



January 4, 2009

TO: Programs & Planning Committee

FROM: Gary Wolff

BY: Debra Kaufman

SUBJECT: Plastic bag bans

**BACKGROUND:**

At the October meeting, the Programs & Planning Committee asked for an update on the issue of plastic bag bans. In July 2008 staff provided another memo on this topic (Attachment A) with respect to whether it is better to ban carry-out retail plastic bags, or to promote the recycling of such bags. That memo concluded that increased convenience and availability of recycling opportunities do not necessarily result in noticeable reductions of plastic bag litter. The best solution is to promote reusable bags and significantly reduce the total consumption of single use carry-out bags, both plastic and paper, by consumers. Eliminating “free” checkout bags, and requiring consumers to purchase the bags they need, is the single most effective tool to reduce overall consumption of single-use bags. Currently, state law (AB 2449, 2006) in California prohibits the adoption of local fees on plastic carryout bags until January 1, 2013. Given that, many jurisdictions have moved to ban plastic bags. This memo provides an update on jurisdictions who are addressing this issue.

**INFORMATION:**

Plastic bags are a growing environmental problem. Plastic bags serve as a major source of urban litter, a cost to local municipalities, a threat to wildlife, a source of urban blight, and a major component of oceanic pollution. Several organizations are working on the reduction of plastic bag use and litter in the state of California, including Californians Against Waste, Save the Bay, Clean Water Action and the Ocean Protection Council. Our 2008 Waste Characterization Study found 9,775 tons of plastic bags per year going to the landfill. That doesn't include the amount that gets littered.

As one of their major campaigns, Californians Against Waste is tracking local government and state action on the issue of plastic bag bans and reduction and provided much of the information contained in this update.

- Californians use up to 19 billion plastic bags annually, the vast majority of which are landfilled or littered.
- Plastic bags are lightweight and aerodynamic, so even when “properly” disposed of in a receptacle they are easily blown away.
- Plastic bags end up in our storm drains and waterways, choking birds and entangling birds and other wildlife.
- Many plastic bags find their way to the ocean, where they join a garbage patch in the Pacific reportedly twice the size of Texas and containing 46 times more plastic than plankton.
- Plastic bags essentially never biodegrade. Instead, the sun breaks them into small pieces that attract ambient toxins and infiltrate the ocean food web.
- Plastic bags are a major problem for recyclers because they choke the machines used to sort material.
- Plastic bags are a major problem for landfills as a litter component and for composters as a contaminant.

### **Local Government Action & Industry Opposition**

To address the numerous concerns with plastic bags, a number of municipalities (described below) have adopted ordinances or tried to adopt ordinances prohibiting the distribution of plastic bags.

A coalition of plastic bag manufacturers, "Save the Plastic Bag", have sued or threatened to sue most of the municipalities that have introduced or adopted plastic bag bans. The suits assert that the ordinances are projects subject to CEQA and that they require full environmental impact reports (EIRs).

### **Master Environmental Assessment on Plastic Bags:**

To help cities address industry opposition and the need for an EIR, Green Cities California, a consortium of municipalities, along with a contribution and participation by our Agency, is currently overseeing preparation of a master environmental assessment (MEA) for plastic bag bans. The MEA would provide local governments with a summary of research about the impacts of restricting the use of single-use plastic shopping bags, or of imposing fees on disposable shopping bags. This should help local governments reduce the cost and time needed to prepare an Environmental Impact Report (EIR) to assess the potential impacts of such ordinances. A draft of the MEA is expected in January with the final to be completed in February. This document, along with EIRs from San Jose and LA County, expected to be completed in the next few months, can serve as templates for cities interested in adopting a local ordinance. The scope of work for the MEA is attached (Attachment B).

**Berkeley:** The City of Berkeley is proposing a Bag Reduction Ordinance which includes a ban on all retail plastic bags and a fee on large paper bags. Berkeley prepared a Negative Declaration

of Environmental Impacts rather than a full EIR. Their ordinance goes to Council on February 23, 2010.

