Attitudes toward Marine Wildlife among Residents of Southern California's Urban Coastal Zone

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ATTITUDES TOWARD MARINE WILDLIFE AMONG RESIDENTS OF SOUTHERN CALIFORNIA'S URBAN COASTAL ZONE

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EXECUTIVE SUMMARY

Overall Findings

The coastal zone of the Los Angeles metropolitan region is one of the most populous and culturally diverse urban settings in the United States, and is one of California's most important economic and environmental resources. Yet, this highly valuable asset is increasingly threatened by development and human encroachment into dwindling coastal wildlife habitat. In addition, conflicts over issues pertaining to human interactions with marine wildlife are becoming more commonplace. This project was undertaken to gain a better understanding of relationships between cultural diversity and attitudes toward marine animals in urban settings. Despite the importance of southern California's coastal zone and the potential for cross-cultural conflict, little prior research has focused on culture-based attitudes toward marine wildlife and habitats. Further, there is a paucity of information regarding how members of disparate ethnic groups utilize coastal resources in Los Angeles, and how their practices and perceptions might impact the coastal zone and marine wildlife in the long term.

The study, consisting of a telephone survey of Los Angeles county residents, was based on previous attitudinal research, and designed to determine how demographic traits, socio-economic status, personal background features, and past or present geographic and cultural context might shape attitudes toward marine wildlife in the Los Angeles coastal zone. Specifically, we were interested in how population groups with culturally distinct traditions of nature/society relationships, might vary in regard to attitudes toward marine wildlife and the coastal zone. The total survey population was divided into the following categories: White, African American, Latino, and Asian-Pacific Islander.

The survey instrument was comprised of questions and statements surrounding respondents' demographics, beach utilization and activities, knowledge about marine wildlife and the coastal zone, stance on policy issues, attitudes, attitudinal change, and cross-cultural attitudes. Attitudinal responses were grouped as either anthropocentric or biocentric, and further classified into ten attitudinal categories. Anthropocentric attitudes included: Utilitarian-Dominionistic; Utilitarian-Stewardship; Negativistic; Aesthetic; Animal Welfare; and Spiritualistic/Supernatural. Biocentric attitudes included: Environmental-Naturalistic; Environmental-Stewardship; Animal Rightist; and Coexistence. In order to gauge respondents' attitudes toward controversial, cross-cultural practices – or tolerance toward what are often considered controversial interactions with animals, statements regarding culturally sensitive practices involving animals and nature were included in the survey. Respondents were also queried as to whether they felt looked down upon – or stigmatized – for their own animal practices.

The overall sample was divided between those who were relatively well educated and affluent, and those who had less education and far lower incomes. Most were under age 45. Whites and Latinos comprised 70 percent of the sample and were represented in almost equal numbers. African American and Asian-Pacific Islanders were also similarly represented, comprising of 12 and 10 percent, respectively. The remainder of the sample fell into the "other" category. This roughly reflects the general demographic composition of the county, although

African Americans and Asian-Pacific Islanders were somewhat oversampled. A majority of survey respondents identified themselves as Christian, and more than half were U.S. born. Mexico was the most common country of origin among non-U.S. born respondents, followed by China. The vast majority of all respondents had lived in the U.S. for longer than two years.

Most respondents felt they had adequate access to the beach and had visited the coastal zone within the past two years. Many participated in activities such as sunbathing, swimming, walking on the beach, whale watching or looking for wildlife, playing volleyball or Frisbee, or building sandcastles, and most noticed marine wildlife, during their visits. In terms of their knowledge surrounding coastal issues, more than half of all respondents were aware that pollution caused the endangerment of Brown pelicans. Fewer were aware of other threatened and endangered marine species. However, a majority was ignorant of health threats from the consumption of local fish. With respect to local policy issues most respondents favored some type of action to protect marine wildlife and the coastal zone.

Overall, respondents exhibited strong Environmental-Stewardship and Aesthetic attitudes, as well as moderately strong Animal Welfare, Animal Rights, and Environmental-Naturalistic attitudes. Other types of attitudes were much more weakly expressed. For the most part, attitudinal change since childhood was significant, with half indicating that some change had occurred. In general, negativistic and supernatural attitudes had waned, while environmental stewardship and coexistence attitudes, and appreciation for the ecological value of animals had become much stronger, as had utilitarian attitudes and animal rights and welfare attitudes, although to a lesser extent. Attitude change was attributed to greater knowledge about animals, in particular, increased awareness of the ecological importance of animals. When questioned about their perspectives on culturally linked animal practices, respondents were relatively intolerant of those associated with other race/ethnic groups. Exceptions included certain Western practices, such as eating factory farmed meats and spending a lot of money on pets, which are condoned by the general U.S. population. Over 40 percent felt that at some point they had been looked down upon for their own animal practices.

Differences in attitudes across race/ethnic groupings were marked. The strongest contrasts were between Latinos and Asian-Pacific Islanders: the former being far less anthropocentric. Asian-Pacific Islander respondents exhibited a more utilitarian attitude than the other groups and were much less likely to support animal welfare statements. In contrast, Latinos were far more biocentric than other groups, and had the highest mean Environmental Stewardship score. Latinos were typically the most aesthetically oriented, and were also more supportive of statements in favor of human-animal co-existence. Whites and African Americans tended to fall in the middle of the range of responses. Asian-Pacific Islanders and African Americans had the most strongly negativistic responses to marine animals. About half of African Americans, whites, and Latinos, felt that their thinking had shifted since growing up, with large shares reporting dramatic shifts in thinking about stewardship, coexistence, and animal rights views, as well as increased appreciation for the utilitarian value of animals. Over 60 percent of Asian-Pacific Islanders reported that their attitudes toward animals had changed since childhood. The share citing specific changes in attitude (toward stewardship or coexistence, for example) was sharply lower among Asian-Pacific Islanders than among other subgroups.

Tolerance of the culture-specific animal practices of others was fairly low among all groups. The least tolerant group was Latinos, while whites tended to be the most tolerant. Asian-Pacific Islanders and African Americans, though in general, less tolerant than whites, were more tolerant of certain practices. Littering the beach and donating unwanted pets to research labs were the least tolerated practices across all groups. The majority of respondents in all groups were intolerant of whale hunting, animal sacrifices, eating turtles or dogs, bullfights, dogfights, cockfights, veal crates, horse tripping, calf roping and ear cropping/tail docking. Asian-Pacific Islanders were most tolerant of eating turtles and dogs, dog fighting and cockfighting, practices associated with some Asian-Pacific Islander cultures. They were also tolerant of the western practice of factory farming, which is consistent with their utilitarian dominionistic attitudes. Interestingly, Latinos were less tolerant of practices often associated with Latino culture, such as bullfights, dog and cockfighting, and horse tripping, a staple of Mexican-style rodeo.

Many respondents felt people looked down on them or thought they were strange because of their animal practices and attitudes. This overall response rate did not vary significantly by race/ethnicity, but certain practices elicited higher rates of stigmatized feeling than others, especially regarding which animals were eaten, and believing that animals have rights. African Americans had higher rates of stigma on questions related to these practices.

Multivariate analyses conducted to better understand the structure of attitudes toward marine wildlife, produced several key findings. First, across all groups, stronger anthropocentrism is generally linked to being older, foreign-born, having lower income and education; using the beach more often and utilizing more varied marine/coastal information sources; having low levels of marine environmental knowledge; and being against marine wildlife protections. In contrast, stronger Biocentrism, while also be associated with being foreign-born and having lower income and educational attainment, was related to being non-Christian in terms of religious affiliation, living in a larger urban place, accessing more varied information sources as well as having more knowledge of marine wildlife, and being in favor of marine wildlife protections. Differences across race/ethnic groups were clear, but anthropocentrism in all subgroups was linked to being against marine wildlife protections, and biocentrism in all subgroups was related to being in factor of such protections.

Second, we discovered many similar patterns of explanation for more detailed attitude index variables across groups, and many results for attitudes that have been studied before (such as utilitarianism and animal welfare) conformed to expectations. Findings on more innovative indices revealed that higher Supernatural attitude scores were linked to being older, foreign born, having less education but more marine information sources, and favoring environmental protection – suggestion that, along with Animal Welfare attitudes, having Supernatural (and hence anthropocentric) sentiments does not preclude support for environmental protections for marine wildlife. Animal Rights and Coexistence attitudes were associated with being female (as expected), younger, having more environmental knowledge, and favoring marine wildlife protections. Significance of explanatory factors varied widely across groups for most attitude index variables, demonstrating again race/ethnic differences in attitude patterns.

Third, we found that higher levels of tolerance toward controversial animal practices was linked to being male, Christian, an immigrant, having more education and income, being a

beach-goer, having more environmental knowledge, and favoring marine wildlife protections. In addition tolerance was associated with stronger Utilitarian-Stewardship, Aesthetic, and Negativistic scores, and lower Animal Welfare and Animal Rights scores. Backwards stepwise models revealed race/ethnic contrasts. Results also indicate that that gender and race are significantly related to tolerance (with women and nonwhites less tolerant), as were education income, age, and nativity (those with higher socioeconomic status and born in the U.S. more tolerant). Stronger indication of attitude change was linked to greater tolerance, as were stronger anthropocentric, and weaker biocentric attitudes toward marine wildlife. Individual race/ethnic models reinforced the importance of cultural background, in that the set of demographic, environmental knowledge, beach experience, and attitudinal variables that were statistically significant varied across subgroups.

Lastly, stigma models were challenging to interpret. But results suggested that more stigma was linked to being older, non-English speaking and non-Christian, and lower education but higher income; more beach-related experience, more endangered species knowledge, and a mixed set of attitudes toward marine wildlife protections. Stigma was also associated with stronger biocentric attitudes, as well as animal rights, aesthetic and supernatural attitudes. Again, for different race/ethnic groups, different variables are significantly linked to greater feelings of stigma. Gender, language and nativity consistently played a role in these stigma models, as did attitudes of various kinds, although not always in the same direction. In general, results make intuitive sense, e.g., immigrants with different cultural outlooks might be expected to feel more stigmatized.

Implications for Policy and Future Research

1. Policy makers need to be aware of cultural differences in attitudes toward marine wildlife when designing new policy initiatives.
2. Attitudinal change appears to be extensive, and varies by cultural background, suggesting the need for ongoing monitoring.
3. Access to the coastal zone is not uniform across groups, suggesting the need for targeted programs to reduce barriers.
4. Different preferences for coastal zone activities indicate the wisdom of taking such culturally based preferences into account in the design of recreation/parks facilities and programs.
5. Knowledge of marine/coastal wildlife is uneven, and sources of information vary across groups according to cultural background, indicating the need for stepped-up and media-specific educational programs.
6. Tolerance toward controversial practices varies by cultural background, with major implications for how policy makers, marine educators, and the advocacy community go about developing marine wildlife (as well as other animal-related) policies.
7. Marine educational programs need to directly assess the cultural backgrounds of their client base, and develop culturally sensitive programming as well as programs to enhance cross-cultural knowledge and understanding, and reduce feelings of stigma.

Implications for Research:

1. Findings reveal that there is a great deal more to be learned about how cultural diversity is linked to marine/coastal zone activity patterns, knowledge about marine wildlife, policy issues, and general wildlife attitudes.
2. The structure of attitudes toward wildlife is complex and requires additional research attention.
3. Trajectories of attitude change appear to be dynamic and multifaceted, and vary by race/ethnic background and other social variables, but are poorly understood and deserve deeper analysis.
4. Results of multivariate models designed to explain attitudes revealed that not only did race/ethnic background play a significant role in explaining differences in attitudes toward marine wildlife, but that certain other variables were key and warrant further exploration.
5. Analyses of tolerance toward controversial animal practices, and feelings of stigmatization related to animal practices, were striking but leave many questions unanswered.

1. INTRODUCTION

Situated on the Southern California coast, Los Angeles is a magnet for worldwide immigration and home to one of the largest, most rapidly growing, and culturally diverse populations in North America. Marine wildlife and the coastal zone environment – arguably the single most important economic and aesthetic asset of the region - are increasingly threatened by human activities. There is tremendous economic pressure to develop the few remaining parcels of open space, fueling controversy between environmentalists, developers, and local government. Moreover, the burgeoning population places heavy demands on coastal resources including recreational facilities, such as beaches and boardwalks, and ecological attractions such as tidepools, kelp forests, and coastal marshes. These demands are fostered by both cross-cultural and intercultural pursuits of residents and visitors who use the coastal zone.

Damage from cross-cultural activities may result from a different understanding of what is an acceptable use of coastal resources. For example, the collection of tidepool animals for consumption by people from cultures where coastal seafood gathering is commonplace, as is the disposal of trash in ecologically sensitive areas without regard to potential harm to wildlife or ecosystems. Examples of damage to marine wildlife or ecosystems from intercultural activities might include the collection of shellfish by sport divers out of season or without regard to legal size limits, or the operation of personal watercraft in ecologically sensitive areas.

Despite the potential importance of cultural difference to coastal zone use and management, very little is known about the attitudes of diverse metropolitan populations. Nor do we have a clear understanding of how, or if, attitudes change when people move from farm to city, or emigrate from one world-region to another. This report describes the findings of research on the attitudes of Los Angeles residents toward marine wildlife and ecosystems. Our primary research tool was a telephone survey of 850 Los Angeles County residents, designed to discern from respondents how their demographic traits, socio-economic status, personal background, and past or present geographic and cultural context might shape attitudes toward marine wildlife in the Los Angeles coastal zone. In particular, and in contrast to most previous studies, we sought to measure attitudes among population groups with culturally distinct traditions of nature/society relationships, such as race/ethnic minorities and immigrants.

Research on attitudes toward animals had its beginnings in the late 1970's, with the work of Stephen Kellert. With his colleagues, Kellert developed a typology of attitudes and surveyed a national sample of the US population (Kellert and Berry, 1980; Kellert, 1984). Since then, research has focused on specific dimensions of attitudes (for example, toward lab animals), and has broadened the range of attitudes identified, reflecting growing societal concerns over environmental degradation and loss of biodiversity. Much of this subsequent work has been concerned with measuring the strength of attitudes, the design of appropriate scales, and testing the scientific knowledge of the general population about animals. The roles of other demographic variables however, such as ethnicity and cultural background, have not been considered in any detail. This omission is significant because animal related practices and attitudes are often used as cultural signifiers to define groups internally (among members), as well as by others external to the group (Griffith et al 2000, working paper).

The report is divided into five sections. Section 2 elucidates our study design and methodology. In section 3, we present aggregate survey results based on the entire sample, an inter-group comparison revealing significant differences across subgroups, and multivariate models designed to explain attitudinal patterns. Section 4 includes our subsample results. Finally, our conclusions are discussed in Section 5.

2. STUDY METHODOLOGY

Our survey design was based on previous attitudinal research, focus group findings (see, for example, Griffith et al, 2000, Wolch et al, 2000, Lassiter and Wolch, 2000), and pilot survey experience (Whitley, 1998). It was also peer reviewed by leading scholars in the field. Administration of the survey itself was subcontracted to Responsive Management Incorporated, a public opinion polling and survey research firm specializing in fisheries, wildlife, natural resource, outdoor recreation and environmental issues. In the following subsections, we first detail the sample design and survey methodology, discuss the design and logic of the survey instrument itself, and finally identify the statistical tools used to analyze the survey data.

2A. Survey Samples and Methodology

This survey was administered by telephone to randomly selected Los Angeles residents over 18 years of age. The sample was in part designed to emulate the racial/ethnic composition of Los Angeles County, with over-sampling of certain groups to allow group-specific statistical analysis. First, a resident sample was generated through a random digit dialing procedure by Survey Sampling, Inc. of Fairfield, Connecticut. Random telephone numbers were matched to household names and letters were mailed on USC letterhead to inform respondents of the study and ask that they participate. Furthermore, Survey Sampling, Inc. provided supplemental samples that targeted the following demographic groups: Black or African American, Latino, and Asian-Pacific Islanders, which consisted of Chinese, Korean, Japanese, Filipino, and Native Hawaiian. The African American sample was selected by randomly sampling geographic areas in Los Angeles with a known density of African American households of at least thirty-one percent, while other minority samples were constructed by randomly selecting households with Latino, Chinese, Korean or Filipino surnames. These targeted respondents were also mailed letters on USC letterhead. Targeted subgroups were also identified and surveyed during the course of the "general population" survey.

The survey questionnaire was translated into Spanish, Chinese, and Korean, and was administered by bilingual interviewers when necessary, to overcome language barriers. Telephones were the preferred medium to conduct this survey because most potential respondents had access to a phone. However, it is important to note that because samples depend on telephone exchanges, they do not incorporate any adjustment to reflect potentially lower telephone ownership and/or listed rates for minority populations.

Interviews were conducted Monday through Friday from 9:00 a.m. to 9:00 p.m. and on Saturday from 10:00 a.m. to 4:00 p.m., local time. A multiple-callback design was used to maintain the representativeness of the sample, avoid bias toward people easy-to-reach by

telephone and provide an equal opportunity for all to participate. Subsequent calls were placed at different times of the day and on different days of the week.

The survey consisted of a total of one hundred questions designed to probe attitudes, utilization, stance on policy issues, interactions and experiences, and knowledge, involving marine wildlife and the coastal zone. All questions in the survey were close-ended. Software used for data collection was Questionnaire Programming Language (QPL) version 4.0 (National Technical Information Services, 1997), a comprehensive system for computer-assisted telephone interviewing. The survey instrument was programmed so that QPL branched, coded, and substituted phrases in the survey based upon previous responses to ensure the integrity and consistency of data collection.

2B. Survey Question Design and Logic

The design of the survey was based on key principles established by Fowler (1995), and question construction principles were drawn from Bourque and Fielder (1995). Questions in each segment of the survey were funneled. The survey consists of seven sections (see survey instrument Appendix A) and are in the following order:

- *Section One*- Experience/Interactions with Marine Wildlife and the Coast: Questions regarding beach utilization, access, frequency, and interactions with marine animals and the environment.
- *Section Two*- Knowledge About Marine Wildlife and the Coast: Questions regarding knowledge about local marine wildlife.
- *Section Three*- Attitudes About Marine Wildlife and the Coastal Zone: Concerns questions regarding marine wildlife and the coastal zone.
- *Section Four*- Marine Wildlife Policy Issues: Concerns questions regarding local policy issues in the news.
- *Section Five*- Attitudinal Change Toward Wildlife/Environment: Questions regarding possible change in attitude since childhood.
- *Section Six*- Tolerance and Stigma Questions: Questions regarding tolerance toward controversial animal practices associated with different race/ethnic groups, and perceived social stigma linked to animal practices
- *Section Seven*- Demographic Questions: Questions including basic background information and demographic and locational characteristics.

Here, we briefly explain the purpose of the order of these survey sections. Since both question and survey section order create funnels, their placement is important in survey design, with the overall goal to "warm up" the respondent to the topic with easy questions, stimulate recall and then build to harder and more complex issues. With this in mind, questions that require quick thinking or may be a bit tiring in their structure or section length are placed towards the middle/end of the survey, while perfunctory "quick" answer" questions (such as basic demographics) are placed at the very end of the survey. The first section is designed to lead respondents "into" the survey by stimulating thinking about Marine wildlife and the coastal zone, while simultaneously drawing out specific information related to these subjects. Questions in Section Two start to require respondents to work a little harder as they think about what they

know about local marine animals and the coastal environment. At this level of the survey respondents begin a transition into slightly more precise questions. Section Three asks respondents to contemplate their attitudes toward marine wildlife and the coastal zone. Section Four concerns local policy issues regarding Marine wildlife and the coastal zone that have been in the news, and inquires into respondent attitudes toward these issues. Section Five: Attitudinal Change Toward Wildlife/Environment stimulates recall about childhood attitudes toward wildlife and the environment and queries respondents about possible reasons for change in these attitudes since childhood. Section Six: Tolerance and Stigma, contains questions inquiring about traditional animal practices of various cultures as well as those of their own. Respondents are asked to think about their reaction to the practices of specific cultural groups, including their own, and how they feel other perceive them because of certain of these practices. Sections three through six solicit information about respondents' attitudes and values and contain the most complex and thought provoking questions in the survey. Section Seven contained demographic, socio-economic and locational questions, and were placed at the end of the survey, because they are quick and do not require a lot of thinking.

Experience/Interactions with Marine Wildlife and the Coast
Fifteen of the 100 survey questions were designed to measure interactions and experience with marine wildlife and the coastal zone. It is important to know how and why residents utilize (or feel excluded from) Southern California's coastal zone, in order to plan for future usage and ensure equal access to all. This section consisted of questions regarding number of visits to the coast in the last two years, type of coastal resource utilization, marine wildlife sightings, sources of information about the coast and marine wildlife, work and volunteer experience in/near the ocean or with marine wildlife. In addition, the survey included one question about accessibility of the beach/coastal zone, and one follow-up question as to possible barriers to utilization.

