic bags are currently allowed at all businesses in San Francisco except those defined as "stores" in the existing San Francisco Plastic Bag Reduction Ordinance. The proposed project would expand the definition of stores, thereby eliminating single-use plastic bags from retail and food establishments. This would protect the environment and associated biological resource impacts from single-use plastic bag litter.

As stated above, the proposed project would eliminate single-use plastic bags and as a result, the proposed project would result in greater use of single-use paper bags, single-use compostable bags, and reusable bags. An increase in single-use paper bags and reusable bags would result in fewer biological resource impacts than under existing circumstances because these bags would result in less litter than single-use plastic bags and paper bags may be chewed and digested effectively by many animals. An increase in single-use compostable plastic bags would result in similar impacts as single-use plastic bags because of litter. However, single-use compostable plastic bags would biodegrade at a considerably faster rate than single-use plastic bags, thereby reducing the potential exposure time to wildlife species. In

[27] Refer to "Background on Charging for Single-Use Checkout Bags and User Choice" section above for studies.

addition, the proposed project would impose a fee on all allowable single-use bags, including recycled-content paper and compostable, and studies have shown that establishing a fee results in an increase in reusable bag and no bag use and a decrease in single-use bag use.[28] Lastly, the proposed project would include a public education campaign aimed at promoting reusable bags to further reduce impacts from single-use carryout bags. Therefore, the proposed project would result in a beneficial impact to biological resources.

Summary of Environmental Impacts

Single-use plastic bags have known environmental impacts to aesthetics, air quality and GHG emissions, hydrology and water quality, water usage, and biological resources. The proposed project would eliminate single-use plastic bags at "stores" within San Francisco, thereby protecting the environment from the impacts associated with single-use plastic bags. By eliminating single-use plastic bag use at more "stores" covered by the ordinance, the proposed project would result in greater use of single-use paper bags, single-use compostable bags, and reusable bags. Single-use paper bags and compostable bags have greater environmental impacts on air quality and GHG emissions and water usage than single-use plastic bags and reusable bags (or no bag at all) have lesser environmental impacts in all categories than single-use plastic bags. Studies have shown that banning single-use bags and imposing a mandatory charge on single-use paper and compostable bags results in an increase in reusable bag and no bag use and a decrease in single-use bag use. Because the proposed project would ban single-use plastic bags and impose a mandatory charge on single-use paper and compostable bags at all "stores" in San Francisco and the proposed project would include a public education campaign aimed at promoting reusable bags, the proposed project would protect the environment and not have a significant impact on the environment.

Exempt Status and Conclusion

The California Environmental Quality Act (CEQA) Guidelines Section 15307, or Class 7, provides for the exemption from environmental review the "actions taken by regulatory agencies as authorized by state law or local ordinance to assure the maintenance, restoration, or enhancement of a natural resource where the regulatory process involves procedures for protection of the environment." Alternatively, CEQA Guidelines Section 15308, or Class 8, provides for the exemption from environmental review the "actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment." Therefore, the proposed adoption of the Expansion of the Plastic Bag Reduction Ordinance would be exempt under Classes 7 and 8.

CEQA State Guidelines Section 15300.2 states that an environmental exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances. No unusual circumstances surrounding the current proposal exist that would suggest a reasonable possibility of a significant effect. The proposed project would be exempt under the above-cited classifications. For the above reasons, the proposed project is appropriately exempt from environmental review.

[28] Ibid.