**Industry Opposition:** The industry group suing the other cities, Save the Plastic Bag, has threatened to sue Berkeley because they felt that the originally proposed 25-cent paper bag fee would be an incentive for retailers to promote paper bag use. This, and other public comments, has led Berkeley to recommend a 15-cent paper bag fee, which is closer to the actual price point of a large paper bag.

### **San Jose:**

In September 2009, city staff was directed by the City Council to develop an ordinance that bans plastic and paper carryout bags, with an exemption for paper bags made of 40% recycled content. City staff were also directed to evaluate a store charge on the exempt paper bags. Restaurants and food establishments would be exempt from the ban. Vegetable bags and plastic bags from the meat counter would also be exempt.

Staff were also directed to complete an EIR on the plastic and paper carryout bag ban. The EIR is expected sometime in Spring 2010, with an expectation that the ordinance would go into effect no earlier than 2011.

### **Industry Opposition:**

The Save the Plastic Bag coalition has threatened to sue San Jose on their proposed ordinance. The City is currently preparing a complete Environmental Impact Report on the proposed ordinance.

### **San Francisco**

March 2007

Supermarkets and large pharmacies are only allowed to distribute reusable bags, paper bags that are 100% recyclable and contain at least 40% post-consumer content, and compostable plastic bags.

As the first plastic bag ban, S.F.'s ordinance escaped the plastic industry's attention. The second proposed ordinance, which was Oakland's, attracted industry attention in the form of a lawsuit.

### **Oakland**

July 2007

Adopted an ordinance prohibiting all retail establishments with annual sales exceeding \$1 million, excluding restaurants, from distributing plastic bags. Allowed alternatives to plastic bags are reusable bags, paper bags that are 100% recyclable and contain at least 40% post-consumer content, and compostable bags.

**Industry Opposition:** The plastics industry sued the City and the Court suspended the ordinance until an EIR is prepared.

**Fairfax**

August 2007

All stores, shops, eating places and retail food vendors are only allowed to distribute reusable bags, paper bags that are 100% recyclable and contain at least 40% post-consumer content, and compostable plastic bags.

**Industry Opposition:** The plastic industry sued Fairfax, but dropped the lawsuit after the town council suspended the ordinance. The ordinance was reinstated by voter initiative with 79% of Fairfax voters approving of the ban. There has been no further legal action because voter initiatives are exempt from CEQA.

**Los Angeles County** January 2008

The Board of Supervisors has stated that they will vote to ban plastic bags if supermarkets and large pharmacies have not reduced plastic bag distribution 30% by 2010 and 65% by 2013. The County will establish a voluntary program to aid stores in achieving those goals.

**Industry opposition:** A lawsuit is pending but the ordinance is still active. Los Angeles County is in the process of preparing a full EIR.

**Malibu**

May 2008

Retail establishments, restaurants, and vendors are prohibited from distributing plastic bags. Allowed alternatives to plastic bags are reusable bags, paper bags that are 100% recyclable and contain at least 40% post-consumer content, and compostable bags.

It is unclear why the industry did not sue Malibu, but they are the only city that we are aware of that was not threatened with a lawsuit, subsequent to the S.F. ordinance.

**Los Angeles City** July 2008

The City Council will vote to ban plastic bags if the Legislature does not establish a per-bag fee by January 1, 2010.

**Manhattan Beach** July 2008

Retail establishments, restaurants, and vendors are prohibited from distributing plastic bags. Allowed alternatives to plastic bags are reusable bags, paper bags that are 100% recyclable and contain at least 40% post-consumer content, and compostable bags.

**Industry Opposition:** The industry sued Manhattan Beach and the Court suspended the ordinance until an adequate EIR is prepared.

**Palo Alto**

March 2009

Large supermarkets are prohibited from distributing plastic bags. Allowed alternatives to plastic bags are reusable bags, paper bags that are 100% recyclable and contain at least 40% post-consumer content. When adopted, the Council announced its intention to vote to expand the scope to all retail outlets and investigate a fee on paper bags.