Knowledge About Marine Wildlife and the Coast
Three questions designed to gauge respondents' knowledge about local marine wildlife and coastal habitat were included in the survey. Knowledge is directly related to behavior and is known to vary according to such factors as educational attainment, experience or interaction with wildlife. Without baseline information regarding the extent of Los Angeles' residents knowledge about their coastal zone, it would be impossible for educators to adequately develop outreach materials. Posed in multiple-choice format, these questions queried knowledge regarding: threatened or endangered species native to the Southern California coastal zone; reason for decline in Brown Pelican populations; and safety of local fish for human consumption.

Attitudes about Marine Wildlife and the Coastal Zone
Thirty-five of the 100 questions were attitudinal statements, where respondents could choose to agree/disagree along a five-point Likert scale, with +2 being "strongly agree" and -2 "strongly disagree". Twenty percent of these questions were reversed to prevent the appearance of a bias, and then converted back to their original format for purposes of tabulation.

These categories were fashioned after those of previous studies and adapted for use in this survey (Kellert 1978, and Whitley 1998). Kellert identified basic attitudinal dimensions regarding human response to animals:

- Naturalistic: Primary interest in wildlife and the outdoors; animals provide context and meaning for activities in natural settings.
- Ecologistic: Primary concern for the environment as a system; emphasis on wildlife interactions with other species and the ecosystem.
- Humanistic: Primary interest and affection for individual animals, especially pets; wildlife focus on large attractive animals.
- Negativistic: Individuals avoid animals due to indifference, dislike, or fear.
- Moralistic: Primary focus is on ethically correct treatment of animals; strong opposition to environmental exploitation, and cruelty towards animals.
- Utilitarian: Main concern for the practical and material value of animals.
- Aesthetic: Primary interest in the physical attraction of animals.
- Scientistic: Primary interest in biological and physical characteristics of animals.
- Dominionistic: Primary interest in the mastery and control of animals.

Though Kellert's development of a specific attitude typology is important, his basic categories are often problematic. The meanings of the terms he uses are unclear, and categories tend to overlap. To rectify this situation many researchers (including Kellert himself) have collapsed or reworked these categories in order to better fit particular situations or topics of study. In this survey, we have used such a modified scheme of categories. Attitudinal responses measured were grouped as either *anthropocentric* or *biocentric*, and further classified into ten attitudinal categories.

Anthropocentric attitudes included:

- *Utilitarian-Dominionistic*: principal concern for the mastery or control of animals and nature.
  Example: "I think that recreational fishing is fine, regardless of whether you eat the fish you catch";
- *Utilitarian-Stewardship*: foremost interest in the practical value of animals and the natural environment.
  Example: "The most important reason to protect areas where fish mature and reproduce is to insure that people will have enough fish to eat in the future".
- *Negativistic*: fundamental interest in avoidance of animals due to indifference, dislike, or fear of animals.
  Example: "When I go to the beach, I don't go in the water because there might be unpleasant animals like jellyfish or crabs there".
- *Aesthetic*: primary interest in the physical attraction or beauty of animals and nature.
  Example: "If I had to choose, I'd rather snorkel than surf because snorkeling allows me to see beautiful fish".
- *Animal Welfare*: principal concern for the right and wrong treatment of animals and nature.
  Example: "Keeping smart animals like seals and killer whales in aquariums is cruel".
- *Spiritualistic/Supernatural*: fundamental interest in the supernatural properties of animals and nature.
  Example: "I avoid some kinds of animals because they bring bad luck".

Biocentric attitudes included:

- *Environmental-Naturalistic*: primary interest in direct contact with wildlife in undisturbed, natural settings.
  Example: "If I were to support the protection of coastal marshes or wetlands, it would be to allow seabirds to live in their natural habitat".
- *Environmental-Stewardship*: principal concern for ecological characteristics of wildlife and natural habitats.
  Example: "The most important reason to prevent oil spills is because local populations of sea birds could be wiped out".
- *Animal Rightist*: foremost concern for the rights and well-being of individual animals.
  Example: "We should not keep marine animals in aquariums because they have the right to be free".
- *Coexistence*: primary interest in the harmonious coexistence between humans and animals.
  Example: "It's OK when pelican steal fish from commercial fishermen because pelicans have to eat too".

Marine Wildlife Policy Issues

Three questions regarding marine wildlife policy, reflecting issues covered by local news, were included in the survey. These questions were intended to gauge the stance of respondents on policies related to native marine animals and habitats. Topics included: dolphin-safe fishing methods, collection of endangered tidepool animals for human consumption, and wetland development. Because these responses are a reflection of the opinions of the general population in Los Angeles, they may be useful to those involved in policy decisions, such as government officials, environmental groups, and businesses.

Attitudinal Change Toward Wildlife/Environment

Twelve questions measuring possible attitudinal change since childhood were included in the survey. The first asked whether the respondents attitudes toward animals and the environment had changed since childhood. This was followed by a selection of possible ways in which their attitudes had changed. For example, respondents were asked to reply either yes or no to questions about whether, as adults, they now understand the economic importance of animal products like food and dairy, or if as children they were more superstitious about some animals. To further explore attitudinal change since childhood, a series of yes/no statements describing possible reasons why attitudes toward animals and the environment may have changed were included, such as move from farm to city, personal experience that changed attitude, or knowing more about animals as an adult.

Tolerance and Stigma

In order to gauge respondents attitudes toward controversial cross-cultural practices – or tolerance toward what are often considered controversial interactions with animals, eighteen yes/no statements regarding culturally sensitive practices involving animals and nature were included in the survey. Prior to each statement, respondents were asked to keep in mind that other cultures treat animals differently. They were then queried as to whether 'it was OK' that people engage in certain culture-specific practices, such as participation in horse-tripping events at Mexican-style rodeos, sacrificing animals for religious purposes, or raising calves in

confinement for veal. They were also asked if they felt looked down upon – or stigmatized – by their own animal practices.

Demographic, Socioeconomic, and Locational Questions
Fourteen questions regarding basic socio-demographic descriptors were included in the survey. These questions concerned race/ethnicity, age, religion, national origin, locational characteristics, length of residency in the United States and Southern California, education, income, membership in animal related organizations, and home language. These types of questions are often useful parameters for measuring cultural background, and allow analysis of how attitudes vary with other basic population features.

2C. STATISTICAL ANALYSIS

Data were analyzed using Statistical Package for Social Sciences (SPSS) 10.0.5 software, Microsoft Excel 2000, and S-plus. Methods of analysis included boxplots, descriptive statistics, comparative bivariate statistics such as Chi-square, and regression analysis. Boxplots were created to explore consistency of attitudes among individuals responding to attitude and knowledge questions. Cross tables were created based on ethnicity, and Chi-square statistics used to test the significant differences among the ethnic groups ($p<0.05$). Cross tables and Chi-square were also utilized for within-group comparisons of experiences/interactions, attitudes, and knowledge, using demographic data. Multivariate analysis (logistic regression, ordinary least squares regression, regression tree models, factor analysis) was used for exploratory purposes. Here, we rely on results from ordinary least squares (OLS) models since they most parsimoniously explained the distribution of attitudes across respondents. Tables and charts were created in Microsoft Excel 2000; SPSS was used for statistical analysis.

3. AGGREGATE RESULTS AND EXPLANATORY ANALYSIS

In this section, we provide basic descriptive statistics on the aggregate sample, for all questions on the survey. In addition, we offer bi-variate analyses of survey questions by race/ethnicity, to highlight the extent of subsample differences. Finally, we present the results of multivariate regression studies designed to shed light on the factors linked to attitudes as revealed by our survey.

3A. Overall Patterns of Survey Response

Respondents were divided between the relatively well educated and affluent, and those who had less education and far lower incomes. The group was 35 percent White, 35 percent Latino, 12 percent African American, and about 10 percent Asian-Pacific Islander. Almost 60 percent were born in the US, with the largest share of immigrants being from Mexico (18 percent). Almost 40 percent reported speaking a language other than English at home. Over two-thirds had lived in the US for more than 20 years, and over 55 percent had lived in southern California for that long as well. They were nearly equally divided in terms of gender, mostly under forty-five years of age, and over 60 percent had no children living in the home. In terms of religion, over two thirds described themselves as Christian.

A large majority of respondents felt they had adequate access to Southern California beaches. Of those who felt there were barriers to their beach use, the most common barriers cited were difficulties with transportation, insufficient time, beach pollution, and overcrowding. About a fifth had worked near or on the ocean. Information about the beach or ocean was obtained via television, newspapers, and magazines, respectively. During visits to the beach or ocean, their most common activities were sunbathing, swimming, walking on the beach, whale watching or looking for wildlife, playing volleyball or Frisbee, or building sandcastles. Most of these respondents noticed sea birds, marine mammals, or other types of marine animals during their beach trips. Although more than half of all respondents knew that pollution was responsible for the endangerment of Brown pelicans, the group was only moderately informed about other threatened and endangered marine species, and almost entirely uninformed about the safety of consuming local fish. With respect to local policy issues such as dolphin mortality from tuna fishing nets, collection of endangered tidepool animals for human consumption, and wetland development and the reduction of coastal animal habitat, most of these respondents favored taking some kind of action in order to protect marine animals and the coastal zone.

As a whole, the respondents showed a high Environmental-Stewardship and Aesthetic attitudes, and moderately strong Animal Welfare, Animal Rights, and Environmental-Naturalistic attitudes. Scores on utilitarian-dominionistic and negativistic attitudes scales were low. Over half of all respondents said the way they think about animals and the environment has changed since they were children. The most common attitudinal change was increased awareness of the ecological importance of animals. The most frequent reason for attitudinal change in general was greater knowledge about animals. When questioned about their perspectives on culturally-linked animal practices, respondents were relatively intolerant, except in the case of certain practices such as eating factory farmed meats and spending a lot of money on pets, that are condoned by the general U.S. population, compared to those associated with other race/ethnic groups. Over 40 percent felt that at some point they had been looked down upon for their own animal practices.

Demographic, Socio-economic and Locational Characteristics

The distribution of respondent race/ethnicity reflected our sampling design, which involved oversampling to allow within-group statistical analysis (Table 3A-1).

Table 3A-1. Ethnicity of Respondents

Race	***Number of Respondents***
White	303
African American	102
Latino	301
Asian-Pacific Islander	97
Total	850

The majority (54%) were under the age of forty-five, just over half were male, and over six out of ten did not have children under the age of 18 living at home.

Overall, this sample was somewhat bifurcated in terms of socioeconomic status. Although over half had completed at least some college, over 15 percent lacked a high school diploma and almost a quarter held only a high school degree. Not surprisingly, about 30 percent had household incomes over $50,000 or over per year, while almost a fifth had household incomes of less than $20,000 per year.

When asked about religious beliefs, more than two thirds described themselves Christian, 5.9 percent expressed agnostic/atheistic beliefs, and 2.4 percent were Jewish. The remaining respondents described themselves as Buddhist (2.5%), with very small numbers indication Confucian, Moslem, or "Other".

Nearly six out of ten of all respondents were born in the United States, 18.8 percent in Mexico, followed by 3.6 percent in China, and very small shares from other parts of the world. Most were long time residents, over 55 percent having lived in Southern California longer than twenty years, and an additional 9.8 percent in somewhere in United States for that same period. Virtually all had lived in the United States longer than two years, and 97 percent had lived in southern California for longer than that period. Over half (52.6%) described their place of residence as a big city, 23.1 percent as "suburb of metropolitan area", and 17.8 percent as "small town". Less than four percent said "rural area" best described their place of residence. A majority of respondents from this sample was monolingual, but 38.8 percent indicated that they spoke a language other than English at home.

Not surprisingly, there were statistically significant correlations between demographic characteristics of the sample. Female respondents were more apt to have children under 18 living at home, adhere to the Christian faith, and have lower educational attainment than males. Older people were less apt to live in big cities. Immigrants were more apt to speak a language other than English at home, and have lived in the US and southern California for shorter periods of time and domestic born respondents, for example. Less educated respondents were not only lower income, but they were more apt to have children at home, be immigrants, Christians, and speak a language other than English at home. They are also more likely to have lived in the US and southern California for fewer years and currently live in big cities rather than suburbs. Patterns of relationships for household income were similar.

Compared to 1990 Census Data for Los Angeles County, this group was more educated in terms of holding a high school diploma but was similar in terms of post-secondary educational attainment. In 1990, 30 percent of Los Angeles County residents over the age of twenty-five had not completed high school, this compares to only 15 percent in the sample group. Almost half of Los Angeles County residents over the age of twenty-five had completed at least some college, slightly less than the overall sample. Survey respondents also had significantly higher incomes. In 1990, 45 percent of Los Angeles County residents had annual household incomes of less than twenty-five thousand dollars, and only 19.6 percent over fifty thousand dollars. The majority of respondents were under forty-five years of age, while the majority of Los Angeles County residents in 1990 were over forty-five years of age. Gender ratios of this sample were similar to that of Los Angeles County in 1990.

Experience/Interaction with Marine Environments and Wildlife

About a fifth of all respondents had worked near or on the ocean. The greatest percentage (47%) of those who had worked near the ocean, were employed in office/restaurant or hotel jobs. Almost 15 percent had worked in a military capacity; 8 percent as life guards/beach workers; 8 percent in marine wildlife education/research/ rescue; 8.6 percent fish packing/ dock worker; 6.9 percent oil rig worker, or commercial diver; and the remainder worked in beach cleanup or some other capacity.

Just under 20 percent of respondents belonged to or donated funds to an environmental or animal rights organization. About the same share had volunteered to assist ocean or sea animals, and 12.9 percent to an organization devoted to marine wildlife or ocean protection. According to respondents, much of their information about the beach or ocean related issues, was obtained via television (55.6%), newspapers (37.5%), and magazines (23.4%), respectively. About 10 percent indicated that they received most of their information from books, and another 10 percent at the beach itself. Eight percent got most information from family/friends, while six percent got most information from the Internet/www, and from going to the aquarium or zoo.

About eighty percent of all respondents felt they had adequate access to Southern California beaches. Of those who did not, the most common barriers were insufficient time, difficulty with transportation, beach pollution, crowding, and parking (Table 3A-2).

Table 3A-2. Access to Southern California Beaches

What specifically limits your access to Southern California beaches?	***(n=149)***
Difficulty with transportation	22.8%
Not enough time	26.8%
No money	6.7%
Not enough parking	16.8%
Don't know where to go	5.4%
Beaches are polluted	23.5%
Beaches are crowded	22.1%
No disabled access	1.3%
Don't care	2.0%
Other	15.4%
Don't know/Refused	7.4%

Two-thirds of all respondents had visited the beach at least once during the last two years. When asked in which activities they usually participated while at the beach or ocean, the vast majority said they sunbathed, swam, or walked on the beach. Over a third said whale watching, or looking for wildlife was included in their usual activities, while more than one-third also reported that they played volleyball, Frisbee, flew kites, or built sand castles. Over a quarter participated in water sports such as boating, surfing, scuba diving, or snorkeling; about eighteen percent fished; almost five percent collected tidepool animals; and about five percent participated in "Other" activities (Table 3A-3).

Table 3A-3: Activity on Beach

Activity on Beach	***(n=561)***
Volleyball, Frisbee, build sand castles, fly a kite	35.7%
Sunbathe, swim, walk on the beach	83.4%
Watch whale or look for wildlife	34.9%
Water sports (boating, surfing, scuba diving, snorkeling)	25.5%
Fish	17.8%
Collect tidepool animals	4.6%
Other activities	4.6%
Don't know/Refused	2.5%

Most respondents noticed marine mammals, sea birds, or other types of marine animals during their visits to the beach. Only about eight percent said they did not notice any animals. Of those who did notice animals just over half said they noticed birds while at the beach, primarily seagulls, and about 30 percent saw pelicans. Over a third noticed mammals while at the beach, especially dolphin and seals and sea lions. Only about a fifth observed other marine animals during their beach visits, mostly crabs or lobsters, and clams or mussels (Table 3A-4).

Table 3A-4: Marine Animals Seen at Beach

Mammals Seen at the Beach	***(n=188)***
Seals and Sea lions	48.4%
Gray whales	21.3%
Dolphins	52.1%
Other mammals	10.6%
Birds Seen at the Beach	*(n=295)*
Seagulls	90.8%
Pelicans	31.9%
Least terns	2.7%
Clapper rails	0.7
Herons	5.4%
Sandpipers	9.5%
Plovers	2.7%
Cormorants	2.4%
Oystercatchers	--
Other birds	8.1%
Marine Animals Seen at the Beach	*(n=117)*
Jellyfish	15.4%
Squid	4.3%
Octopus	4.3%
Shrimp and crayfish	2.6%
Crab and lobsters	47%
Clams or mussels	12.8%
Grunions	--
Other marine animals	36.8%

Knowledge about Marine Wildlife

Overall, respondents were moderately knowledgeable about threatened and endangered species. When asked which animals were either threatened with extinction, or endangered, over 63 percent correctly selected the Gray Whale, but only about a third identified the White Abalone, and about 15 percent the Least Tern. Forty-three percent incorrectly selected the White-sided dolphin, almost 18 percent the Pacific Cormorant, and a quarter selected either "don't know" or "other" (Table 3A-5).

Table 3A-5: Threatened or Endangered Species

Threatened or Endangered Species	***(n=850)***
Gray Whale	63.4%
Least Tern	15.5%
White Abalone	32.9%
White-sided Dolphin	43.4%
Pacific Cormorant	17.6%
Other	0.5%
Don't Know	24.2%

When surveyed for their opinions as to why Brown Pelicans had become endangered, over half correctly identified pollution as the cause. But a quarter didn't know, and almost 10 percent thought endangerment had result from fishers shooting the birds (Table 3A-6).

Table 3A-6: Reasons For Brown Pelican Becoming Endangered

Reason for Brown Pelican Endangerment	***(n=850)***
Fishermen Shooting them	9.6%
Pollution	52.6%
Not enough fish to eat	6.1%
Other	6.4%
Don't know	25.3%

While respondents had some knowledge about threatened and endangered species, they were almost uniformly uninformed about the safety of consuming local fish. Over seventy percent did not know of any local fish that were unsafe to eat, and only 2.1 percent correctly identified White Croaker or King Fish as unsafe for human consumption. Almost 10 percent identified "Other", while over 15 percent didn't know or refused the question (Table 3A-7).

Table 3A-7: Local Fish Not Safe to Eat

Local Fish Unsafe for Human Consumption	***(n=850)***
I do not know of any	72.1%
White Croaker or King fish	2.1%
Rockfish	1.5%
Garibaldi	0.5%
Sheephead	0.1%
Other	9.4%
Don't know/Refused	15.6%

Attitudes Toward Marine Wildlife Policy Issues

Questions in this portion of the survey inquired about respondents' opinions on coastal policy issues that have recently been in the news. When asked about the issue of dolphin mortality due to tuna fishing methods, a large majority was in favor of requiring dolphin-safe fishing methods, and seventy percent said they should be required by law. Nearly twenty percent did not think dolphin-safe methods should be legally required. Almost 12 percent were in favor of boycotting tuna that is not dolphin-safe. About 11 percent of the sample was not in favor of legal compulsion (Table 3A-8).

Table 3A-8: Dolphin-safe Fishing Methods

Dolphin-safe fishing methods	***(n = 850)***
Dolphin-safe methods should be required by law	70.7%
Dolphin-safe methods should not be required by law, but we should boycott tuna that is not dolphin-safe	11.6%
Dolphin-safe methods should not required by law, we trust fishermen	11.1%
None of these	0.6%
Don't know/Refused	6%

Turning to the question of collection of endangered tidepool animals for human consumption, only about nine percent thought that this was acceptable. Over half supported the idea of a public education campaign and almost 30 percent were in favor of fining people that collect endangered tidepool animals (Table 3A-9).

Table 3A-9: Collection of Endangered Tidepool Animals

Collection of Endangered Tidepool Animals	***(n = 850)***
Fine people that collect endangered tidepool animals	29.2%
Organize a public education campaign	56.6%
Ignore it because the number of animals collected is small	3.9%
Ignore it because it may be important for people who need food	4.7%
None of these	0.1%
Don't know/Refused	5.5%

With respect to whether wetland development and the reduction of coastal animal habitat should be permitted, almost half of all respondents were in favor of protecting wetlands regardless of impact on development, with more than a third indicating that additional studies should be completed before development decisions were made. Ten percent thought wetlands should be protected, but not at the cost of development, while only a small share favored developing remaining wetlands for housing and business (Table 3A-10).