**Industry opposition:** The industry threatened to sue Palo Alto and they reached a settlement wherein the ordinance applies to a limited number of stores and the city agreed not to expand the scope of their ordinance without first preparing an EIR.

**State Legislation**

The legislature is currently considering two plastic bag bills, AB 68 (Brownley) and AB 87 (Davis), which would put a \$0.25 fee on paper and plastic bags. The bills are very similar to AB 2058/2769 (Levine) from the last legislative session, which was held in the Senate Appropriations committee.

**RECOMMENDATION:**

Staff will continue to follow these developments and return to the Board with an update and a report on the Master Environmental Document after its completion.

Attachment A: \_\_\_\_ PROVIDE AS A LINKED DOCUMENT

Attachment B: \_\_\_\_ PROVIDE AS A LINKED DOCUMENT

Attachment A



July 15, 2008

**TO:** Waste Management Authority  
**FROM:** Karen Smith, Executive Director  
**BY:** Tom Padia, Recycling Director  
**SUBJECT:** Retail Plastic Bags – Ban vs. Recycle

At the March 26, 2008 meeting Board member Lieber requested a staff report on the issue of regulatory approaches to dealing with consumer plastic bags. Specifically, the question was posed whether it is better to ban carry-out retail plastic bags, or to promote the recycling of such bags. This report is in response to that question. It is intended as a brief summary overview of the issues within the current political context, not as an exhaustive piece of research and analysis.

### **FRAMING THE ISSUE**

The debate over how best to deal with plastic bags has been primarily fueled by litter and pollution concerns – both on land and in the marine environment – not necessarily by the resource use issues driving many other recycling and waste prevention campaigns. Given the profligate use of “free” plastic bags in today’s retail sector, large and visible numbers of these bags wind up in fields, trees, hedges, gutters, lakes, storm drains and, ultimately, the ocean. Even when properly disposed, their kite-like qualities can result in additional wind-blown litter. Anyone who has visited the landfills in Eastern Alameda County can attest to the quantities of plastic bags blown from the active landfill into adjacent hillsides and litter screens.

It has been estimated that over 10% of the man-made debris washed up on the U.S. coastline is plastic bags. Results from a cleanup project of the L.A. River in Southern California estimated that 45% by volume of the litter collected was plastic film. The Santa Clara Valley Urban Runoff Pollution Prevention Program estimates that 60% of the litter in Bay Area creeks is plastic. Plastic bags clogging storm drains and gutters have been fingered as the cause of flooding in parts of the world, and plastic pollution in the marine environment has been documented as a deadly hazard to at least 267 different species of birds, turtles, and marine mammals who suffer either from entanglement or ingestion of plastics mistaken for food. Many people have viewed the documentary by the Algalita Marine Research Foundation, *Synthetic Sea*, about the North Pacific Subtropical Gyre, a 10-million square mile oval of ocean where tests have confirmed that the mass of plastic in the surface waters is six times that of plankton.

The most frequently sampled types of identifiable plastic were thin films and polypropylene/monofilament line. The most frequently sampled type of unidentified plastic was plastic fragments. Cumulatively, these three types accounted for 98% of the total plastic pieces.

Plastic bag litter problems world wide have caused disgusted citizens to declare the plastic bag their “national flower” or “national flag”. Estimates of worldwide use of plastic bags range from 500 billion to 5 trillion annually, with less than 1% recycled and approximately 80% consumed in North America and Western Europe. It is estimated that 19 billion plastic bags are consumed each year in California. This translates to 600 per second, and 500 per year for every man, woman and child in the state. Less than 5% are recycled.