Table 3A-10: Remaining Wetlands

Remaining wetlands	***(n = 850)***
Protecting wetlands, regardless of impact on development	45.6%
Protecting, but not at the cost of economic development	10.4%
Studying before making decision	36.6%
Developing for housing and businesses	2.5%
None of these	0.4%
Don't know/Refused	1.0%

Attitudes toward Marine Wildlife

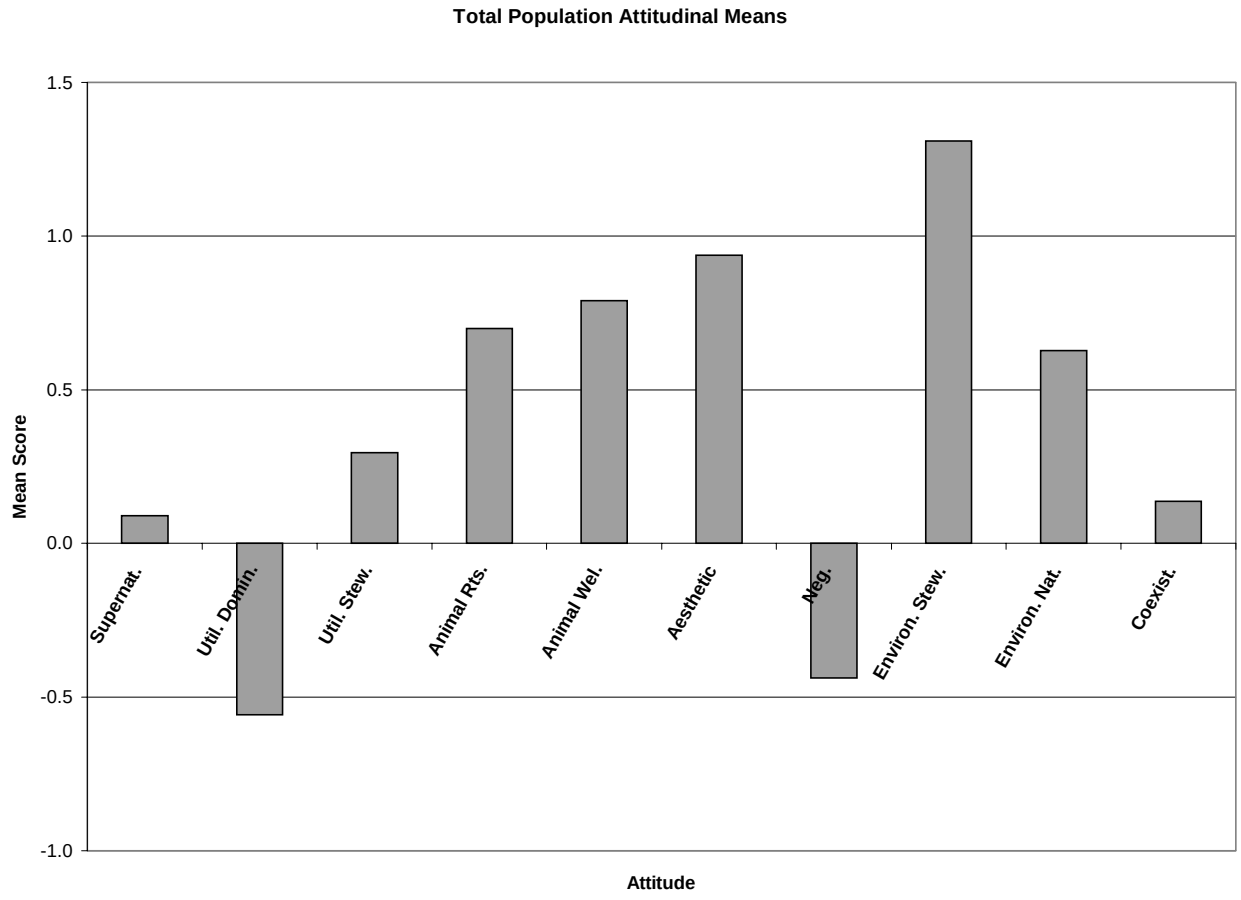
This section consisted of thirty-five attitudinal statements designed to gauge respondents' attitudes toward the marine environment and wildlife. The statements were classified into two broad categories, and ten attitudinal subcategories, as described above in Section 2B.

Recall that attitudinal questions, posed as agree/disagree along a five-point Likert scale, were coded as +2 for "strongly agree" and -2 "strongly disagree". Twenty percent of these questions were reversed to prevent the appearance of a bias, and then converted back to their original format for purposes of tabulation.

Overall, the sample showed the highest mean (1.14) for Environmental-Stewardship attitudes. Moderate strong attitudes (0 to +0.99) means were registered for Aesthetic, Animal Welfare, Animal Rights, Environmental-Naturalistic, Coexistence, Utilitarian-Stewardship and

Supernatural. Respondents showed a moderately low (0 to –1) mean for Utilitarian-Dominionistic and Negativistic attitudes (Chart 3A-1).

Chart 3A-1: Attitudinal Means



The survey contained three statements to measure utilitarian-dominionistic attitudes. Almost 70 percent of all respondents disagreed to some extent with the statement regarding sport fishing: “I think recreational fishing is fine, regardless of whether you eat the fish you catch.” About 44 percent agreed, and approximately seven percent had no opinion. Over 60 percent of respondents disagreed to some extent with the statement regarding competition for food from sea lions: “Populations of sea lions should be reduced if they eat too many fish that people eat.” Almost 30 percent agreed with this statement, and about ten percent had no opinion.

Seventy percent disagreed with the statement regarding the efficiency of mile-wide fishing nets: “Since mile-wide fishing nets are so efficient, they should be used even though they cause ecological damage.” Only about one-fifth agreed, and around nine percent had no opinion. (Table 3A-11).

Table 3A-11: Utilitarian Dominionistic Attitudes

Utilitarian Dominionistic (n = 803)	*Strongly Agree*	*Moderately Agree*	*Neither Agree nor Disagree*	*Moderately Disagree*	*Strongly Disagree*
I think that recreational fishing is fine, regardless of whether you eat the fish you catch.	21.4%	22.4%	7.3%	17.9%	30.5%
Populations of sea lions should be reduced if they eat too many fish that people eat.	11.5%	16.8%	10.6%	24.3%	36.9%
Since mile-wide fishing nets are so efficient, they should be used even though they cause ecological damage.	10.0%	11.1%	8.6%	17.2%	53.2%

Four statements gauging utilitarian-stewardship attitudes were included in the survey. Greater than eight out of every ten respondents agreed to some extent with the statement regarding food and medicinal purposes as appropriate uses of animals: "It is okay for sharks and other marine animals to be used for food and medicines so long as the animals are not endangered." Almost 13 percent disagreed with the statement, and five percent had no opinion. Sixty-one percent of all respondents agreed with the statement concerning the harvesting of healthy lobster populations: "As long as the lobster population is healthy, commercial lobster fishing is no different than harvesting apples each year." Just over one-quarter of the sample disagreed with the statement, and about 13 percent had no opinion. About 70 percent of respondents agreed to some extent with the statement that the sole purpose for protection of marine animal habitat was ensuring future food supplies for humans. Almost a third disagreed with this statement, and about eight percent had no opinion. A majority (over 80%) of respondents agreed with the statement concerning restaurants serving swordfish "Restaurants shouldn't serve swordfish if their numbers are significantly declining." (Table 3A-12).

Table 3A-12: Utilitarian Stewardship Attitudes

Utilitarian Stewardship (n = 803)	*Strongly Agree*	*Moderately Agree*	*Neither Agree nor Disagree*	*Moderately Disagree*	*Strongly Disagree*
It is okay for sharks and other marine animals to be used for food and medicines so long as the animals are not endangered.	50.8%	31.6%	4.9%	5.9%	6.8%
As long as the lobster population is healthy, commercial lobster fishing is no different than harvesting apples each year.	29.8%	31.9%	13.4%	13%	12%
The most important reason to protect areas where fish mature and reproduce is to insure that people will have enough fish to eat in the future.	43.8%	26%	7.5%	12%	19.7%
Restaurants shouldn't serve swordfish if their numbers are significantly declining	60.9%	20.8%	7.1%	6.7%	4.5%

This section of survey contains three statements weighing negativistic attitudes. Two-thirds of all respondents disagreed to some extent with the statement: "I find seagulls to be a real nuisance." About a quarter agreed with this statement and eight percent had no opinion. While 36 percent of respondents disagreed with the statement: "Seaweed and kelp are dangerous to swimmers", 43 percent agreed, and a fifth had no opinion. Almost two-thirds disagreed to some extent with the statement: "When I go to the beach, I don't go in the water because there might be unpleasant animals like jellyfish or crabs there." Less than 20 percent agreed with the statement, while eight percent had no opinion (Table 3A-13).

Table 3A-13: Negativistic Attitudes

Negativistic (n=803)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
I find seagulls to be a real nuisance.	11%	14.9%	7.2%	22.4%	44%
Seaweed and kelp are dangerous to swimmers.	21.4%	20.9	20.7%	17.7%	19.3%
When I go to the beach, I don't go in the water because there might be unpleasant animals like jellyfish or crabs there.	17.4%	12.1%	8.3%	20.4%	41.7%

Four statements measuring aesthetic attitudes were included in the survey. Among all respondents, more than nine out of ten agreed to some extent (73% strongly agreed) with the statement: "One of the most striking things about whales is their grace and beauty." Only five percent disagreed with this statement, and four percent had no opinion. Almost 90 percent of respondents agreed with the statement: "If I were to visit a marsh or wetland, it would be to watch the colorful birds and other wildlife that live there." Only about five percent disagreed to any extent with this statement, and another five percent had no opinion. The statement regarding fish as wall trophies "I don't like the idea of mounting fish on the wall as trophies", was a reversal question. Nearly 55 percent of these respondents agreed with this statement, and about a third disagreed, however, data show a negative number for responses to this statement. Almost three-quarters of respondents agreed with the statement: "If I had to choose, I'd rather snorkel than surf because snorkeling allows me to see beautiful fish." About eight percent disagreed with this statement (Table 3A-14).

Table 3A-14: Aesthetic Attitudes

Aesthetic (n=803)	*Strongly Agree*	*Moderately Agree*	*Neither Agree nor Disagree*	*Moderately Disagree*	*Strongly Disagree*
One of the most striking things about whales is their grace and beauty.	73.1%	17.8%	4.1%	3.2%	1.7%
If I were to visit a marsh or wetland, it would be to watch the colorful birds and other wildlife that live there.	63.5%	26%	5%	3.1%	2.4%
I don't like the idea of mounting fish on the wall as trophies.	40.2%	13.9%	10%	18.4%	17.4%
If I had to choose, I'd rather snorkel than surf because snorkeling allows me to see beautiful fish.	51.9%	23%	17.3%	4.2%	3.5%

Three statements gauging animal welfare attitudes were included in the survey. While over 40 percent of respondents agreed to some extent with the statement: "Catching fish with barbed hooks is cruel", almost 30 percent disagreed, 12 percent had no opinion. Seven out of every ten respondents agreed with the statement: "Killing whales is a cruel act." Eleven percent disagreed, and six percent had no opinion. Over a third of all respondents agreed with the statement: "Keeping smart animals like seals and killer whales in aquariums is cruel", while about the same percent disagreed (Table 3A-15).

Table3A-15: Animal Welfare Attitudes

Animal Welfare (n=803)	*Strongly Agree*	*Moderately Agree*	*Neither Agree or Disagree*	*Moderately Disagree*	*Strongly Disagree*
Catching fish with barbed hooks is cruel.	42%	18.2%	12.1%	15.4%	12.3%
Killing whales is a cruel act.	65.3%	11.5%	5.9%	5.9%	6.1%
Keeping smart animals like seals and killer whales in aquariums is cruel.	36.5%	19.6%	7.2%	24.7%	12.1%

The survey contained three statements weighing supernatural attitudes among respondents. Eighty-five percent of all respondents agreed to some extent with the statement: "Seeing wild animals like dolphins in the surf would give me a magical feeling", 13 percent disagreed. Almost 90 percent of respondents from this group disagreed with the statement concerning the avoidance of certain animals for superstitious reasons: "I avoid some kinds of animals because they bring bad luck." Only nine percent of respondents agreed with this statement. While over half of respondents agreed with the statement: "It gives your body more energy to eat fish that's just been caught fresh", twenty-five percent disagreed (Table 3A-16).

Table 3A-16: Supernatural Attitudes

Supernatural (n = 803)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
Seeing wild animals like dolphins in the surf would give me a magical feeling.	62.4%	21.1%	2.4%	7.6%	5.6%
I avoid some kinds of animals because they bring bad luck.	4.9%	3.9%	3%	12.2%	76.1%
It gives your body more energy to eat fish that's just been caught fresh.	34.5%	17.2%	22.7%	13.3%	12.3%

Four statements measuring environmental variants of naturalistic attitudes were included in the survey. The group was almost evenly split over the statement: "When stranded animals wash up on the beach, we should let nature take its course and not intervene." Over 50 percent disagreed, but nearly 40 percent agreed with this statement. Surprisingly, almost two-thirds of respondents agreed with the statement: "It's unfortunate to see whales beach themselves but that's 'nature's way'." Greater than nine of ten respondents agreed with the statement: "If I were to support the protection of coastal marshes or wetlands, it would be to allow seabirds to live in their natural habitat." Almost 60 percent of all respondents disagreed to some extent with the statement regarding human interference with animals: "It's never OK for people to interfere with wild animals, who should be free to lead their lives without interference from people." The statement concerning the ecological importance of animals: "Creatures like sand worms and marsh mice are not ecologically important", is a reversal question. Over half of respondents disagreed with this statement, while about 20 percent agreed. Despite the high percentage of disagreements, data show a positive number for this particular attitudinal statement (Table 3A-17).

Table 3A-17: Environmental-Naturalistic Attitudes

Environmental-Naturalistic (n=803)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
When stranded animals wash up on the beach, we should let nature take its course and not intervene.	21.5%	16.4%	8.3%	22.9%	30.8%
It's unfortunate to see whales beach themselves but that's 'nature's way'.	36.7%	27.3%	13.6%	11.8%	10.6%
If I were to support the protection of coastal marshes or wetlands, it would be to allow seabirds to live in their natural habitat.	69.1%	22.4%	4.9%	2.2%	1.4%
It's never OK for people to interfere with wild animals, who should be free to lead their lives without interference from people.	41.1%	17.7%	8.5%	18.7%	13.1%
Creatures like sand worms and marsh mice are not ecologically important.	11.3%	9.3%	22.9%	19.1%	37.4%

The survey contained four statements measuring environmental-stewardship attitudes among respondents. Almost 90 percent of respondents agreed to some extent with the statement concerning native species: "It is important for sea lions to exist in Southern California because that's where they've historically lived." Less than five percent of respondents from this group disagreed with this statement. Eight out of ten respondents agreed with the statement: "The most important reason to prevent oil spills is because local populations of sea birds could be wiped out." A similar share agreed to some extent with the statement regarding habitat protection for juvenile fish: "If we decide to protect coastal marshes, it should be because that's where many young fish populations grow up." Over 85 percent of the respondents agreed with the statement concerning the avoidance of over-fishing for the exclusive purpose of guaranteeing future food supplies for other animals: "The most important reason to avoid over-fishing is to make sure there's enough food left in the oceans for other animals." Ten percent of respondents disagreed with this statement, while about five percent selected neither agree nor disagree. (Table 3A-18).

Table 3A-18: Environmental-Stewardship Attitudes

Environmental-Stewardship (n=803)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
It is important for sea lions to exist in Southern California because that's where they've historically lived.	64.9%	22.8%	8.1%	3%	1.2%
The most important reason to prevent oil spills is because local populations of sea birds could be wiped out.	59.5%	20.5%	6%	7.6%	6.4%
If we decide to protect coastal marshes, it should be because that's where many young fish populations grow up.	54.9%	27.1%	11.5%	4.5%	2%
The most important reason to avoid over-fishing is to make sure there's enough food left in the oceans for other animals.	59.9%	25.4%	5.2%	5.9%	3.6%

Three statements designed to weigh animal rightist attitudes among respondents were included in the survey. Almost 90 percent agreed to some extent with the statement: "The fates of individual animals matter to me, not just what happens to endangered species". The statement regarding animals having legal rights: "The idea of marine animals, like whales or dolphins, having legal rights just like people do is absurd," was a reversal question. Therefore, despite the fact that half of all respondents disagreed with the statement, and 42 percent agreed, the data show a positive number for this statement. While 57 percent of respondents disagreed with the statement: "We should not keep marine animals in aquariums because they have the right to be free", about a third agreed (Table 3A-19).

Table 3A-19: Animal Rights Attitudes

Animal Rights (n=803)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
The fates of individual animals matter to me, not just what happens to endangered species.	66.4%	22.5%	4.4%	5%	1.7%
The idea of marine animals, like whales or dolphins, having legal rights just like people do is absurd.	27.5%	15.3%	6.6%	21%	29.5%
We should not keep marine animals in aquariums because they have the right to be free.	40.8%	16.4%	10.7%	20.7%	11.3%

The survey contained three statements designed to measure coexistence attitudes among respondents. Eighty-seven percent of respondents agreed to some extent with the statement: "It's OK when pelicans steal fish from commercial fishermen because pelicans have to eat too". Over three-quarters of all respondents agreed with the statement: "Sea lions shouldn't be removed from beaches just to make room for people." The statement: "Although the beach is the seagull's natural habitat, when I'm there I don't want them around me because they are messy" was a reversal question. Though two-thirds of all respondents disagreed with this statement, and almost 30 percent agreed, the data show a positive number for this statement (Table 3A-20).

Table 3A-20: Coexistence Attitudes

Coexistence (n=803)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
It's OK when pelicans steal fish from commercial fishermen because pelicans have to eat too.	60.1%	27%	4.4%	5.2%	3.2%
Sea lions shouldn't be removed from beaches just to make room for people.	58.8%	17.9%	6.4%	7%	10%
Although the beach is the seagull's natural habitat, when I'm there I don't want them around me because they are messy.	12.5%	15.6%	6.4%	22.8%	42.8%

Correlation analysis of attitude indices revealed that all Spearman's Rho values were significant at the 0.05 level, the exception being the Animal Welfare and Coexistence attitude correlation that was insignificant. Patterns of correlation are shown in Table 3A-21. Most correlations were very weak. Our expectation was that anthropocentric attitude indices would be positively intercorrelated, and negatively correlated with biocentric indices (and vice versa). This was only the case for about 30 percent of the correlations. The exceptions with respect to expected sign of correlation coefficients revolved around: (1) Supernatural attitudes, which tended to positively correlated to all other attitudes except Coexistence; (2) Utilitarian-Dominionistic attitudes, which were negatively correlated with Animal Welfare and positively correlated with Environmental-Naturalistic indices; (3) Aesthetic attitudes, which were positively correlated with all the biocentric indices, and negatively related to the Negativistic index; (4)

Environmental-Naturalistic, which was positively correlated with four out of six anthropocentric indices; and (5) Coexistence, which was negatively associated with both Animal Rights and Environmental-Naturalistic. Almost all of these correlations with unexpected signs were, however, extremely small in value (i.e. below +/- 0.2).

The strongest positive correlations (>0.3) were between Utilitarian-Dominionistic and Negativistic attitude indices (0.37), and between Animal Welfare and Animal Rights indices (0.42), the latter suggesting that these two views are not distinct in the minds of many respondents. The strongest negative correlations (-0.3) were between Utilitarian-Dominionistic and Animal Rights indices (-0.34), Environmental-Stewardship indices (-0.32), and Coexistence indices (-0.32), and between Coexistence and Negativistic indices (-0.3). With the exception of Animal Welfare and Rights, these stronger correlations were all of the expected signs.

Overall, these results suggest that the attitude indices do not precisely reflect the more general attitude constructs of biocentric and anthropocentric. Based on these correlation patterns, Animal Welfare and Aesthetic indices behave more like the biocentric ones. Similarly, the Environmental-Naturalistic index is more akin to an anthropocentric index. Those who do not believe in intervening in nature, and who see all marine creatures as having an ecological role, do not believe it is wrong to dominate or other use marine wildlife for their own benefit. Finally, the Coexistence index behavior suggests that it may linked to a mix of both biocentric and anthropocentric attitudes.

Table 3A-21: Attitude Index Correlation Analysis

	Super-natural	*Utilitarian-dominion.*	*Util.-steward.*	*Aesthetic*	*Negativ-istic*	*Animal welfare*	*Animal rights*	*Envir.-natural.*	*Envir.-steward.*	*Co-exist.*
Supernatural		+	+	+	+	+	+	+	+	-
Utilitarian-dominionistic			+	-	+	+	+	+	-	-
Utilitarian-stewardship				+	+	-	-	+	-	-
Aesthetic					-	+	+	+	+	+
Negativistic						+	-	+	-	-
Animal welfare							+	+	+	NS
Animal rights								+	+	-
Environmental-naturalistic									+	-
Environmental-stewardship										+
Coexistience										

Attitude Change

When questioned as to whether the way they think about animals and the environment has changed since they were children, half said yes. Those who agreed were then asked to describe how their attitudes changed. Eighty percent expressed increased awareness of the economic importance of animal products like food and dairy. Almost nine out of ten indicated increased feelings of stewardship, agreeing that they now think about protecting the environment, and almost sixty percent said they now realize the population of some wild animals

must be reduced to protect the environment. Ninety-five percent said that as adults, they now see the ecological importance of animals. More than two-thirds expressed positive changes in feelings toward animal rights, and over 47 percent exhibited an increase in feelings of animal welfare. Thirty percent had a decrease in supernatural attitudes, explaining that as children they were more superstitious, while over half indicated a decrease in negativistic attitudes, saying they used to be more afraid of animals. Greater than 95 percent had a positive change in their attitude about coexistence, agreeing that they now understand the need for humans and animals to live together on earth. More than 80 percent of respondents indicated that as adults, they are more able to enjoy the beauty of animals and the environment than when they were children (Table 3A-21).

Table 3A-21: Attitude Change

Attitude Change Since Childhood	***(n=403)***
I now realize the economic importance of animal products like food and dairy	80%
I never used to think about protecting the environment when I was a child, but now I do	87%
I never used to think that animal had rights when I was a child	67%
I now see how important animals are to our ecology	95%
When I was a child, I used to be superstitious about some animals	30%
I used to be more afraid of animals when I was a child	51%
I never used to worry about how animals felt when I was a child	47%
I have a better understanding of the need for humans and animals to live together on earth	95%
I now realize that the population of some wild animals must be reduced	58%
I am able to enjoy the beauty of animals more than I used to when I was a child	84%

When asked why their attitudes had changed since childhood, the number one response (about half of respondents whose attitudes had changed) was that they now know more about animals. Additional reasons given included personal experiences and overall social change in attitudes (each about one quarter of these respondents). Moving from farm to city or moving to Southern California were only cited by a small fraction of these respondents.

Attitudes Regarding Culturally-linked Practices

When questioned about their tolerance of culturally linked animal practices, the respondent sample supported some but not other of these practices. Almost two-thirds said it was OK for people to spend a lot of money on their pets, and about sixty percent thought it was OK to eat factory-farmed beef, pork or chicken and to keep animals alive until they are ready to be eaten. A variety of practices were seen as controversial by between 20-40 percent of respondents. These included hunting/killing whales, eating sea turtles, participating in calf-roping events at rodeos, cropping dogs' ears and docking their tails, attending bullfights, raising calves in confinement for veal, and the collection of tidepool animals for food. Horse-tripping and eating dogs were approved by just under a fifth of the respondents.

Some of these practices were almost universally condemned (more than ninety percent opposed). These included litter on the beach, sacrificing animals for religious purposes, and participating in dog or cockfights (Table 3A-22).

Table 3A-22: Tolerance toward Animal Practices

Keeping in mind that various other cultures treat animals differently, is it OK with you if other people:	***(n=803)***
	Yes
Hunt and kill whales	20.4%
Collect tidepool animals for food	30.2%
Keep animals alive until they are ready to be eaten	57.7%
Sacrifice animals for religious purpose	14.8%
Eat sea turtles	24.4%
Eat dogs	19.8%
Litter on the beach	3.7%
Donate unwanted pets to research labs	28%
Attend bullfights	23.4%
Participate in dog fights	7.6%
Participate in cock fights	8.7%
Raise calves in confinement for veal	28.1%
Eat factory-farmed beef, pork, or chicken	61%
Spend a lot of money on pets	64.3%
Participate in horse-tripping events at Mexican-style rodeos	19.9%
Participate in calf-roping events at rodeos	37.9%
Crop dogs' ears and dock their tails	28.4%

Greater than 40 percent (42.2%) of respondents felt looked down upon, or were stigmatized, for their animal practices. About one-fifth felt people looked down on them for their belief that animals have rights like people. Eleven percent felt others took exception to the kinds of animals they ate, and almost ten percent because of the amount of money they spent on their pets. Approximately 6 percent of respondents felt that others disapproved of the sorts of animals they kept at home, and the way they treated or trained their animals. Other reasons were seldom mentioned (Table 3A-23).

Table 3A-23: Perceived Social Stigma.

Do you ever feel that people look down on you or think you are strange because of the…	***(n=803)***
I never feel that way	57.8%
Kinds of animals you eat	11.1%
Sorts of animals you keep at home	6.4%
Way you treat or train your animals	6.6%
Fact that you don't really like animals	2.5%
Fact that you think animals have rights like people	20.8%
Money you spend on your pets	9.7%
Fact that you hunt	3%

Fact that you fish	2.5%
Other reasons	09%
Don't know/Refused	1.2%

3B. Variations by Race/Ethnicity

Race/Ethnic Variation in Demographic, Socio-economic and Locational Characteristics

There were statistically significant demographic differences across the race/ethnic group subsamples. The Asian-Pacific Islander subgroup was over two-thirds male, while the other three groups were about evenly split between male/female respondents. Latinos were more apt to have children under 18 living at home (over half), compared to just over a third of African Americans and Asian-Pacific Islanders, and only a fifth of whites.

Over two-thirds of the Latino respondents had a high school diploma or less education, and only about a quarter had completed at least some college, compared to over three quarters of whites, and about 70 percent of Asian-Pacific Islanders and African Americans. Asian-Pacific Islanders had the highest share of college graduates. Latinos also reported significantly lower incomes than did other groups, with over two-thirds indicating that their household incomes were $50,000 or less; almost 40 percent reported incomes of less than $20,000. Asian-Pacific Islanders were least apt to fall into this group; however it seems than Asian-Pacific Islanders were far more reluctant to report their incomes at all (over a quarter indicated that they 'didn't know' and about 17 percent refused the question). Whites had the highest share of respondents in the $150,000 and above income category (7.3%). Both whites and African Americans had about the same share in the $20-49,000 and $50-100,000 incomes ranges.

These discrepancies are not surprising, given that three-quarters of the Latino respondents were immigrants, most from Mexico, who often arrive with little formal education. Asian-Pacific Islanders were even more apt to be immigrants (82%), but new Asian immigrants (mostly from Korea, China, and the Philippines) are far more likely to be educated, having arrived to take skilled positions in the work force. Only about 12 percent of whites were immigrants (mostly from Commonwealth countries), and less than 3 percent of African Americans. Similarly, Latinos and Asian-Pacific Islanders were most apt to speak a language other than English in their homes (about two-thirds and three-quarters respectively); but 8-10 percent of whites and African Americans also did. These two groups were also the longest-term residents in the US and in LA, compared to Asian-Pacific Islanders and Latinos. Cultural differences in the area of religion were also indicated. Whereas 70 percent of whites and Latinos, and 90 percent of African Americans reported adherence to the Christian religion, less than half of Asian-Pacific Islanders did so. Not surprisingly, they were more apt to report being Buddhist. Between 22-27 percent of Latinos and Asian-Pacific Islanders reported 'other' on this question; examination of the coding reveals that most of these respondents indicated that they were Catholics.

Turning to questions of residence, only just over a third of whites replied that their place of residence was a big city or urban area. About the same share lived in metropolitan suburbs; only about a fifth were living in a small city. This is a radically different pattern compared to the other groups, over 60 percent of which indicated 'big city or urban area'. Although the percentages are small, whites and African Americans were more likely to indicate 'rural area'

than other groups, perhaps not surprising given the demographic composition of LA County's outlying areas such as Palmdale, Lancaster, and Santa Clarita.

Race/Ethnic Diversity in Experience/Interaction with Marine Wildlife and Environments

About a fifth of all respondents had worked near or on the ocean, and this share did not vary significantly across race/ethnic groups. Nor did the types of occupational activities in which those working on/near the beach were engaged differ much. Just under 20 percent of all respondents belonged to or donated funds to an environmental or animal rights organization. However whites were two to three times as likely to belong or donate funds to such a group compared to the other respondent subgroups. Similarly, 12.9 percent of all respondents donated funds/time to an organization devoted to marine wildlife or ocean protection, but whites were two to three times more likely to do so than other groups. About a fifth had volunteered to help ocean or sea animals, but this share that did not vary by race/ethnic group.

On the domestic front, although over half the overall sample had kept fish or other marine animals in a home aquarium or garden pond, African American respondents were far more apt to have done so (70%), compared to Latinos (35%); around 60 percent of whites and Asian-Pacific Islanders had done so. Almost half of the Asian-Pacific Isandler subsample had purchased live fish or other ocean animals at a restaurant or market within the past two years, about twice the rate of African Americans and Latinos, and four times the rate of whites.

According to respondents, whites were much less likely to get their information about the beach or ocean related issues from TV than the other groups (42% compared to 70% for Latinos). They also reported getting less information from books. African Americans and Latinos were less apt to get information from newspapers than other groups; African Americans were also far less apt to rely on magazines. Although the percentage is small, whites were more apt to get information from environmental organizations. Latinos were much more apt to learn from going to the zoo or aquarium, and from going to the beach. There were no significant differences across groups concerning their use of other sources of information.

About eighty percent of all respondents felt they had adequate access to Southern California beaches. However, Latinos and Asian-Pacific Islanders were almost twice as apt to report a lack of adequate access as whites or African Americans (23% and 26%, versus 13% and 11% respectively). Of those who did not, the most common barriers were insufficient time, difficulty with transportation, beach pollution, crowding, and parking (Table 3B-1).

Table 3B-1. Access to Southern California Beaches
(statistically significant differences only; alpha=0.05)

What specifically limits your access to Southern California beaches?	***White (n=39)***	***African American (n=11)***	***Latino (n=68)***	***Asian-Pacific (n=25)***
Difficulty with transportation	25.6%	45.5%	11.8%	44%
Not enough time	10.3%	27.3%	40%	27.3%
Not enough parking	15.4%	0	23.5%	4%
Beaches are polluted	7.7%	0	44.1%	4%
Beaches are crowded	12.8%	9.1%	38.2%	23.1%

Regarding activities in which they usually participated while at the beach or ocean, there were some fairly dramatic differences between subgroups of respondents. For example, Latinos were twice as likely to spend time playing volleyball, Frisbee, flying kites, or building sand castles than Asian-Pacific Islanders or African Americans, while Asian-Pacific Islanders were far less apt to sunbathe, swim or walk on the beach. Asian-Pacific Islanders, in contrast were up to three times more likely to watch for whales or other wildlife. Latinos were more oriented toward water sports, African Americans toward fishing, and collecting tidepool animals (although percentages here were low across all groups; Table 3B-2).

Table 3B-2: Activity on Beach by Race/Ethnicity
(statistically significant differences only; alpha=0.05)

Activity on Beach	***White (n=193)***	***African American (n-52)***	***Latino (n=212)***	***Asian-Pacific (n=72)***
Volleyball, Frisbee, build sand castles, fly a kite	35.8%	23.1%	42.9%	20.8%
Sunbathe, swim, walk on the beach	85.5%	84.6%	89.6%	58.3%
Watch whale or look for wildlife	50.3%	42.3%	24.5%	87.5%
Water sports (boating, surfing, scuba diving, snorkeling)	24.4%	11.5%	32.5%	18.1%
Fish	16.6%	30.8%	13.2%	18.1%
Collect tidepool animals	5.2%	9.6%	1.9%	2.8%

Most respondents noticed marine mammals, sea birds, or other types of marine animals during their visits to the beach. But whites and Asian-Pacific Islanders were far more apt to notice birds than were other subgroups of respondents (around 60% versus 40% for the other two subgroups). Whites and African Americans were more apt to notice other marine animals. Latinos and Asian-Pacific Islanders were more apt to notice seagulls, pelicans, and herons than other kinds of birds. Other differences were not statistically significant.

Knowledge about Marine Wildlife

Overall, respondents were moderately knowledgeable about threatened and endangered species. But there were significant differences between subgroups. Whites were more apt to identify least terns as threatened or endangered, followed by African Americans; whites were also far more likely to identify white abalone. Whites were, however, more apt to incorrectly identify Pacific Cormorants. African Americans were the most likely to confess that they didn't know which animals were endangered or threatened, especially compared to whites. (Table 3B-3).

Table 3B-3: Threatened or Endangered Species
(statistically significant differences only; alpha=0.05)

Threatened or Endangered Species	***Whites (n=303)***	***African Americans (n=102)***	***Latinos (n=301)***	***Asian-Pacific (n=97)***
Least Tern	21.5%	15.7%	10%	11.3%
White Abalone	45.5%	26.5%	27.9%	15.5%
Pacific Cormorant	21.8%	15.7%	14%	13.4%
Don't Know	19.8%	31.4%	27.2%	24.7%

When surveyed for their opinions as to why Brown Pelicans had become endangered, over half correctly identified pollution as the cause. Over 60 percent of Latinos answered this question correctly. Greater than 15 percent of Asian-Pacific Islanders, more than other groups, thought endangerment had resulted from fishers shooting the birds.

While respondents had some knowledge about threatened and endangered species, they were far less informed about the safety of consuming local fish, and there was a clear pattern of race/ethnic difference. Over 85 percent of African Americans did not know of any local fish that were unsafe to eat, compared to around 30 percent for the other groups. This is significant, given that members of this respondent group were far more likely to fish when they went to the beach. When asked about particular fish, however, there were no significant differences – very few in any group were aware of problems related to White Croaker or King Fish consumption.

Attitudes toward Marine Wildlife Policy Issues

Questions in this portion of the survey inquired about respondents' opinions on coastal policy issues that have recently been in the news. When asked about the issue of dolphin mortality due to tuna fishing methods, a large majority was in favor of requiring dolphin-safe fishing methods, and seventy percent said they should be required by law. However, Latinos were more likely to support legal compunction than other groups (over three-quarters), particularly compared to African American respondents, only about half of which felt this way. (Table 3B-4).

Table 3B-4: Dolphin-safe Fishing Methods
(statistically significant; alpha=0.05)

Dolphin-safe fishing methods	***Whites (n=303)***	***African Americans (n=102)***	***Latinos (n=301)***	***Asian-Pacific (n=97)***
Dolphin-safe methods should be required by law	70%	53.9%	77.7%	69.1%
Dolphin-safe methods should not be required by law, but we should boycott tuna that is not dolphin-safe	11.6%	17.6%	8.3%	16.5%
Dolphin-safe methods should not required by law, we trust fishermen	9.6%	18.6%	11%	8.2%

Turning to the question of collection of endangered tidepool animals for human consumption, only about nine percent thought that this was acceptable. But this varied significantly by race/ethnicity. About 40 percent of Asian-Pacific Islander respondents felt that it was fine to collect endangered animals, compared to only about a fifth of African Americans. Latinos were more apt to support public education than any other group, while African Americans were most apt to suggest ignoring the practice because people needed the food. (Table 3B-5).

Table 3B-5: Collection of Endangered Tidepool Animals
(statistically significant; alpha=0.05)

Collection of Endangered Tidepool Animals	***Whites (n=303)***	***African Americans (n=102)***	***Latino s (n=301)***	***Asian-Pacific (n=97)***
Fine people that collect endangered tidepool animals	32.3%	21.6%	26.6%	40.2%
Organize a public education campaign	53.8%	54.9%	61.5%	48.5%
Ignore it because the number of animals collected is small	5.6%	3.9%	2.7%	4.1%
Ignore it because it may be important for people who need food	3.3%	12.7%	4%	5.2%

With respect to whether wetland development and the reduction of coastal animal habitat should be permitted, whites were more likely to favor protection than were other groups, particularly African Americans. Asian-Pacific Islanders were more likely than other groups to favor development regardless of environmental impact, while African Americans were more apt than other groups to favor housing development (Table 3B-6).

Table 3B-6: Remaining Wetlands
(statistically significant; alpha=0.05)

Remaining wetlands	***Whites (n=303)***	***African Americans (n=102)***	***Latinos (n=301)***	***Asian-Pacific (n=97)***
Protecting wetlands, regardless of impact on development	55.1%	34.3%	42.5%	38.1%
Protecting, but not at the cost of economic development	9.9%	10.8%	7.3%	19.6%
Studying before making decision	29%	41.2%	44.9%	35.1%
Developing for housing and businesses	2.6%	5.9%	1.3%	0

Race/Ethnic Diversity and Attitudes

Out of 35 questions regarding attitudes, responses on all but one question were significantly different according to the race/ethnicity of the respondent, based on Chi-Square analysis. Overall, Asian-Pacific Islander respondents tended to be more anthropocentric and in particular utilitarian. In contrast, Latinos were far more biocentric than other groups. Whites and African Americans tended to fall in the middle of the range of responses.

For example, one utilitarian-dominionistic attitude statement posited that the use of mile-wide fishing nets was acceptable, despite negative ecological consequences. Over half of the Asian-Pacific Islander respondents indicated that they either moderately or strongly agreed with this position, compared to between 14 percent (African Americans), 16 percent (whites), and 17 percent (Latinos). Similarly, Asian-Pacific Islander respondents were more apt to strongly agree with the utilitarian-dominionistic proposition that recreational fishing was acceptable regardless of whether one ate the catch (70%) than other groups. Latinos were the least likely to see fishing for fun or sport only, as ethically acceptable (36%). More Asian-Pacific Islanders (49%) strongly or moderately supported a utilitarian-dominionistic statement calling for the culling sea lion

populations if they were found to be eating too much fish that could be used for human consumption, than did other groups. For example whites (21% strongly or moderately agreeing).

Asian-Pacific Islanders were also much less likely to support animal welfare statements. They strongly disagreed that the use of barbed fishhooks is cruel (20 percent), compared to Latinos (60%), whites and African Americans (in the 30-35 percent range). Similarly, they were far less apt to strongly agree that killing whales is cruel (53 percent) compared to Latinos (84%). They were also less likely to disagree with the statement that keeping smart animals in aquariums was cruel (6%), and less likely than Latinos (but not whites) to strongly agree with this statement.

-Ps along with African Americans had the most strongly negativistic responses to marine animals. For example, seagulls were deemed a nuisance by over a third of both groups (compared to 18 percent for Latinos). Almost 42-46 percent of these two groups moderately or strongly agreed that when they went to the beach, they avoided the water because they might encounter unpleasant animals like jellyfish or crabs. This compared to 21 percent of whites and 29 percent of Latinos.

Asian-Pacific Islanders were also apt to see the spiritual and medicinal benefits of animals for people, although the share strongly agreeing with such statements was low for all groups. However, over 15 percent of Asian-Pacific Islanders either moderately or strongly claimed that they avoided some animals because they bring bad luck, compared to 7 percent for Latinos and whites, and 10 percent for African Americans. In addition, over 60 percent of Asian-Pacific Islanders strongly or moderately believed that eating fresh caught food gave a person more energy, compared to less than a quarter of whites.

Lastly, an exception to the pattern of Asian-Pacific Islander respondents scoring more highly on anthropocentric attitude measures was found with respect to aesthetic attitudes. Here, Asian-Pacific Islander respondents were among the least apt to value animals due to their beauty or grace and the pleasures that these qualities would provide to humans. Again, in contrast to other anthropocentric patterns, Latinos were typically the most aesthetically oriented.

Turning to biocentric attitudes, over three-quarters of Latinos strongly agreed with the animal rights statement that the fate of individual animals mattered to them, compared to only 43 percent of Asian-Pacific Islanders. When both the moderate and strongly agree responses are added together, however, whites were most supportive of this statement. Latinos were also far more likely to strong support the statement that marine animals should not be kept in aquariums because they have a right to be free. Almost two-thirds felt this way, compared to only 22 percent of whites, 32 percent for Asian-Pacific Islanders, and 40 percent for African Americans. Actual rights for animals were another matter. Latinos were more apt to strongly agree that it was absurd to think that animals could have legal rights, compared to only 20 percent of whites. Nevertheless, the combined shares of whites and Latinos in moderate or strong disagreement with the ‘animals having rights is absurd’ notion were similar (54 and 49 percent respectively) and higher than Asian-Pacific Islanders (41 percent).