## **HISTORY & PROFILE**

The use of plastic bags for carry-out in supermarkets began in 1977. Most plastic bags are blown polyethylene films made from natural gas and formulated into either High Density Polyethylene (HDPE) or Low Density Polyethylene (LDPE). Typical carry-out supermarket bags with built-in handles (the kind that “crinkle” when scrunched) are HDPE and vary in thickness from 15-70 microns. Some department store bags and many produce bags and trash can liner bags are LDPE (does not “crinkle” when scrunched) and vary in thickness from 25-150 microns. HDPE is stronger than LDPE but is not as tear-resistant. Other plastic film consumer applications include dry cleaning bags, newspaper bags and wrappers around toilet paper and paper towels.

A recent plastics industry-sponsored report detailed that over 70% of the plastic film currently recycled in the U.S. is from agricultural and commercial sources. Only 3% is from curbside collection and 27% is from “Mixed” sources. The primary commercial application of plastic films is in transport packaging – e.g. “pallet-wrap.” The main obstacle in collecting plastic film from residential post-consumer sources is contamination – e.g. paper receipts, moisture, food residue. Approximately 67% of the domestically-collected film is used in the production of plastic lumber and about 25% is exported. The percentage of export from the West Coast is higher than the national average.

The primary alternatives to single-use carry-out plastic bags are single-use paper bags and customer-supplied reusable cloth or plastic bags. There has also been considerable focus on “compostable” plastic bags due to recent actions by the City and County of San Francisco and the proliferation, at least in the Bay Area, of curbside food scraps collection programs.

Paper bags, although biodegradable and produced from a potentially renewable resource, are considerably heavier than plastic bags, are not waterproof, consume more energy in their production, result in more greenhouse gas release, and often do not have handles. It is estimated that about 50% of all kraft paper bags are recycled.

Compostable plastic bags (a relatively new entry onto the scene) are heavier than regular film bags and more costly (but comparable to paper in cost). Such bags are difficult to distinguish visually from normal plastic bags and are a serious contaminant to plastic film recycling (HDPE and LDPE).

## **LEGISLATIVE ACTION**

A number (ever-growing) of countries and jurisdictions around the world have banned plastic bags outright or imposed fees or restrictions on their use. China has banned the production of the

thinnest bags (<25 microns thick) and the “free” giveaway of any other plastic bags. Ireland in 2002 imposed a 15¢ (Euro – approx. \$0.24 U.S.) tax on plastic bags handed out at point-of-sale. In its first year the tax resulted in over a 90% drop in consumption of plastic bags, from 328 per person per year to 21 per person per year, while raising \$15 million Euros per year (approx. \$24 million U.S.) in tax revenues. In recent years the per capita plastic bag consumption in Ireland has crept upwards to 30 per person per year, resulting in a new initiative that raised the tax to 22¢ Euro (\$0.35 U.S.). Success of the tax in reducing plastic bag use is attributed to both consumer frugality and an abiding aversion to paying taxes to the government. The tax has resulted in much greater use of reusable bags by shoppers.

In 2005 the City and County of San Francisco was considering a fee on both plastic and paper bags given out at the checkstands of large supermarkets and pharmacies. In a compromise agreement with retailers and bag manufacturers, San Francisco officials agreed to postpone consideration of the fee proposal for a year in exchange for retailer promotion of bag recycling and reduction of bag use (reusable bags), and reporting the number of bags given out and recycled in the City. The stated goal was a reduction of 10 million bags by the end of 2006. During the course of that one year pilot, AB 2449 (Levine) was passed and signed into law in Sacramento, requiring recycling bins and signage for plastic bags at all supermarkets in California, and reporting to the State on quantities recycled. A last minute amendment to the legislation, promoted by an association of the seven largest bag manufacturers who make over 90% of the bags used nationally, pre-empts local governments from imposing fees on checkout bags in California.

At the end of the one year trial in San Francisco, city officials claimed that the retailers did not report bag use and recycling in a manner that allowed them to calculate the number of bags reduced. San Francisco officials felt that the bag manufacturers and the retailers had not negotiated in good faith, and enacted an ordinance in 2007 that allows the use of only clearly labeled compostable plastic bags at large supermarkets and pharmacies. There was a six month phase-in for supermarkets and a one year phase-in for pharmacies. Compostable bags that meet the ASTM standard for compostability do not necessarily break down in landfills, when littered or in the marine environment. However, when used to contain food scraps or other organic materials and when processed in a controlled composting facility with adequate heat and moisture for the required length of time, they do break down.

Subsequent similar efforts to ban traditional plastic bags at the local level (e.g. Oakland) have been challenged successfully on CEQA grounds (as requiring environmental review) by the same alliance of large bag manufacturers that lobbied for the local pre-emption of bag fees in AB 2449.

Currently, AB 2058 (Levine, Brownley, Davis) is alive as of this writing in the California legislature. This bill, which at one time applied to both paper and plastic carry-out bags but now only covers plastic, requires large supermarkets and pharmacies to increase diversion of plastic bags 70% over 2007 levels by 2010 or else to charge a minimum \$0.25 fee per bag at checkout (Note – this means that a store diverting 5% of their plastic bags in 2007 would need to increase that rate by 70%, to 8.5%, by the end of 2010). Stores charging the per-bag fees would be required to use the revenues for recycling, litter clean-up and waste prevention programs. This bill has been a “moving target” and has been amended multiple times so far.

## **CONCLUSION**



Litter impacts of plastic bags are the primary “problem” that most public policy advocates are attempting to solve. Increased convenience and availability of recycling opportunities, while offering those motivated to “do the right thing” to recycle more of their film plastics, do not necessarily result in noticeable reductions of plastic bag litter. Similarly, use of compostable plastic bags may not necessarily result in litter reduction. The clearly superior solution is to promote reusable bags and significantly reduce the total consumption of single use carry-out bags, both plastic and paper, by consumers. Eliminating the “free” checkout bags and requiring consumers to purchase the bags they need, either in rolls or packages off the shelf or at the checkout stand (by way of a fee) is the single most effective tool to reduce overall consumption of single-use bags. Currently, state law in California prohibits this course of action.

Hefty fees on single-use bags at the checkout stand, together with convenient opportunities to recycle post-consumer film (produce bags, plastic bags from department stores and other retailers, newspaper bags, dry cleaning bags, etc.) would together comprise the most environmentally preferable and effective course of action. Within the current legal framework, local jurisdictions may search for actions that will withstand legal challenge and that will result in significant reduction of the 500 bags per person per year consumed in California, presumably through encouraging increased use of reusable bags. At the same time, efforts to remove the state pre-emption on local fees should continue to be supported.

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Attachment B  
MEA Scope of Work

## MEA on Single-Use and Reusable Bags

### Scope of Work

Green Cities California

July 24, 2009



# Contents

1. Overview of the Project.....11
2. Experience with Similar Projects**Error! Bookmark not defined.**
3. Qualifications of Team Members**Error! Bookmark not defined.**
4. Three Professional References**Error! Bookmark not defined.**
5. Conflicts of Interest . **Error! Bookmark not defined.**

## 1. Overview of the Project

Single-use plastic shopping bags are nearly indestructible items with a very low recycling rate. Once introduced into the environment, they litter roads and beaches, wash into waterways and the ocean, and are ingested by wildlife (leading to health problems or death). Green Cities California (GCC) has an interest in reducing the amount of plastic litter that is being deposited in California's coastal waters and has encouraged local governments to adopt measures to restrict single-use plastic bags.

Several California local governments have attempted to adopt ordinances that ban or restrict the use of plastic shopping bags. With the exception of the City of San Francisco, the first to adopt such an ordinance, these attempts have been stymied by litigation brought under the California Environmental Quality Act (CEQA). The key argument presented by opponents is that restricting plastic bags may result in an increase in the use of paper shopping bags that would result in a significant environmental impact.

GCC wishes to prepare a Master Environmental Assessment (MEA) that would provide local governments a one-stop reference about the impacts of restricting the use of single-use plastic shopping bags, or of imposing a fee or other restriction on all disposable shopping bags. This MEA could then be used by local governments in the preparation of Environmental Impact Reports (EIRs) to assess the potential impacts of such ordinances. The MEA would reduce the cost and time of preparation of agencies' EIRs by reducing the need for independent research.