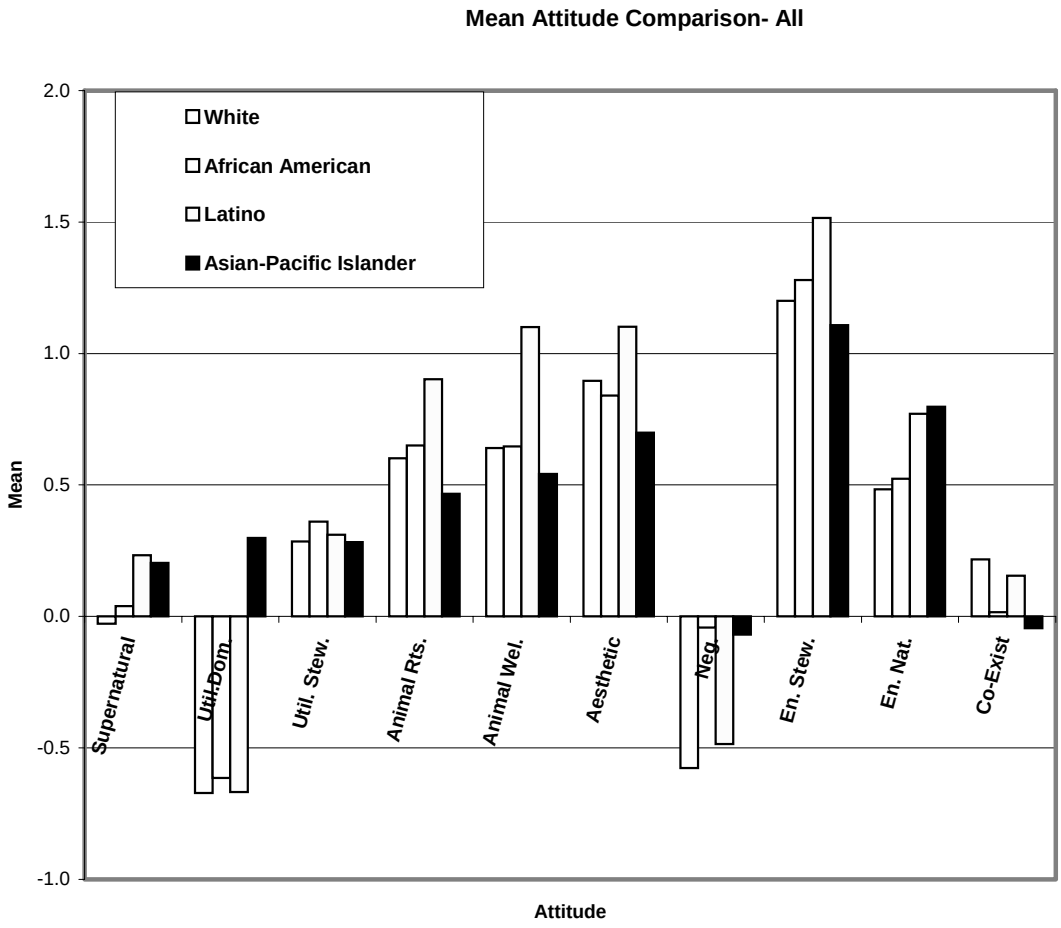
Responses to statements reflecting Environmental-Naturalistic attitudes were more mixed. African Americans were far more likely to strongly or moderately disagree that we should do nothing for stranded animals, and instead let nature take its course (70 percent, compared to a third of Asian-Pacific Islanders, 45 percent of Latinos, and almost two-thirds of whites). Thirty percent of Latinos moderately or strongly disagreed with the statement that it was nature's way for whales to become beached, however unfortunate. This was higher than among other groups, and although most respondents overall agreed with this statement, that Latino share was the lowest. Over three-fourths of Latinos strongly agreed that we should protect wetlands to allow seabirds their natural habitat, compared to 61 percent of Asian-Pacific Islanders. Additionally, two-thirds of Latinos strongly agreed that it was never OK to interfere with wild animals, compared to only a fifth of whites, a third of Asian-Pacific Islanders, and just over 40 percent of African Americans.

Environmental-stewardship attitudes, which emphasize the importance of people managing the environment on behalf of the ecosystem (not people), showed a similar pattern among respondent groups. Latinos were far more apt to strongly support the importance of sea lion existence in southern California than other groups, to stress preventing oil spills in order to protect sea bird habitat, to protect wetlands as fish nurseries, and to oppose over-fishing so that other sea animals have enough to eat, and to oppose restaurants selling swordfish if their numbers are declining. In each of these instances, Asian-Pacific Islander respondents were less apt to be strongly supportive.

Finally, Latinos were also more supportive of statements in favor of human-animal coexistence. For instance, 80 percent of the Latino respondents strongly agreed that it was OK for pelicans to steal fish from commercial fishermen because pelicans have to eat also, compared to only a third of Asian-Pacific Islanders, about half of whites, and 63 percent of African Americans. They were also more apt to be strongly against moving sea lions from the beach in order to give people more space (68%, versus 39% for Asian-Pacific Islanders), and to be less apt to either moderately or strongly agree with the statement that although the beach is the natural habitat for sea gulls, they are messy and unwanted when people are at the beach (only 20%, compared to 45% of Asian-Pacific Islanders).

In sum, differences in attitudes across respondents of different race/ethnic groupings were marked. The strongest contrasts were between Latinos and Asian-Pacific Islanders, with the former being far less anthropocentric than the later. (Chart 3B-1)

Chart 3B-1: Attitude Comparison Across All Groups



Contrasts in Patterns of Attitude Change

Differences in patterns of attitudinal change were statistically significant across race/ethnic groups. Whereas over 60 percent of Asian-Pacific Islanders indicated that their attitudes had changed since childhood, less than half of whites and Latinos, and just over half of African Americans felt that they had undergone a shift in their thinking. (Table 3B-7).

Reasons for attitude change also varied. Asian-Pacific Islanders were more apt to express changes in attitudes linked to childhood superstitions, worrying about how animals felt, animal rights, and perceived needs to cull animal populations. In contrast, Latinos were most apt to report shifts in their attitudes toward the economic importance of animals, environmental protection, the ecological importance of animals, fear of animals, and enjoyment of their aesthetic qualities. African American respondents indicated the greatest shifts in their thinking about animal rights, animal-related superstition, animals' feelings, and the perceived need for culling wildlife populations. White respondents reported the least incidence of attitudinal changes overall.

Table 3B-7: Race/Ethnic Differences in Patterns of Attitude Change

Attitude Change Since Childhood	*White (n=148)*	*African-American (n=53)*	*Latinos (n=142)*	*Asian-Pacific (n=60)*
I now realize the economic importance of animal products like food and dairy	75.7%	81.1%	87.3%	71.7%
I never used to think about protecting the environment when I was a child, but now I do	86.5%	86.7%	91.5%	78.3%
I never used to think that animals had rights when I was a child	61.5%	71.5%	61.5%	75.5%
I now see how important animals are to our ecology	92.6%	96.2%	99.3%	86.7%
When I was a child, I used to be superstitious about some animals	22.3%	45.3%	27.5%	41.7%
I used to be more afraid of animals when I was a child	37.2%	58.5%	64.8%	48.3%
I never used to worry about how animals felt when I was a child	44.6%	66%	40.1%	55%
I have a better understanding of the need for humans and animals to live together on earth	92.6%	96.2%	98.6%	90%
I now realize that the population of some wild animals must be reduced	64.9%	69.8%	41.5%	70%
I am able to enjoy the beauty of animals more than I used to when I was a child	75%	81.1%	94.4%	83.3%

The most commonly cited reasons for shifts in attitudes were not consistent across groups either. Whites and Latinos, for example, were more than twice as likely to have had a personal experience that changed their minds (29% and 33% respectively) than either African Americans or Asian-Pacific Islanders (15% and 13%). Asian-Pacific Islanders were far less apt to indicate that their knowledge levels had changed (less than 30% but more than half among other groups), and that moving to the US had influenced their thinking (16% versus only 3% for Latinos).

Race/Ethnic Variations in Tolerance toward Animal Practices

On all but two questions concerning tolerance toward controversial, cross-cultural animal practices, were significant in our Chi-Square analyses (Table 3B-8).

Table 3B-8: Tolerance toward Controversial Animal Practices by Race/Ethnicity

Percent Tolerant of:	*White (n=303)*	*African-American (n=102)*	*Latinos (n=301)*	*Asian-Pacific (n=97)*
Hunting/Killing Whales*	30%	19.6%	9.3%	25.8%
Collecting Tidepool Animals for Food*	46.9%	50%	27.2%	41.2%
Keeping Animals Alive Until Ready to Be Eaten*	66.7%	68.6%	46.2%	53.6%

Sacrificing Animals for Religious Purposes*	20.8%	16.7%	6.6%	19.6%
Eating Sea Turtles*	30%	39.2%	11.3%	32%
Eating Dogs*	30%	15.7%	7%	32%
Littering on Beach	5.2%	3%	3.9%	4%
Donating Unwanted Pets to Research Labs	30.7%	28.4%	22.6%	36.1%
Attending in Bullfights*	24.4%	33.3%	18.6%	24/7%
Participating in Dog Fights*	8.9%	10.8%	4%	11.3%
Participating in Cock Fights*	9.2%	9.8%	6%	14.4%
Raising Calves in Confinement for Veal*	38%	34.3%	17.9%	22.7%
Eating Factory Farmed Meat*	66.3%	75.5%	45.2%	78.4%
Spending Money on Pets*	77.9%	72.5%	49.5%	58.8%
Participating in Horse-Tripping Events*	13.2%	21.6%	23.6%	27.8%
Participating in Calf-Roping Events*	46.9%	44.1%	28.6%	32%
Cropping Dog's Ears and Docking Tails*	42.2%	37.3%	15.3%	16.5%

*Significant at alpha = 0.05.

As this table reveals, in all but one question, the least tolerant group was Latinos. Whites tended to be most tolerant when it came to the following activities:

- Whale hunting (30%, versus 9% among Latinos)
- Animal sacrifices (21%, versus 7% among Latinos)
- Veal calf crating (38 percent, versus 18% among Latinos)
- Spending money on pets (78%, versus 50% among Latinos)
- Calf roping (47%, versus 29% among Latinos)
- Ear cropping/tail docking (42%, versus 15% among Latinos, and 17% among Asian-Pacific Islanders)

Asian-Pacific Islanders and African Americans were most tolerant of several practices also, although in most cases the share of any group that expressed tolerance was fairly low. Asian-Pacific Islanders, for example, were most likely to be tolerant of:

- Eating dogs (32%, versus 7% among Latinos)
- Participating in dogfights (11%, versus 4% among Latinos)
- Participating in cockfights (14%, versus 6% among Latinos)
- Factory farming (78%, versus 45% among Latinos)
- Horse tripping (28%, versus 13% among whites)

African Americans had tolerance levels similar to Asian-Pacific Islanders concerning participating in dog fighting and considering factory farming acceptable, and approach whites in being tolerant of ear cropping and tail docking. They were, however, more apt to tolerate:

- Collection of tidepool animals (50%, versus 27% of Latinos)
- Keeping animals alive until just before killing/eating (69%, versus 46% of Latinos)
- Eating turtles (39%, versus 11% of Latinos)
- Going to a bullfight (33%, versus 19% of Latinos)

It should be noted that even on items that one or another group turned out to have had largest share of tolerant respondents, tolerance for some practices was extremely low. Litter at the beach was not tolerated by any group, nor were donating unwanted pets to research labs. Further, the majority of respondents in all groups were intolerant of whale hunting, animal sacrifices, eating turtles or dogs, bullfights, dogfights, cockfights, veal crates, horse tripping, calf roping and ear cropping/tail docking. But what is most interesting is that Latinos are so uniformly less tolerant, and also that cultural practices seem to be generating two sorts of responses. Asian-Pacific Islanders are most tolerant of certain practices associated with Asian cultures (e.g., eating turtles and dogs, dog fighting and cockfighting), and consistent with their utilitarian-dominionistic attitudes, factory farming. In contrast, Latinos were more apt to reject animal practices often associated with Latino culture, such as bullfights, dog and cockfighting (popular in some quarters of LA's Latino community), and horse tripping, a staple of Mexican-style rodeo.

Additional Chi-square analyses revealed other aspects of race/ethnic differences as well as similarities in tolerance toward controversial animal practices. First, women were far less tolerant than men. The only exceptions were in reference to collection of tidepool animals (African American and Asian-Pacific Islander women were more tolerant than men); cock fighting (Latina and Asian-Pacific Islander women were more tolerant than men); and spending on pets (white and Latina women were more tolerant than men). Second, US born whites, Latinos, and Asian-Pacific Islanders often tended to be more tolerant than immigrants in these groups. Third, those with lower levels of education tended to be less tolerant, except in the case of dog fighting, and among whites, cock fighting, horse tripping, and spending money on pets. Fourth, age played a different role in different groups; for example, older Latinos were less tolerant of spending money of pets, while younger whites were more tolerant of cock fighting. Lastly, those who were more strongly in favor of dolphin protection, and to a lesser extent, tidepool protections, were less tolerant across all groups.

Variations in Stigma by Race/Ethnicity

Over 40 percent of the sample indicated that at some point in their past, they had felt people looked down on them or thought they were strange because of their interactions with animals. Asian-Pacific Islanders were least apt to feel stigmatized, whereas African Americans were most likely, but this response did not vary significantly by race/ethnicity. However, although levels of perceived stigma were relatively low overall, on six of eight questions concerning the reasons for being looked down upon, there were significant differences. On five of these six questions, African Americans were most likely to say they felt stigmatized by their animal practices (Table 3B-9).

Table 3B-9: Perceived Social Stigma by Race/Ethnicity

Do you ever feel that people look down on you or think you are strange because of the…	***White (n=303)***	***African American (n+102)***	***Latino (n=301)***	***Asian-Pacific (n=97)***
I never feel that way	58.4%	50%	57.8%	63.9%
Kinds of animals you eat	12.2%	14.7%	7.6%	14.4%
Sorts of animals you keep at home*	8.6%	10.8%	3%	5.2%

Way you treat or train your animals*	7.3%	14.7%	4.3%	3.1%
Fact that you don't really like animals*	1.3%	6.9%	2.7%	1%
Fact that you think animals have rights like people*	20.8%	29.4%	22.3%	7.2%
Money you spend on your pets*	11.9%	16.7%	7.3%	3.1%
Fact that you hunt*	4.3%	4.9%	0.3%	5.2%
Fact that you fish	4%	2%	1.3%	3.1%

*Significant at alpha=0.05.

As this table reveals, 11 percent of African Americans felt stigmatized because of the animals they kept at home, 15 percent because of how they trained or treated their animals, 7 percent on account of the fact that they didn't really like animals at all, 29 percent because they thought animals had rights, 18 percent because of the money they spent on their pets, and 5 percent because they hunted. And, along with Asian-Pacific Islanders, they were twice as likely to feel stigmatized because of the animals they ate compared to Latinos (although this question was not statistically significant). Asian-Pacific Islanders and Latinos were, over all, least apt to feel stigmatized. For example, Asian-Pacific Islanders and Latinos were much less apt to report feeling stigmatized than African Americans or Whites on account of the animals they kept at home as pets, the way they treated or trained their animals, money spent on pets, and – for African Americans only – because they didn't like animals at all. Particularly striking is the finding that although almost 30 percent of African Americans felt stigmatized because they thought animals had rights (followed closely by whites and Latinos at 21 and 22% respectively), only 7 percent of Asian-Pacific Islanders felt this way.

Additional Chi-square analyses revealed other interesting patterns. African American women felt more stigmatized because they did not like animals, and all women reported being more stigmatized because they felt animals had rights, and (except Asian-Pacific Islander women) because of the money they spent on their pets (although not statistically significant). African American men were significantly more apt to report stigma because they hunted and fished. US born Latinos often reported more stigma, compared to immigrants; in the case of perceived stigma due to hunting and fishing, US born Asian-Pacific Islanders reported higher rates of stigma. US born Asian-Pacific Islanders also reported high stigma rates on account of animals they ate and feeling animals had rights. Age played a role also, although differentially across groups; for example, younger African American reported higher stigma rates because they didn't like animals, whereas younger Latinos felt more stigmatized due to the way they treated or trained their animals, and middle-aged African Americans felt higher levels of stigma because they hunted. Similarly, income played a varied role; higher income Latinos were more apt to report stigma on account of beliefs in animal rights, while higher income whites and Asian-Pacific Islanders reported more stigma on this account. Further, in general, less educated whites felt more stigmatized due to their animal practices, while more educated African Americans and Latinos were more apt to report stigma. With respect to animals rights, whites and African Americans with less education reported more stigma, while the less educated in these two groups reported more stigma when it came to hunting.

4. SUBSAMPLE RESULTS

4A. Whites

In general, members of the White group were well educated and had high incomes. The group was predominantly composed of US born, monolingual English speakers, who were long-time residents of Southern California. They were nearly equally divided in terms of gender, mostly over forty-five years of age, and had no children living in the home. In terms of religion, a large majority described themselves as Christian.

A preponderance of respondents from this group felt they had adequate access to Southern California beaches, and nearly one-quarter had worked near or on the ocean. Much of their information about the beach or ocean related issues, was obtained via newspapers, television, and magazines, respectively.

During their visits to the beach or ocean, they sunbathed, swam, walked on the beach, whale watched, or looked for wildlife. Most of these respondents noticed marine mammals, sea birds, or other types of marine animals during their visits to the beach. This subsample was well informed about threatened and endangered species, however, they were surprisingly uninformed about the safety of consuming local fish. When queried regarding local policy issues such as dolphin mortality from tuna fishing nets, collection of endangered tidepool animals for human consumption, and wetland development and the reduction of coastal animal habitat, most of these respondents favored taking some kind of action in order to protect marine animals and the coastal zone.

As a whole, the White sample showed a high environmental-stewardship and coexistence attitudes, and moderately low supernatural, negativistic and utilitarian-dominionistic attitudes. Nearly half of these respondents said the way they think about animals and the environment has changed since they were children. The most common reason given, was increased knowledge about animals. When questioned about their perspectives on culturally-linked animal practices, the White subsample was more accepting of practices condoned by the general U.S. population, than those associated with other race/ethnic groups, and did not feel that they were looked down upon for their own animal practices.

Demographic, Socio-economic and Locational Characteristics

Three hundred and three respondents (36.5%) described themselves as White. Among this group, two-thirds were over the age of forty-five, just over half were male, and nearly eight out of ten did not have children under the age of 18 living at home.

Overall, this was an educated group, with less than six percent lacking a high school diploma and greater than fifty percent possessing college degrees. Nearly forty-five percent of these respondents had annual household incomes in excess of fifty thousand dollars, and just under thirteen percent reported incomes of less than twenty thousand dollars.

When asked about religious beliefs, a majority (70.6%) described themselves Christian, 8.6 percent expressed agnostic/atheistic beliefs, and 6.3 percent Jewish. The remaining respondents described themselves as Buddhist, Confucian, Moslem, or "Other".

Nearly nine out of ten of these respondents were born in the United States, 5.2 percent in Europe, 2 percent in Canada, 0.7 percent in Mexico, and the remaining 2.4 percent in "Other" countries. Most were long time residents, 77.9 percent having lived in Southern California longer than twenty years, and an additional 14.2 percent in the somewhere in United States for that same period. All had lived in the United States longer than two years, ninety seven percent in Southern California. Thirty-seven percent described their place of residence as a big city, 34.3 percent as "suburb of metropolitan area", and 20.8 percent as "small town". Over five percent said "rural area" best described their place of residence. A majority of respondents from this sample was monolingual, with only 10.2 percent speaking a language other than English at home.

Compared to 1990 Census Data for Los Angeles County, this group was highly educated and had high incomes. In 1990, twenty-three percent of Whites over the age of twenty-five living in Los Angeles County had not completed high school and only one-third had obtained a college degree. Further, 37.2 percent had annual household incomes over fifty thousand dollars, and thirty-one percent, less than twenty-five thousand dollars. Age and gender ratios of this sample were similar to that of Los Angeles County in 1990.

Experience/Interaction with Marine Environments and Wildlife

Nearly one-quarter of White respondents had worked near or on the ocean. The greatest percentage (48%) was those who had been employed in office/restaurant or hotel jobs. Twenty-one percent had worked in a military capacity; 10.7 percent as life guards/beach workers; 9.3 percent in marine wildlife education/research/ rescue; 6.7 percent fish packing/ dock worker; 2.7 percent oil rig worker, or commercial diver; and the remainder worked in beach cleanup or some other capacity.

Thirty percent of White respondents belonged to or donated funds to an environmental or animal rights organization, and one-fifth to an organization devoted to marine wildlife or ocean protection. According to respondents, much of their information about the beach or ocean related issues was obtained via newspapers, television, and magazines, respectively. Fewer than one percent said they received the majority of their information from personal experiences and observations.