ICF Jones & Stokes proposes a budget of \$67,270 to perform the seven tasks described in this technical approach. We assume that the MEA will be prepared using existing data only; if additional analysis and generation of new data is required to support the impact analysis, we will discuss with GCC and request authorization for any additional funds in advance.

### 1a. Approach

**TASK 1: KICK-OFF MEETING.** Prior to the kickoff meeting, ICF Jones & Stokes will contact by telephone or e-mail up to 20 cities and counties that have provided letters of support to GCC and query them as to their MEA issues and preferences. We will bring a summary of their responses to the kick-off meeting.

**TASK 2: LITERATURE RESEARCH.** ICF Jones & Stokes will conduct a comprehensive literature review of readily-available studies from the United States and abroad. Topics will include the environmental impacts of single-use and reusable bags, comparative analyses of imposing fees or bans on single-use bags, as well as mitigation strategies that might be included as part of life-cycle studies. Depending on the number of studies available, we may need to focus on the most common type of plastic resin. Areas

of impact analysis will include energy, greenhouse gas (GHG) emissions, biological resources, water quality, waste, and transportation. The literature review will include the rate at which “recycled” bags are being disposed of rather than recycled. ICF Jones & Stokes is affiliated with the Harmer E. Davis Library at UC Berkeley, which provides access to most electronic peer-reviewed journals worldwide. We also have access to data on energy requirements to produce various plastic resins and paper materials using 100% virgin and 100% recycled inputs. Our analysis will focus on bags that are provided by stores that are subject to Assembly Bill 2449 (Chapter 845, Statutes of 2006). The literature research will also include the study “A Microbiological Study of Reusable Bags and ‘First or single-use’ Plastic Bags”, published by Dr. Richard Summerbell.

**TASK 3: GAP ANALYSIS.** After the completion of the literature research, ICF Jones & Stokes will conduct a selection of the studies in the literature that will be included in the MEA. This selection will be based on the following criteria: (1) credibility of journal/ publication, (2) appropriate documentation of data sources and assumptions, (3) clarity of system boundaries, (4) use of appropriate functional unit, and (5) age of study. Following the selection of studies, we will identify whether there are areas that are not properly addressed by the current literature. We do not anticipate that additional technical studies will be required. However if we find during the initial review of the reference materials that there are data gaps, we will immediately notify GCC staff of any additional document research that may be required to support the MEA. We have included in our budget a limited amount of time for additional research. If GCC staff agrees that this additional research is worthwhile and it would exceed our budget for additional research, then we will request additional funding of GCC.

**TASK 4: OTHER BAGS.** ICF Jones & Stokes will provide GCC an estimate of the cost and time necessary to expand the scope of the literature review to include other bags, such as those available from stores that are not subject to AB 2449 of 2006 or that are outside AB 2449’s definitions of plastic carryout bag and reusable bag. If GCC staff agrees that this additional research is warranted, we will request additional funding.

**TASK 5: MEA PREPARATION.** ICF Jones & Stokes will review readily-available information from the United States and abroad and compile pertinent information from reliable sources in the form of an MEA. The MEA will focus primarily on information available about shopping bags and their environmental impacts. This may include related issues such as aesthetic, biological, and water quality impacts when in the context of the literature on shopping bags.

**Life-Cycle Framework**—The MEA’s compilation of data from existing life-cycle studies needs to be preceded by a general discussion of the life-cycle phases of different types of bags, selection of system boundaries, functional units, and environmental metrics (e.g., energy use, GHG emissions, waste generated). In order to provide an “apples to apples” comparison of results from different life-cycle studies, we will evaluate whether system boundaries, functional units, and metrics are equivalent amongst different studies. In case they are not, we will evaluate whether it is feasible to adjust the results to enable such comparison, or if we will need to report those results separately from other studies.