More than 80 percent of White respondents felt they had adequate access to Southern California beaches. Of those who did not, one-quarter indicated difficulty with transportation as a limit to their access, and over fifteen percent cited parking as a problem. Thirteen percent said crowding at local beaches limits accessibility, and just ten percent said time was a limiting factor in their access (Table 4A-1).

Table 4A-1. White- Access to Southern California Beaches

What specifically limits your access to Southern California beaches?	*White (n=39)*
Difficulty with transportation	25.6%
Not enough time	10.3%
No money	--
Not enough parking	15.4%
Don't know where to go	2.6%
Beaches are polluted	7.7%
Beaches are crowded	12.8%
No disabled access	2.6%
Private ownership	1.5%
Too far	--
Don't care	--
Other	29.3%
Don't know/Refused	10.3%

More than 63 percent of all white respondents had visited the beach at least once during the past two years. When asked in which activities they usually participated while at the beach or ocean, the vast majority said they sunbathed, swam, or walked on the beach. Half of the respondents said whale watching, or looking for wildlife was included in their usual activities, while more than one-third played volleyball, Frisbee, flew kites, or built sand castles. Nearly one-quarter participated in water sports such as boating, surfing, scuba diving, or snorkeling; 17 percent fished; five percent collected tidepool animals; and seven percent participated in "Other" activities (Table 4B-2).

Table 4B-2: White- Activity on Beach

Activity on Beach	*White (n=193)*
Volleyball, Frisbee, build sand castles, fly a kite	35.8%
Sunbathe, swim, walk on the beach	83.5%
Watch whale or look for wildlife	50.3%
Water sports (boating, surfing, scuba diving, snorkeling)	24.4%
Fish	16.6%
Collect tidepool animals	5.2%
Other activities	7.3%
Don't know/Refused	2.1%

Most respondents noticed marine mammals, sea birds, or other types of marine animals during their visits to the beach. Fewer than eight percent said they didn't notice any animals. Sixty percent said they noticed birds while at the beach. Of those, nearly nine of ten observed Seagulls, one-third saw Pelicans, thirteen percent Sandpipers, four percent Least Terns, and three percent Cormorants. Less than one percent noted Herons or Plovers, and eleven percent cited "Other" birds.

Over 37 percent noticed mammals while at the beach. More than half of those who saw mammals, noticed dolphins, 40 percent observed seals and sea lions, 27 percent gray whales, and 15 percent noticed "Other" mammals.

Greater than twenty-seven percent observed other marine animals during their beach visits. Of these, 36 percent saw crabs or lobsters; seventeen percent noticed clams or mussels, and fifteen percent jellyfish. Eight percent of respondents who noticed other marine animals saw octopus, six percent noted shrimp or crayfish, four percent squid, and nearly 38 percent saw "Other" marine animals (Table 4A-3).

Table 4A-3: White- Marine Animals Seen at Beach

Mammals Seen at the Beach	***White (n=193)***
Seals and Sea lions	39.7%
Gray whales	27.4%
Dolphins	54.8%
Other mammals	15.1%
Birds Seen at the Beach	
Seagulls	88.7%
Pelicans	33%
Least terns	3.5%
Clapper rails	--
Herons	0.9%
Sandpipers	13%
Plovers	0.9%
Cormorants	2.6%
Oystercatchers	--
Other birds	11.3%
Marine Animals Seen at the Beach	
Jellyfish	15.1%
Squid	3.8%
Octopus	7.5%
Shrimp and crayfish	5.7%
Crab and lobsters	35.8%
Clams or mussels	17%
Grunions	--
Fish	--
Other marine animals	37.7%

Knowledge about Marine Wildlife

Overall, this subsample was knowledgeable about threatened and endangered species. When asked which animals were either threatened with extinction, or endangered, over 60 percent correctly selected the Gray Whale, 46 percent the White Abalone, and 22 percent the Least Tern. Forty-three percent incorrectly selected the White-sided dolphin, 22 percent the Pacific Cormorant, and just over 20 percent selected either "don't know" or "other" (Table 4A-4).

Table 4A-4: White- Threatened or Endangered Species

Threatened or Endangered Species	***White (n=303)***
Gray Whale	61.4%
Least Tern	21.5%
White Abalone	27.9%
White-sided Dolphin	42.9%
Pacific Cormorant	21.8%
Other	0.3%
Don't Know	19.8%

When surveyed for their opinions as to why Brown Pelicans had become endangered, half correctly identified pollution as the cause; one-quarter selected "don't know"; nine percent thought it was a result of fishermen shooting them; eight percent a consequence of not enough fish to eat; and nine percent thought some other reason responsible (Table 4A-5).

Table 4A-5: White- Reasons For Brown Pelican Becoming Endangered

Reason for Brown Pelican Endangerment	***White (n=303)***
Fishermen Shooting them	8.6%
Pollution	49.8%
Not enough fish to eat	7.9%
Other	8.9%
Don't know	24.8%

While the White subsample was knowledgeable about threatened and endangered species, they were surprisingly uninformed about the safety of consuming local fish. Nearly three-quarters said they did not know of any local fish that were unsafe to eat, and only 2.6 percent correctly selected White Croaker or KingFish as unsafe for human consumption. Less than two percent said "any fish in the Santa Monica Bay" or "all fish", while 10.5 percent said "Other", and 11.2 percent refused the question (Table 4A-6).

Table 4A-6: White- Local Fish Not Safe to Eat

Local Fish Unsafe for Human Consumption	***White (n=303)***
I do not know of any	72.6%
White Croaker or King fish	2.6%
Rockfish	0.7%
Garibaldi	---
Sheephead	---
Trout	0.3%
All fish	1.8%
Any fish in the Santa Monica Bay	1.6%
None of them	---
Other	10.5%
Don't know/Refused	11.2%

Attitudes Toward Marine Wildlife Policy Issues

This section probed respondents opinions on coastal policy issues that have been in the news. When presented with the issue of dolphin mortality from tuna fishing nets, the majority of this subsample was in favor of dolphin-safe fishing methods, and 70 percent said they should be required by law. While nearly ten percent did not think dolphin-safe methods should be required by law, they were in favor of boycotting tuna that is not dolphin-safe. Over eleven percent thought dolphin-safe fishing methods should not be required by law, preferring to trust fishermen to use methods that work best for them (Table 4A-7).

Table 4A-7: White- Dolphin-safe Fishing Methods

Dolphin-safe fishing methods	***White (n = 303)***
Dolphin-safe methods should be required by law	70%
Dolphin-safe methods should not be required by law, but we should boycott tuna that is not dolphin-safe	11.6%
Dolphin-safe methods should not required by law, we trust fishermen	9.6%
None of these	1.3%
Don't know/Refused	7.6%

Regarding the issue of collection of endangered tidepool animals for human consumption, most respondents thought some action should be taken to prevent this activity. Over half supported the idea of a public education campaign and one-third were in favor of fining people that collect endangered tidepool animals. Nearly nine percent thought the issue should be ignored either because the number of animals collected was too small (5.6%) or because these animals may be important for people who need food (3.3%) (Table 4A-8).

Table 4A-8: White- Collection of Endangered Tidepool Animals

Collection of Endangered Tidepool Animals	***White (n = 303)***
Fine people that collect endangered tidepool animals	32.3%
Organize a public education campaign	53.8%
Ignore it because the number of animals collected is small	5.6%
Ignore it because it may be important for people who need food	3.3%
None of these	--
Don't know/Refused	5%

Concerning the issue of wetland development and the reduction of coastal animal habitat, more than half of respondents were in favor of protecting wetlands regardless of impact on development, and 29 percent thought additional studies should be completed before development decisions were made. Ten percent thought wetlands should be protected, but not at the cost of development, while 2.6% favored developing remaining wetlands for housing and business (Table 4A-9).

Table 4A-9: White- Remaining Wetlands

Remaining wetlands	***White (n = 303)***
Protecting wetlands, regardless of impact on development	55.1%
Protecting, but not at the cost of economic development	9.9%
Studying before making decision	29%
Developing for housing and businesses	2.6%
None of these	0.7%
Don't know/Refused	2.6%

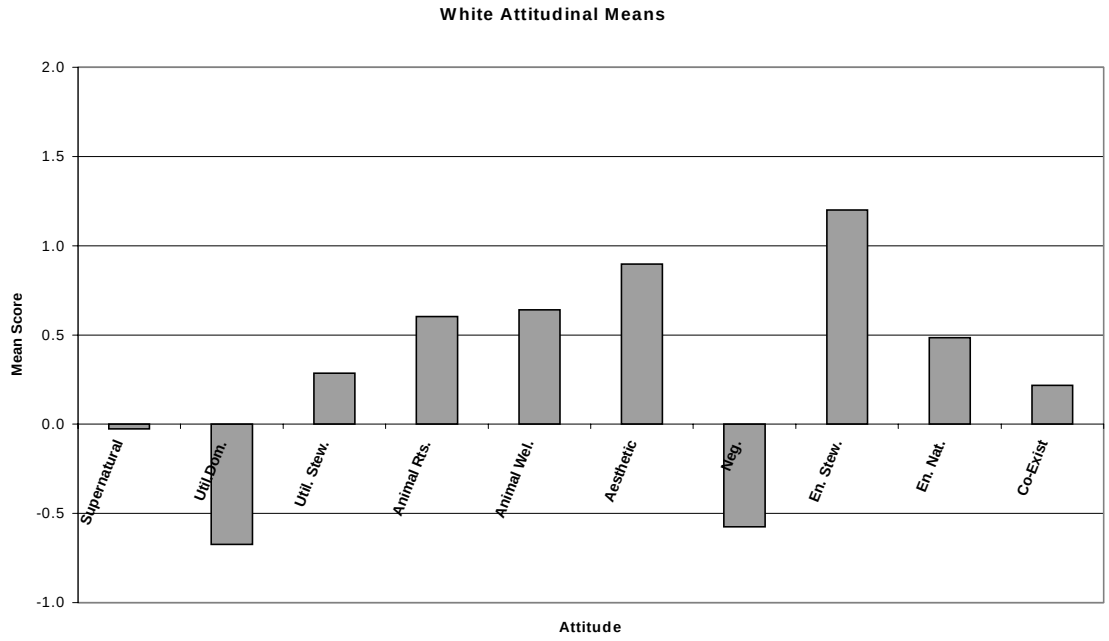
Attitudes toward Marine Wildlife

This section consisted of thirty-five attitudinal statements designed to gauge respondents' attitudes toward the marine environment and wildlife. The statements were classified into two broad categories, and ten attitudinal subcategories, as described above in Section 2B.

Attitudinal questions, posed as agree/disagree along a five-point Likert scale, were coded as +2 for "strongly agree" and -2 "strongly disagree". Twenty percent of these questions were reversed to prevent the appearance of a bias, and then converted back to their original format for purposes of tabulation.

Overall, the White sample showed a high (+1 to +2) mean for Environmental-Stewardship attitudes. Attitudes which this group showed moderate (0 to +.99) means for were Aesthetic, Animal Welfare, Animal Rights, Environmental-Naturalistic, and Utilitarian-Stewardship. White respondents showed a moderately low (0 to –1) mean for Supernatural, Negativistic and Utilitarian-Dominionistic attitudes (Chart 4A-1).

Chart 4A-1: White Attitudinal Means



The survey contained three statements to measure utilitarian dominionistic attitudes. More than half of all White respondents disagreed to some extent with the statement regarding sport-fishing: "I think recreational fishing is fine, regardless of whether you eat the fish you catch." Forty-two percent agreed, 2.3 percent selected neither agree nor disagree, and 4 percent refused the question. Nearly two-thirds of respondents from this group disagreed to some extent with the statement regarding competition for food from sea lions: "Populations of sea lions should be reduced if they eat too many fish that people eat." Twenty-two percent of White respondents agreed with this statement, 5.6 percent selected neither agree nor disagree, and 8.2 percent refused the question.

Almost three-quarters disagreed with the statement regarding the efficiency of mile-wide fishing nets: "Since mile-wide fishing nets are so efficient, they should be used even though they cause ecological damage." Only sixteen percent agreed, 2.3 percent selected neither agree nor disagree, and 7.9 percent refused the question. (Table 4A-10).

Table 4A-10: White-Utilitarian Dominionistic Attitudes

Utilitarian Dominionistic White (n = 303)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
I think that recreational fishing is fine, regardless of whether you eat the fish you catch.	19.8%	22.4%	2.3%	17.5%	34%
Populations of sea lions should be reduced if they eat too many fish that people eat.	7.6%	14.2%	5.6%	27.1%	37.3%
Since mile-wide fishing nets are so efficient, they should be used even though they cause ecological damage.	9.9%	6.3%	2.3%	15.2%	58.4%

Four statements gauging utilitarian-stewardship attitudes were included in the survey. Greater than eight of every ten respondents agreed to some extent with the statement regarding food and medicinal purposes as appropriate uses of animals: "It is okay for sharks and other marine animals to be used for food and medicines so long as the animals are not endangered." Only one of ten disagreed with the statement, 1.3 percent selected neither agree nor disagree, and 4 percent refused the question. Sixty-one percent of White respondents agreed with the statement concerning the harvesting of healthy lobster populations: "As long as the lobster population is healthy, commercial lobster fishing is no different than harvesting apples each year." Just over one-quarter disagreed with the statement, 1.7 percent selected neither agree nor disagree, and 10.6 percent refused the question.

Two-thirds of respondents from this group agreed to some extent with the statement regarding protection of animal habitat for the sole purpose of ensuring future food supplies for humans: "The most important reason to protect areas where fish mature and reproduce is to insure that people will have enough fish to eat in the future." Twenty-nine percent disagreed

with this statement, 2.3 percent selected neither agree nor disagree, and 2.3 percent refused the question. The statement concerning restaurants serving swordfish "Restaurants shouldn't serve swordfish if their numbers are significantly declining" was a reversal question. Although a majority (80%) of respondents agreed with this statement, the data result in a negative number (Table 4A-11).

Table 4A-11: White Utilitarian Stewardship Attitudes

Utilitarian Stewardship White (n = 303)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
It is okay for sharks and other marine animals to be used for food and medicines so long as the animals are not endangered.	49.2%	35%	1.3%	4%	6.6%
As long as the lobster population is healthy, commercial lobster fishing is no different than harvesting apples each year.	29.4%	31.4%	1.7%	13.5%	13.5%
The most important reason to protect areas where fish mature and reproduce is to insure that people will have enough fish to eat in the future.	38%	28.7%	2.3%	16.5%	12.2%
Restaurants shouldn't serve swordfish if their numbers are significantly declining.	53.5%	25.4%	2.3%	8.6%	4.3%

This section of survey contains three statements weighing negativistic attitudes. Sixty-four percent of White respondents disagreed to some extent with the statement: "I find seagulls to be a real nuisance." Nearly thirty percent agreed with this statement, 3 percent selected neither agree nor disagree, and 4 percent refused the question. While forty-seven percent of respondents from this group disagreed with the statement: "Seaweed and kelp are dangerous to swimmers", thirty-eight percent agreed, 2 percent selected neither agree nor disagree, and 12 percent refused the question. Seventy-three percent disagreed to some extent (52% strongly disagreed) with the statement: "When I go to the beach, I don't go in the water because there might be unpleasant animals like jellyfish or crabs there." Twenty-one percent agreed with the statement, 2 percent selected neither agree nor disagree, and 4 percent refused the question (Table 4A-12).

Table 4A-12: White Negativistic Attitudes

Negativistic White (n=303)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
I find seagulls to be a real nuisance.	12.2%	16.5%	3%	24.1%	39.9%
Seaweed and kelp are dangerous to swimmers.	14.9%	23.4%	2.3%	22.1%	25.1%
When I go to the beach, I don't go in the water because there might be unpleasant animals like jellyfish or crabs there.	12.2%	8.9%	2.3%	21.1%	51.5%

Four statements measuring aesthetic attitudes were included in the survey. Among White respondents, more than nine of ten agreed to some extent (71% strongly agreed) with the statement: “One of the most striking things about whales is their grace and beauty.” Only four percent disagreed with this statement, 1 percent selected neither agree nor disagree, and 2 percent refused the question. Ninety-two percent of respondents from this group agreed with the statement: “If I were to visit a marsh or wetland, it would be to watch the colorful birds and other wildlife that live there.” Only five percent disagreed to any extent with this statement, 1 percent selected neither agree nor, and 2 percent refused the question. The statement regarding fish as wall trophies: "I don't like the idea of mounting fish on the wall as trophies", was a reversal question. Nearly sixty percent of these respondents agreed with this statement, and thirty-two disagreed, however, data show a negative number for responses to this statement. Almost three-quarters of respondents agreed with the statement: “If I had to choose, I’d rather snorkel than surf because snorkeling allows me to see beautiful fish.” Eight percent disagreed with this statement, 7.9 percent selected neither agree nor disagree, and 10.9 percent refused the question (Table 4A-13).

Table 4A-13: White Aesthetic Attitudes

Aesthetic White (n=303)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
One of the most striking things about whales is their grace and beauty.	70.6%	22.1%	1%	2.6%	1.7%
If I were to visit a marsh or wetland, it would be to watch the colorful birds and other wildlife that live there.	60.1%	31.4%	1%	3.3%	2%
I don’t like the idea of mounting fish on the wall as trophies.	41.3%	17.5%	6.3%	17.2%	15.2%
If I had to choose, I’d rather snorkel than surf because snorkeling allows me to see beautiful fish.	46.9%	26.7%	7.9%	4.3%	3.3%

Three statements gauging animal welfare attitudes were included in the survey. While over half of all White respondents agreed to some extent with the statement: “Catching fish with barbed hooks is cruel”, one-third disagreed, 5 percent selected neither agree nor disagree, and 8.9 percent refused the question. Eight of ten respondents agreed with the statement: “Killing whales is a cruel act.” Eleven percent disagreed, 3.6 percent selected neither agree nor disagree, and 4 percent refused the question. Half of White respondents agreed with the statement: “Keeping smart animals like seals and killer whales in aquariums is cruel”, while forty-two percent disagreed, 3 percent selected neither agree nor disagree, 4.6 percent refused the question (Table 4A-14).

Table 4A-14: White Animal Welfare Attitudes

Animal Welfare White (n=303)	*Strongly Agree*	*Moderately Agree*	*Neither Agree or Disagree*	*Moderately Disagree*	*Strongly Disagree*
Catching fish with barbed hooks is cruel.	32.7%	20.1%	5.3%	18.2%	14.9%
Killing whales is a cruel act.	65.3%	16.2%	3.6%	6.9%	4%
Keeping smart animals like seals and killer whales in aquariums is cruel.	27.4%	22.8%	3.3%	28.7%	13.2%

The survey contained three statements weighing supernatural attitudes among respondents. Eighty-four percent of all White respondents agreed to some extent with the statement: "Seeing wild animals like dolphins in the surf would give me a magical feeling", thirteen percent disagreed, 1.7 percent selected neither agree nor disagree, and 1.7 percent refused the question. Greater than ninety percent of respondents from this group disagreed with the statement concerning the avoidance of certain animals for superstitious reasons: "I avoid some kinds of animals because they bring bad luck." Only eight percent of respondents agreed with this statement, 0.3 percent selected neither agree nor disagree, and 1.6 percent refused the question. While forty-two percent of respondents agreed with the statement: "It gives your body more energy to eat fish that's just been caught fresh", twenty-eight percent disagreed, 6.6 percent selected neither agree nor disagree, and 22.8 percent refused the question (Table 4A-15).

Table 4A-15: White Supernatural Attitudes

Supernatural White (n = 303)	*Strongly Agree*	*Moderately Agree*	*Neither Agree nor Disagree*	*Moderately Disagree*	*Strongly Disagree*
Seeing wild animals like dolphins in the surf would give me a magical feeling.	62.4%	21.1%	1.7%	7.6%	5.6%
I avoid some kinds of animals because they bring bad luck.	3.6%	4%	0.3%	8.9%	81.5%
It gives your body more energy to eat fish that's just been caught fresh.	23.1%	19.1%	6.6%	16.8%	11.6%

Five statements measuring environmentalist variants of naturalistic attitudes were included in the survey. Sixty-four percent of White respondents disagreed with the statement: "When stranded animals wash up on the beach, we should let nature take its course and not intervene." Nearly thirty percent agreed with this statement, 3 percent selected neither agree nor disagree, and 3.9 percent refused the question. Surprisingly, two-thirds of respondents agreed with the statement: "It's unfortunate to see whales beach themselves but that's 'nature's way'." Two of ten disagreed to some extent with this statement, 3.6 percent selected neither agree nor disagree, and 9.9 percent refused the question. Greater than nine of ten respondents agreed with the statement: "If I were to support the protection of coastal marshes or wetlands, it would be to

allow seabirds to live in their natural habitat", only four percent disagreed, 2 percent selected neither agree nor disagree, and 3 percent refused the question. Nearly one-half of these respondents disagreed to some extent with the statement regarding human interference with animals: "It's never OK for people to interfere with wild animals, who should be free to lead their lives without interference from people." Forty-two percent agreed with this statement, 6.3 percent selected neither agree nor disagree, and 3 percent refused the question. The statement concerning the ecological importance of animals: "Creatures like sand worms and marsh mice are not ecologically important", was a reversal question. Sixty-three percent of respondents disagreed with this statement, 12 percent agreed, 3.6 percent selected neither agree nor disagree, and 21.4 refused the question. Despite the high percentage of disagreements, the, data show a positive number for this particular attitudinal statement (Table 4A-16).

Table 4A-16: White Environmental-Naturalistic Attitudes

Environmental-Naturalistic White (n=303)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
When stranded animals wash up on the beach, we should let nature take its course and not intervene.	12.2%	17.2%	3%	26.7%	37%
It's unfortunate to see whales beach themselves but that's 'nature's way'.	34%	32.3%	3.6%	10.6%	9.6%
If I were to support the protection of coastal marshes or wetlands, it would be to allow seabirds to live in their natural habitat.	62.4%	28.7%	2%	2.3%	1.7%
It's never OK for people to interfere with wild animals, who should be free to lead their lives without interference from people.	21.1%	20.5%	6.3%	28.1%	21.1%
Creatures like sand worms and marsh mice are not ecologically important.	5.9%	5.6%	3.6%	18.8%	44.6%

The survey contained four statements measuring environmental-stewardship attitudes among respondents. Eighty-six percent of respondents agreed to some extent with the statement concerning native species: "It is important for sea lions to exist in Southern California because that's where they've historically lived." Six percent of respondents from this group disagreed with this statement, 2 percent selected neither agree nor disagree, and 6 percent refused the question. Seventy-seven percent of White respondents agreed with the statement: "The most important reason to prevent oil spills is because local populations of sea birds could be wiped out", 17 percent disagreed, 2 percent selected neither agree nor disagree, and 4.3 percent refused the question. Eight of ten respondents from this group agreed to some extent with the statement regarding habitat protection for juvenile fish: "If we decide to protect coastal marshes, it should be because that's where many young fish populations grow up." Seven percent of respondents disagreed with this statement, 1.7 percent selected neither agree nor disagree, and 10.9 percent refused the question. Eighty-four percent of respondents from this group agreed with the statement concerning the avoidance of over fishing for the exclusive purpose of guaranteeing future food supplies for other animals: "The most important reason to avoid over-fishing is to make sure there's enough food left in the oceans for other animals." Thirteen percent of

respondents disagreed with this statement, 2 percent selected neither agree nor disagree, and 2 percent refused the question (Table 4A-17).

Table 4A-17: White Environmental-Stewardship Attitudes

Environmental-Stewardship White (n=303)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
It is important for sea lions to exist in Southern California because that's where they've historically lived.	59.7%	26.4%	2%	4.3%	1.3%
The most important reason to prevent oil spills is because local populations of sea birds could be wiped out.	49.2%	27.7%	2%	10.6%	6.3%
If we decide to protect coastal marshes, it should be because that's where many young fish populations grow up.	47.2%	33.7%	1.7%	5.3%	1.3%
The most important reason to avoid over-fishing is to make sure there's enough food left in the oceans for other animals.	51.5%	32%	2%	8.3%	4.3%

Three statements designed to weigh animal rightist attitudes among respondents were included in the survey. Ninety-two percent of White respondents agreed to some extent with the statement: "The fates of individual animals matter to me, not just what happens to endangered species". Only five percent disagreed with this statement, 2 percent selected neither agree nor disagree, and 2 percent refused the question. The statement regarding animals having legal rights: "The idea of marine animals, like whales or dolphins, having legal rights just like people do is absurd", was a reversal question. Therefore, despite the fact that 55 percent of respondents disagreed with the statement, and 36 percent agreed, the data show a positive number for this statement. While 47 percent of White respondents disagreed with the statement: "We should not keep marine animals in aquariums because they have the right to be free", 41 percent agreed, 7.6 percent selected neither agree nor disagree, and 4.9 refused the question (Table 4A-18).

Table 4a-18: White Animal Rights Attitudes

Animal Rights White (n=303)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
The fates of individual animals matter to me, not just what happens to endangered species.	62.7%	29%	2%	3%	2%
The idea of marine animals, like whales or dolphins, having legal rights just like people do is absurd.	19.5%	16.5%	3.3%	21.8%	33%
We should not keep marine animals in aquariums because they have the right to be free.	22.4%	18.5%	7.6%	30.4%	16.2%

The survey contained three statements designed to measure coexistence attitudes among respondents. Eighty-four percent of White respondents agreed to some extent with the statement: "It's OK when pelicans steal fish from commercial fishermen because pelicans have to eat too", only 11 percent disagreed with the statement, 2.3 percent selected neither agree nor disagree, and 3 percent refused the question. Eight of ten respondents agreed with the statement: "Sea lions shouldn't be removed from beaches just to make room for people." Fourteen percent of respondents disagreed to some extent with the statement, while 1.3 percent selected neither agree nor disagree, and 5.3 refused the question. The statement: "Although the beach is the seagull's natural habitat, when I'm there I don't want them around me because they are messy.", was a reversal question. Though two-thirds of White respondents disagreed with this statement, and 30 percent agreed, the data show a positive number for this statement (Table 4A-19).

Table 4A-19: White Coexistence Attitudes

Coexistence White (n=303)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
It's OK when pelicans steal fish from commercial fishermen because pelicans have to eat too.	48.5%	35.6%	2.3%	5.6%	5%
Sea lions shouldn't be removed from beaches just to make room for people.	57.1%	22.4%	1.3%	6.3%	7.6%
Although the beach is the seagull's natural habitat, when I'm there I don't want them around me because they are messy.	11.9%	17.5%	4.9%	23.1%	42.6%

Attitude Change

When questioned as to whether the way they think about animals and the environment has changed since they were children, nearly half said yes. Those who agreed were then asked to describe how their attitudes changed. Three-quarters expressed increased awareness of the economic importance of animal products like food and dairy. Greater than eight in ten indicated increased feelings of stewardship, agreeing that they now think about protecting the environment, and 64 percent said they now realize the population of some wild animals must be reduced to protect the environment. Nine in ten said that as adults, they now see the ecological importance of animals. More than 60 percent expressed positive changes in feelings toward animal rights, and over 44 percent exhibited an increase in feelings of animal welfare. Twenty-two percent had a decrease in supernatural attitudes, explaining that as children they were more superstitious, while 37 percent indicated a decrease in negativistic attitudes, saying they used to be more afraid of animals. Greater than 92 percent had a positive change in their attitude about coexistence, agreeing that they now understand the need for humans and animals to live together on earth. Three-quarters of respondents indicated that as adults, they are more able to enjoy the beauty of animals and the environment than when they were children (Table 4A-20).

Table 4A-20: White Attitude Change

Attitude Change Since Childhood	*White (n=148)*
I now realize the economic importance of animal products like food and dairy	75.7%
I never used to think about protecting the environment when I was a child, but now I do	86.5%
I never used to think that animal had rights when I was a child	61.5%
I now see how important animals are to our ecology	92.6%
When I was a child, I used to be superstitious about some animals	22.3%
I used to be more afraid of animals when I was a child	37.2%
I never used to worry about how animals felt when I was a child	44.6%
I have a better understanding of the need for humans and animals to live together on earth	92.6%
I now realize that the population of some wild animals must be reduced	64.9%
I am able to enjoy the beauty of animals more than I used to when I was a child	75%

When asked why their attitudes had changed since childhood, the number one response of Whites was that they now know more about animals. Additional reasons given included personal experiences; natural change in attitudes; move from farm to city; move to Southern California; and "Other" reasons.

Tolerance and Stigma

When questioned about their perspectives on culturally linked animal practices, the White subsample was more accepting of animal practices condoned by the general U.S. population than those associated with other race/ethnic groups. Almost 80 percent of this group said it was OK for people to spend a lot of money on their pets. Two-thirds thought it OK to eat factory-farmed beef, pork or chicken, and the same number, to keep animals alive until they are ready to be eaten. While the latter is not generally considered a White practice, interpretation of this data should include the practice of some upscale restaurants keeping fish/lobsters alive until they are to be cooked or eaten. Forty-seven percent approved of calf-roping events at rodeos, and 42 percent condoned cropping dogs' ears and docking their tails, while 38 percent approved of raising calves in confinement for veal. While most of the practices condoned by the White sample were those associated with Western societies, one exception was the collection of tidepool animals for food, where 47 percent approved.

Ninety-six percent of respondents said it was <u>not</u> OK to litter on the beach, while slightly less disapproved of participating in dog or cockfights. Eighty percent or more objected to sacrificing animals for religious purposes, and to horse-tripping events at Mexican-style rodeos. Seventy-five percent of respondents disapproved of attending bullfights, while 70 percent took exception to hunting and killing whales, eating sea turtles, dog eating, or donating unwanted pets to research labs (Table 4A-21).

Table 4A-21: White Tolerance toward Animal Practices

Keeping in mind that various other cultures treat animals differently, is it OK with you if other people:	***White (n=303)***
	Yes
Hunt and kill whales	30.0%
Collect tidepool animals for food	46.9%
Keep animals alive until they are ready to be eaten	66.7%
Sacrifice animals for religious purpose	20.8%
Eat sea turtles	30%
Eat dogs	30%
Litter on the beach	4%
Donate unwanted pets to research labs	30.7%
Attend bullfights	24.4%
Participate in dog fights	8.9%
Participate in cock fights	9.2%
Raise calves in confinement for veal	38%
Eat factory-farmed beef, pork, or chicken	66.3%
Spend a lot of money on pets	77.9%
Participate in horse-tripping events at Mexican-style rodeos	13.2%
Participate in calf-roping events at rodeos	46.9%
Crop dogs' ears and dock their tails	42.2%

The majority (58.4%) of White respondents did not feel looked down upon for their animal practices. However, of those who did, about one-fifth felt people looked down on them for their belief that animals have rights like people. Twelve percent felt others took exception to the kinds of animals they ate, and the same percentage for the amount of money they spent on their pets. Nine percent of respondents from this group felt that others disapproved of the sorts of animals they kept at home; 7 percent for the way they treated or trained their animals; and less than 5 percent for each of the following reasons: hunting, fishing, and their dislike of animals (Table 4A-22).

Table 4A-22: White: Perceived Social Stigma.

Do you ever feel that people look down on you or think you are strange because of the…	***White (n=303)***
I never feel that way	58.4%
Kinds of animals you eat	12.2%
Sorts of animals you keep at home	8.6%
Way you treat or train your animals	7.3%
Fact that you don't really like animals	1.3%
Fact that you think animals have rights like people	20.8%
Money you spend on your pets	11.9%
Fact that you hunt	4.3%
Fact that you fish	4%
Other reasons	0.3%
Don't know/Refused	4%

4B. Latino Subsample

In general, the Latino group was characterized by poor education and low to moderate income. The group was predominantly foreign born, bilingual, under the age of forty-five, with children under the age of eighteen living in the home. Most had resided in Southern California more than ten years. Women slightly outnumbered men, and the vast majority described themselves as Christian.

Three-quarters of these respondents felt they had adequate access to Southern California beaches, and a majority said that during their visits, they sunbathed, swam, walked on the beach, played volleyball, Frisbee, flew kites, or built sandcastles. Those who felt their beach access was limited cited beach pollution as a major factor. Most respondents from this group had never worked in a marine environment, and much of their information about the beach or ocean related issues was received via television. While at the beach or coastal zone, many respondents noticed marine mammals, sea birds, or other marine animals. However, they had limited knowledge about threatened and endangered species.

Regarding local policy issues affecting the Southern California coastal zone, such as dolphin mortality in fishing nets, and collection of endangered tidepool animals for human consumption, the vast majority of Latinos were in favor of taking some kind of action to protect marine animals. However, when presented with the issue of wetland development, the majority of this group thought additional studies should be completed before development decisions were made, and shied away from protecting the wetlands at all cost.

Demographic, Socio-economic and Locational Characteristics

Three hundred and one respondents (46.8 %) described themselves as Hispanic (or Latino). Seventy percent were under the age of forty-five, nearly47 percent were male and more than half had children under the age of 18 living at home.

One-third of this group had not completed high school, almost 20 percent had some post-secondary education, and nine percent had college degrees. Eleven percent of Latino survey respondents reported annual household incomes of more than fifty thousand dollars, while 38 percent reported incomes less than twenty thousand dollars annually.

When asked about religious beliefs, eighty-nine percent described themselves Christian, with 3.7 percent expressing agnostic/atheistic beliefs. The remainder described themselves as Confucian, Hindu, or “Other”.

Three-quarters of respondents were born outside the United States. Over fifty percent were born in Mexico, almost 19 percent in Central America, under 3 percent in South America, and the remainder in “Other” countries. Nearly forty percent of Latino respondents had lived in Southern California for more than twenty years, and an additional three percent, elsewhere in the United States for that duration. Over one-quarter had lived in Southern California less than ten years, and over 98 percent had lived in the United States longer than two years. Sixty-three percent described their place of residence as “big city”, sixteen percent as “suburb of a

metropolitan area", and fourteen percent as "small town". Almost three percent said "rural area" best described their place of residence. Two-thirds of respondents were bilingual, speaking a language other than English at home.

As compared to 1990 Census data for Los Angeles County, the Latino group was generally more educated, but fewer were earning high incomes. They had a greater percentage of high school graduates and those with at least some post graduate education, but fewer respondents had obtained a college degree. The percentage of Latino respondents reporting incomes greater than $50,000 dipped nine percent compared to 1990, while the percentage of those earning less than $20,000 dropped by seven percent. In 1990, the Census reported that three-quarters of Latinos in Los Angeles County were of Mexican origin, a figure twenty-five percent greater than that reported by Latino survey respondents.

Experience/Interaction with Marine Environments and Wildlife

Most respondents from this group had never worked in a marine environment**,** and only 17 percent said they had either worked near or on the ocean. Of those who had, the greatest percentage (39.6%) had been employed in office/restaurant or hotel jobs. Thirteen percent of Latino respondents who had worked near or on the ocean, worked in the fish packing/ dock worker industry, and 9 percent worked in some kind of military capacity. Eight percent worked in marine wildlife education/research/ rescue, and the same percentage as oil rig workers. Four percent had been employed as life guards/beach workers, and 2 percent as commercial divers. The remainder worked in beach cleanup or some other capacity.

Ten percent of Latino respondents belonged to or donated funds to an environmental or animal rights organization, and 6 percent to an organization devoted to marine wildlife or ocean protection. Eighteen percent have volunteered to help ocean or sea animals.

According to respondents from this group, much of their information about the beach or ocean related issues was received via television. Magazines and Newspapers were also listed as sources of information. Fifteen percent received their information at the beach, and 14 percent at the aquarium or zoo.

Three-quarters of these respondents felt they had adequate access to Southern California beaches. Of those who did not, 44 percent cited beach pollution as a limiting factor, and 38 percent said crowding at local beaches limits their access. Thirty-two percent of respondents indicated time as a limiting factor, and 12 percent indicated difficulty with transportation as a constraint on their beach access (See Table 4B-1).

Table 4B-1: Latino Access to Southern California Beaches

What specifically limits your access to Southern California beaches?	***Latinos (n=68)***
Difficulty with transportation	11.8%
Not enough time	32.4%
No money	10.3%
Not enough parking	23.5%
Don't know where to go	4.4%
Beaches are polluted	44.1%
Beaches are crowded	38.2%
No disabled access	--
Private ownership	--
Too far	1%
Don't care	2.9%
Other	1.8%
Don't know/Refused	8.8%

Seventy percent of Latino respondents had visited the beach at least once during the past two years. When asked about which activities they usually participated in while at the beach or ocean, nearly nine out of ten said they sunbathed, swam, or walked on the beach. Forty-three percent usually played volleyball, Frisbee, flew kites, or built sandcastles, while one third participated in water sports such as boating, surfing, scuba diving, or snorkeling. One-quarter said whale watching, or looking for wildlife was included in their usual activities, 13 percent fished; 2 percent collected tidepool animals; and 1 percent selected "Other" activities (See Table 4B-2).

Table 4B-2: Latino Activity on Beach

Activity on Beach	***Latinos (n=102)***
Volleyball, Frisbee, build sand castles, fly a kite	42.9%
Sunbathe, swim, walk on the beach	89.6%
Watch whale or look for wildlife	24.5%
Water sports (boating, surfing, scuba diving, snorkeling)	32.5%
Fish	13.2%
Collect tidepool animals	1.9%
Other activities	1.4%
Don't know/Refused	1%

Most respondents noticed marine mammals, sea birds, or other marine animals during their visits to the beach. Only one in ten said they didn't notice any animals. Forty-five percent of Latino respondents said they noticed birds while at the beach. Of those, 96 percent sited Seagulls, 44 percent Pelicans, 15 percent Herons, 10 percent Sandpipers, 6 percent Plovers, 3 percent Least Terns, and 3 percent Cormorants. One percent or fewer saw Clapper rails and Oystercatchers, and 2 percent cited "Other" birds.

Over thirty-two percent noticed marine mammals while at the beach. More than half of those who saw marine mammals noticed seals and sea lions. Nearly fifty percent of these respondents saw dolphins, 19 percent gray whales, and 10 percent cited "Other" marine mammals.

Thirteen percent of Latino respondents saw other marine animals while at the beach. Two-thirds saw crabs or lobsters, 15 percent noticed clams or mussels, 11 percent jellyfish, 7 percent squid, 4 percent octopus, and 22 percent selected "Other" (See Table 4B-3).

Table 4B-3: Latinos - Marine Animals Seen at Beach

Mammals Seen at the Beach	***Latinos (n= 212)***
Seals and Sea lions	52.2%
Gray whales	18.8%
Dolphins	49.3%
Other mammals	10.1%
Birds Seen at the Beach	
Seagulls	95.8%
Pelicans	44.2%
Least terns	3.2%
Clapper rails	1.1%
Herons	14.7%
Sandpipers	9.5%
Plovers	6.3%
Cormorants	3.2%
Oystercatchers	--
Other birds	2.1%
Marine Animals Seen at the Beach	
Jellyfish	11.1%
Squid	7.4%
Octopus	3.7%
Shrimp and crayfish	--
Crab and lobsters	66.7%
Clams or mussels	14.8%
Grunions	--
Fish	--
Other marine animals	22.2%

Knowledge about Marine Wildlife

The Latino subsample was knowledgeable about certain threatened and endangered species. When asked which animals were either threatened with extinction, or endangered, nearly two-thirds correctly selected the Gray Whale**,** 28 percent correctly selected White Abalone, but only one in ten correctly selected Least Tern, likely due to limited media coverage for non-mammal species. Forty-five percent of respondents from this subsample incorrectly

selected the White-sided dolphin as being a threatened or endangered species, 14 percent incorrectly selected Pacific Cormorant, and 28 percent selected either “don’t know” or “other” (See Table 4B-4).

Table 4B-4: Latinos - Threatened or Endangered Species

Threatened or Endangered Species	***Latinos (n=301)***
Gray Whale	65.4%
Least Tern	10.0%
White Abalone	27.9%
White-sided Dolphin	45.2%
Pacific Cormorant	14.0%
Other	0.3%
Don't Know	19.8%

When surveyed for their opinions as to why Brown Pelicans had become endangered, over 60 percent of Latino respondents correctly identified pollution as the cause, and 22 percent didn’t know. One out of ten thought it was a result of fishermen shooting them; 4 percent a result of not enough fish to eat; and 3 percent thought some other reason responsible (See Table 4B-5).

Table 4B-5: Latinos - Reasons for Brown Pelican Becoming Endangered

Reason for Brown Pelican Endangerment	***Latinos (n=301)***
Fishermen Shooting them	8.8%
Pollution	46.1%
Not enough fish to eat	6.9%
Other	5.9%
Don't know	32.4%

Many of the Latino respondents were uninformed about the safety of consuming local fish. Over two-thirds said they did not know of any local fish that were unsafe to eat. Only 2% correctly selected White Croaker or Kingfish, while 3 percent incorrectly selected Rockfish, and 0.7% Garibaldi. Five percent of these respondents selected “other”; and 22 percent refused the question (See Table 4B-6).