**Shopping Bags**—Our data inquiry will examine single-use plastic shopping bags, single-use paper shopping bags, single use compostable bags, multiple-use plastic bags, and multiple use cloth bags. For each of these types of bags, we will review the available literature and compile information on the following issues, to the extent that such information is encountered in the literature review:

- A general description, based on available sources, of the manufacturing process for each of the five types of bags (for MEA purposes, we will attempt to distinguish between cloth bags made of natural materials vs. those made of petrochemicals, if possible).
- Life-cycle impacts of bag manufacture, including air quality and water quality impacts to the extent that such information is available, and the indirect impacts of and on feedstocks.
- The level of bag recycling in California, and current volume of bags entering landfills or being shipped overseas for disposal.
- Statewide waste stream volumes entering municipal landfills within California (to provide a baseline for potential impacts of increases in paper bag use).
- The capacity of typical shopping bags in each of the four categories (to allow comparisons across type).
- Any possible mitigation strategies related to the use of single-use bags, fees, or bans.

**Fees and Bans**—Our data inquiry will also examine comparative analyses of imposing fees or bans on single-use bags.

**Trash TMDLs**—ICF Jones & Stokes will prepare a summary of federal and state water quality standards relating to trash, and regulations adopted and proposed by the Regional Water Quality Control Boards (RWQCBs) to eliminate trash from surface waters. The summary of RWQCB trash TMDLs will highlight the roles played by plastic and paper bags in the stream of litter/trash being addressed by these regulations.

**References**—ICF Jones & Stokes will compile a list of the references used in the MEA and where they can be obtained.

**TASK 6: PEER REVIEW.** We will prepare an administrative draft MEA for the review and comment of GCC staff (the contents of the MEA are described below). We will provide GCC staff with an electronic copy of the administrative draft MEA in PDF or Microsoft Word format, as GCC may prefer. GCC may compile public comments as well as comments from the Ocean Protection Council Science Advisory Team and others as appropriate. We will revise the MEA per the comments and submit a final MEA for adoption by GCC. We will deliver the final MEA after two weeks of receiving the compiled list of comments.

**TASK 7: MEETING ATTENDANCE.** ICF Jones & Stokes staff will participate in one meeting of GCC and the Ocean Protection Council to present the MEA and answer questions regarding the MEA.

**TASK 8: ECONOMIC ANALYSIS / LOCAL IMPACT CALCULATOR.** Once the draft MEA is available for peer review, ICF Jones & Stokes will query GCC staff as to whether they have the resources and interest in having us evaluate the available data and studies on the economic impacts of fees and bans of different types of bags. If GCC decides to commission this analysis, we will also evaluate the possibility of developing a local impact calculator, which would determine the impacts of proposed regulations (e.g., total ban, fees) on the use of different types of bag. The development of such a tool depends on two important factors: (1) the availability of studies that can reliably predict the effects of regulations on the use of bags, and (2) the applicability of existing calculation methods for other types of cases. Because of the uncertainties involved in the possibility and the level of effort required to develop such calculator, the

actual development of the calculator has not been included in our budget. Should the development of such a tool be possible and straight-forward, we will advise GCC on the resources required to do so.

## 1b. Proposed MEA Outline

1. Description of the MEA and its intended use
2. Overview of the issue
3. Single-use plastic bag data
4. Single-use paper bag data
5. Single-use compostable bag data
6. Multi-use plastic bag data
7. Cloth bag data
8. Fees and bans data
9. TMDL Review
10. References

## 1c. Proposed Timeline

<u>TASK 1 – KICKOFF MEETING</u>	2 weeks
<u>TASK 2 – LITERATURE RESEARCH</u>	1 month
<u>TASK 3 – GAP ANALYSIS</u>	1 month
<u>TASK 4 – OTHER BAGS</u>	With Task 2
<u>TASK 5 – MEA PREPARATION</u>	2 months
<u>TASK 6 – PEER REVIEW</u>	2 months
<u>TASK 7 – MEETING ATTENDANCE</u>	1 week