Table 4B-6: Latinos - Local Fish Not Safe to Eat

Local Fish Unsafe for Human Consumption	***Latinos (n=301)***
I do not know of any	67.8%
White Croaker or King fish	2.3%
Rockfish	3.0%
Garibaldi	0.7%
Sheephead	---
Trout	---
All fish	---
Any fish in the Santa Monica Bay	---
None of them	---
Other	5.3%
Don’t know/Refused	21.9%

Attitudes Toward Marine Wildlife Policy Issues

This section probed respondents opinions on coastal policy issues that have been in the news. When presented with the issue of dolphins getting caught and drowning in tuna nets, the majority of Latinos from this subsample were in favor of dolphin-safe fishing methods. Over Seventy-seven percent said dolphin-safe methods should be required by law. Ten percent of respondents did not think dolphin-safe methods should be required by law, however, they were in favor of boycotting tuna that is not dolphin-safe. Over eight percent thought dolphin-safe fishing methods should not be required by law, and that we should trust fishermen, and three percent selected either don't know/refused (See Table 4B-7).

Table 4B-7: Latinos - Dolphin-safe Fishing Methods

Dolphin-safe fishing methods	***Latinos (n = 301)***
Dolphin-safe methods should be required by law	77.7%
Dolphin-safe methods should not required by law, but we should boycott tuna that is not dolphin-safe	8.3%
Dolphin-safe methods should not required by law, we trust fishermen	11%
None of these	-----
Don't know/Refused	3.0%

Concerning the collection of endangered tidepool animals for food, most respondents thought some action should be taken to protect these animals. Over 60 percent supported the idea of a public education campaign and greater than one-quarter were in favor of fining people for the collection of endangered tidepool animals. Fewer than 7 percent thought the issue should be ignored either because it may be an important source for people who need food (4%), or because the number of animals collected was too small to make a difference (2.7%). Five percent selected either don't know/refused (See Table 4B-8).

Table 4B-8: Latinos - Endangered Animals in Tidepools

Collection of endangered tidepool animals	***Latinos (n = 301)***
Fine people that collect endangered tidepool animals	26.60%
Organize a public education campaign	61.5
Ignore it because the number of animals collected is small	2.7
Ignore it because it may be important for people who need food	4
None of these	-----
Don't know/Refused	5.3

When surveyed about the issue of wetland development and the reduction of coastal animal habitat, the majority (44.9%) thought additional studies should be completed before development decisions were made. Forty-two percent of respondents were in favor of protecting wetlands regardless of impact on development, and 7% thought wetlands should be protected, but not at the cost of development. Fewer than 2 percent favored developing remaining wetlands for housing and business; and 3% selected either don't know/refused (See Table 4B-9).

Table 4B-9: Latinos - Remaining Wetlands

Remaining wetlands	***Latinos (n = 301)***
Protecting wetlands, regardless of impact on development	42.5%
Protecting, but not at the cost of economic development	7.3%
Studying before making decision	45%
Developing for housing and businesses	1.3%
None of these	0
Don't know/Refused	4%

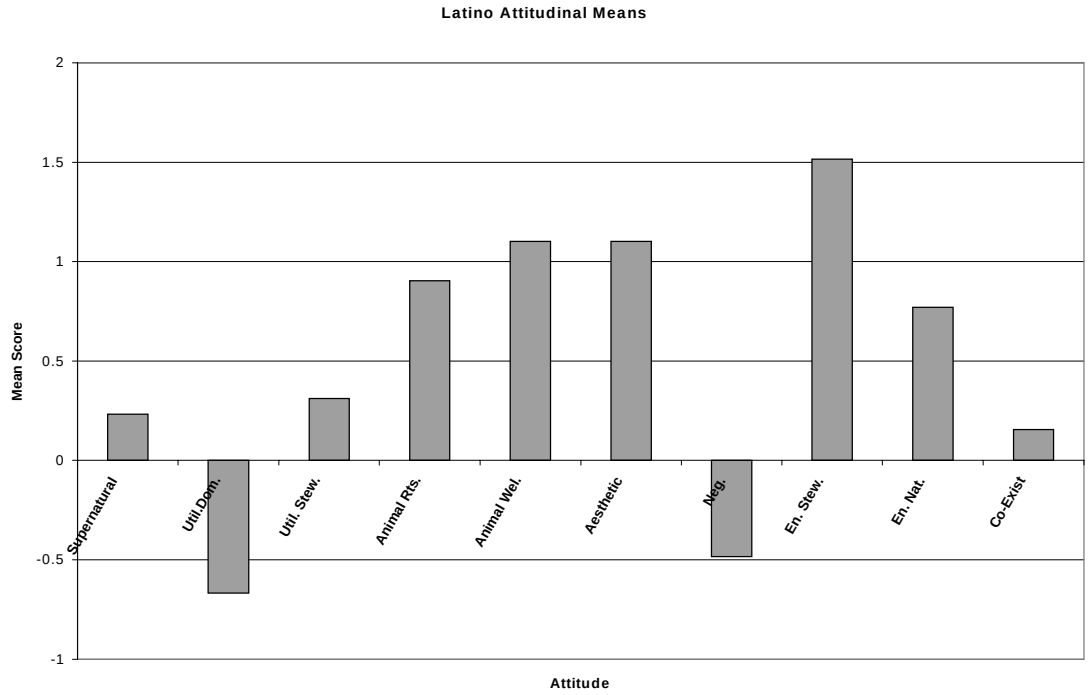
Attitudes Toward Marine Wildlife

This section consisted of thirty-five attitudinal statements designed to gauge respondents' attitudes toward the marine environment and wildlife. The statements were classified into two broad categories, and ten attitudinal subcategories, as described above in Section 2B.

Attitudinal questions, posed as agree/disagree along a five-point Likert scale, were coded as +2 for "strongly agree" and -2 "strongly disagree". Twenty percent of these questions were reversed to prevent the appearance of a bias, and then converted back to their original format for purposes of tabulation.

Overall, the Latino subsample showed a high (+1 to +2) mean for Environmental-Stewardship attitudes, Aesthetic, and Animal Welfare attitudes. Attitudes which this group showed moderate (0 to + 0.99) means for were Animal Rights, Environmental-Naturalistic, Utilitarian-Stewardship, Supernatural and Coexistence. Latinos showed a moderately low (0 to – 1) mean for Negativistic and Utilitarian-Dominionistic attitudes (Chart 4B-1).

Chart 4B-1: Latino- Attitudinal Means



The survey contained three statements to measure utilitarian dominionistic attitudes. Fifty-three percent of all Latino respondents disagreed to some extent with the statement regarding sport-fishing: "I think recreational fishing is fine, regardless of whether you eat the fish you catch." Thirty-six percent agreed, 9.3 percent selected neither agree nor disagree, and 2.3 refused the question. More than two-thirds of respondents from this group disagreed to some extent with the statement regarding competition for food from sea lions: "Populations of sea lions should be reduced if they eat too many fish that people eat." Twenty-seven percent of Latino respondents agreed with this statement 3.7 percent selected neither agree nor disagree, and 3.3 percent refused the question.

Three-quarters disagreed with the statement regarding the efficiency of mile-wide fishing nets: "Since mile-wide fishing nets are so efficient, they should be used even though they cause ecological damage." Eighteen percent agreed 3 percent selected neither agree nor disagree, and 3.3 percent refused the question. (See Table 4B-10).

Table 4B-10: Latino - Utilitarian Dominionistic Attitudes

Utilitarian Dominionistic Latino (n = 301)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
I think that recreational fishing is fine, regardless of whether you eat the fish you catch.	19.9%	15.6%	12%	22.3%	30.6%
Populations of sea lions should be reduced if they eat too many fish that people eat.	11.6%	15.3%	7%	27.9%	38%
Since mile-wide fishing nets are so efficient, they should be used even though they cause ecological damage.	9%	8.6%	6.3%	18.9%	57.1%

Four statements gauging utilitarian-stewardship attitudes were included in the survey. Greater than eight of every ten respondents agreed to some extent with the statement regarding food and medicinal purposes as appropriate uses of animals: "It is okay for sharks and other marine animals to be used for food and medicines so long as the animals are not endangered." Fifteen percent disagreed with the statement, 3.3 percent selected neither agree nor disagree, and 1 percent refused the question. Sixty-one percent of Latino respondents agreed with the statement concerning the harvesting of healthy lobster populations: "As long as the lobster population is healthy, commercial lobster fishing is no different than harvesting apples each year." Just under one-quarter disagreed with the statement, 11.6 percent selected neither agree nor disagree, and 5 percent refused the question.

Seventy-two percent of respondents from this group agreed to some extent with the statement regarding protection of animal habitat for the sole purpose of ensuring future food supplies for humans: "The most important reason to protect areas where fish mature and reproduce is to insure that people will have enough fish to eat in the future." Twenty percent disagreed with this statement, 7.6 percent selected neither agree nor disagree, and 1.3 percent refused the question. The statement concerning restaurants serving swordfish despite their declining numbers was a reversal question. Although eighty-five percent of respondents agreed

with this statement, the data result in a negative number for this particular attitudinal question (See Table 4B-11).

Table 4B-11: Latino - Utilitarian Stewardship Attitudes

Utilitarian Stewardship Latino (n = 301)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
It is okay for sharks and other marine animals to be used for food and medicines so long as the animals are not endangered.	56%	24.9%	3.3%	9.3%	5.3%
As long as the lobster population is healthy, commercial lobster fishing is no different than harvesting apples each year.	30.6%	29.9%	11.6%	13.3%	9.6%
The most important reason to protect areas where fish mature and reproduce is to insure that people will have enough fish to eat in the future.	51%	20.6%	7.6%	9%	11%
Restaurants shouldn't serve swordfish if their numbers are significantly declining.	72.1%	13.3%	4.3%	5.3%	5%

This section of survey contains three statements weighing negativistic attitudes. More than three-quarters of Latino respondents disagreed to some extent with the statement: "I find seagulls to be a real nuisance." Eighteen percent agreed with this statement, 3.3 percent selected neither agree nor disagree, and 2.3 percent refused the question. While one-third of respondents from this group disagreed with the statement: "Seaweed and kelp are dangerous to swimmers", 39 percent agreed, 15.6 percent selected neither agree nor disagree, and 12 percent refused the question. Sixty-two percent disagreed to some extent (39% strongly disagreed) with the statement: "When I go to the beach, I don't go in the water because there might be unpleasant animals like jellyfish or crabs there." Twenty-nine percent agreed with the statement, 7 percent had no opinion, and 2.3 percent refused the question (See Table 4B-12).

Table 4B-12: Latino- Negativistic Attitudes

Negativistic Latino (n=301)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
I find seagulls to be a real nuisance.	9.3%	8.6%	3.3%	21.9%	54.5%
Seaweed and kelp are dangerous to swimmers.	23.3%	15.6%	15.6%	17.3%	15.9%
When I go to the beach, I don't go in the water because there might be unpleasant animals like jellyfish or crabs there.	17.6%	11%	7%	23.3%	38.9%

Four statements measuring aesthetic attitudes were included in the survey. Among Latino respondents, ninety-five percent agreed to some extent (83% strongly agreed) with the statement: “One of the most striking things about whales is their grace and beauty.” Only 3 percent disagreed with this statement, 1.3 percent had no opinion, and 1 percent refused the question. Nine out of ten respondents from this group agreed with the statement: “If I were to visit a marsh or wetland, it would be to watch the colorful birds and other wildlife that live there.” Only 5 percent disagreed to any extent with this statement, 2.3 percent selected neither agree nor disagree, and 3 percent refused the question. The statement regarding fish as wall trophies: "I don't like the idea of mounting fish on the wall as trophies", was a reversal question. Forty-eight percent of these respondents agreed with this statement, and though forty-four percent disagreed, the data show a negative number for responses to this statement. Seventy-eight percent of respondents agreed with the statement: “If I had to choose, I’d rather snorkel than surf because snorkeling allows me to see beautiful fish.” Six percent disagreed with this statement, 8 percent selected neither agree nor disagree, and 7.6 percent refused the question (See Table 4B-13).

Table 4B-13: Latino- Aesthetic Attitudes

Aesthetic Latino (n=301)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
One of the most striking things about whales is their grace and beauty.	83.4%	11.3%	1.3%	1.3%	1.7%
If I were to visit a marsh or wetland, it would be to watch the colorful birds and other wildlife that live there.	74.4%	15.6%	2.3%	2.3%	2.3%
I don’t like the idea of mounting fish on the wall as trophies.	36.5%	11.6%	4.7%	22.9%	20.6%
If I had to choose, I’d rather snorkel than surf because snorkeling allows me to see beautiful fish.	61.5%	16.9%	8%	2.7%	3.3%

Responses to three statements gauging animal welfare attitudes revealed that while nearly three-quarters of all Latino respondents agreed to some extent with the statement: “Catching fish with barbed hooks is cruel”, 18 percent disagreed, 2.7 percent selected neither agree nor disagree, and 5 percent refused the question. Eighty-eight percent of respondents agreed with the statement: “Killing whales is a cruel act.” Eight percent disagreed, 1.7 percent selected neither agree nor disagree, and 1.7 percent refused the question. Sixty-two percent of Latino respondents agreed with the statement: “Keeping smart animals like seals and killer whales in aquariums is cruel”, while 31 percent disagreed, 6 selected neither agree nor disagree, and 1.7 percent refused the question (See Table 4B-14).

Table 4B-14: Latino- Animal Welfare Attitudes

Animal Welfare Latino (n=301)	*Strongly Agree*	*Moderately Agree*	*Neither Agree or Disagree*	*Moderately Disagree*	*Strongly Disagree*
Catching fish with barbed hooks is cruel.	60%	14%	2.7%	10%	8.3%
Killing whales is a cruel act.	84.1%	4%	1.7%	2.3%	6.3%
Keeping smart animals like seals and killer whales in aquariums is cruel.	46.5%	15.3%	6%	18.3%	12.3%

The survey contained three statements weighing supernatural attitudes among respondents. Ninety-two percent of all Latino respondents agreed to some extent with the statement: "Seeing wild animals like dolphins in the surf would give me a magical feeling", 5 percent disagreed, 1.3 percent selected neither agree nor disagree, and 2 percent refused the question. Nine of ten respondents from this group disagreed with the statement concerning the avoidance of certain animals for superstitious reasons: "I avoid some kinds of animals because they bring bad luck." Only 7 percent of respondents agreed with this statement, 1.3 percent selected neither agree nor disagree, and 1 percent refused the question. While fifty-seven percent of respondents agreed with the statement: "It gives your body more energy to eat fish that's just been caught fresh", 26 percent disagreed, 10.6 percent selected neither agree nor disagree, and 6.6 percent refused the question (See Table 4B-15).

Table 4B-15: Latino - Supernatural Attitudes

Supernatural Latino (n = 301)	*Strongly Agree*	*Moderately Agree*	*Neither Agree or Disagree*	*Moderately Disagree*	*Strongly Disagree*
Seeing wild animals like dolphins in the surf would give me a magical feeling.	78%	13.6%	1.3%	1.7%	3%
I avoid some kinds of animals because they bring bad luck.	4.3%	3%	1.3%	16.3%	74.1%
It gives your body more energy to eat fish that's just been caught fresh.	43.5%	13.3%	10.6%	11.3%	14.6%

Five statements measuring environmental variants of naturalistic attitudes were included in the survey. Forty-five percent of Latino respondents disagreed with the statement: "When stranded animals wash up on the beach, we should let nature take its course and not intervene." Nearly forty-seven percent agreed with this statement, 7 percent selected neither agree nor disagree, and 1.7 percent refused the question. Surprisingly, 59 percent of respondents agreed with the statement: "It's unfortunate to see whales beach themselves but that's 'nature's way'." Nearly 30 percent disagreed to some extent with this statement, 7.6 percent selected neither agree nor disagree, and 4.3 refused the question. Greater than nine of ten respondents agreed with the statement: "If I were to support the protection of coastal marshes or wetlands, it would be to allow seabirds to live in their natural habitat", only 4 percent disagreed, 2 percent selected neither agree nor disagree, and 2.3 percent refused the question. More than two-thirds of Latino

respondents agreed to some extent with the statement regarding human interference with animals: “It’s never OK for people to interfere with wild animals, who should be free to lead their lives without interference from people.” Eighteen percent disagreed with this statement, 3 percent selected neither agree nor disagree, and 1.3 percent refused the question. The statement concerning the ecological importance of animals: “Creatures like sand worms and marsh mice are not ecologically important”, was a reversal question. Fifty-one percent of respondents disagreed with this statement, 26 percent agreed, 15 percent selected neither agree nor disagree, and 8.6 percent refused the question. However, data show a positive number for this particular attitudinal statement. (See Table 4B-16).

Table 4B-16: Latino Environmental-Naturalistic Attitudes

Environmental-Naturalistic Latino (n=301)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
When stranded animals wash up on the beach, we should let nature take its course and not intervene.	31.6%	15%	7%	21.3%	23.6%
It’s unfortunate to see whales beach themselves but that’s ‘nature’s way’.	36.9%	21.9%	7.6%	16.6%	12.6%
If I were to support the protection of coastal marshes or wetlands, it would be to allow seabirds to live in their natural habitat.	77.7%	13.6%	2%	2.3%	2
It’s never OK for people to interfere with wild animals, who should be free to lead their lives without interference from people.	65.8%	11.6%	3%	12.6%	5.6%
Creatures like sand worms and marsh mice are not ecologically important.	14.3%	11.6%	15%	20.9%	29.6%

The survey contained four statements measuring environmental-stewardship attitudes among respondents. Ninety-two percent of respondents agreed to some extent with the statement concerning native species: “It is important for sea lions to exist in Southern California because that’s where they’ve historically lived.” Five percent of respondents from this group disagreed with this statement, 2.3 percent selected neither agree nor disagree, and 3.7 percent refused the question. Eighty-five percent of Latino respondents agreed with the statement: “The most important reason to prevent oil spills is because local populations of sea birds could be wiped out”, 10 percent disagreed, 0.3 percent selected neither agree nor disagree, and 4.4 percent refused the question. Eighty-six percent of respondents from this group agreed to some extent with the statement regarding habitat protection for juvenile fish: “If we decide to protect coastal marshes, it should be because that’s where many young fish populations grow up.” Six percent of respondents disagreed with this statement, 0.7 percent selected neither agree nor disagree, and 7.6 percent refused the question. Eighty-eight percent of this group agreed the statement concerning the avoidance of over fishing for the exclusive purpose of guaranteeing future food

supplies for other animals: “The most important reason to avoid over-fishing is to make sure there’s enough food left in the oceans for other animals.” Six percent of respondents disagreed with this statement, 3.7 percent selected neither agree nor disagree, and 2 percent refused the question. (See Table 4B-17).

Table 4B-17: Latino- Environmental-Stewardship Attitudes

Environmental-Stewardship Latino (n=301)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
It is important for sea lions to exist in Southern California because that’s where they’ve historically lived.	78.1%	13.6%	2.3%	2%	3%
The most important reason to prevent oil spills is because local populations of sea birds could be wiped out.	72.8%	12.3%	0.3%	5%	5.3%
If we decide to protect coastal marshes, it should be because that’s where many young fish populations grow up.	69.1%	16.6%	0.7%	3%	2.7%
The most important reason to avoid over-fishing is to make sure there’s enough food left in the oceans for other animals.	71.4%	16.6%	3.7%	4%	2.3%

Three statements designed to weigh animal rightist attitudes among respondents were included in the survey. Ninety-one percent of Latino respondents agreed to some extent with the statement: “The fates of individual animals matter to me, not just what happens to endangered species”. Thirteen percent disagreed with this statement, 1.3 percent selected neither agree nor disagree, and 1.3 percent refused the question. The statement regarding animals having legal rights: “The idea of marine animals, like whales or dolphins, having legal rights just like people do is absurd.”, was a reversal question. Therefore, despite the fact that 50 percent of respondents disagreed with the statement, and forty-six agreed, the data show a positive number for this statement. While seventy-four percent of Latino respondents disagreed with the statement: “We should not keep marine animals in aquariums because they have the right to be free”, 19 percent disagreed, 5 percent selected neither agree nor disagree, and 2 percent refused the question (See Table 4B-18).

Table 4B-18: Latino- Animal Rights Attitudes

Animal Rights Latino (n=301)	*Strongly Agree*	*Moderately Agree*	*Neither Agree or Disagree*	*Moderately Disagree*	*Strongly Disagree*
The fates of individual animals matter to me, not just what happens to endangered species.	77.7%	13%	1.3%	6%	7%
The idea of marine animals, like whales or dolphins, having legal rights just like people do is absurd.	33.9%	12%	1.7%	21.9%	28.2%
We should not keep marine animals in aquariums because they have the right to be free.	62.8%	11%	5%	13%	6.3%

The survey contained three statements designed to measure coexistence attitudes among respondents. Ninety-four percent of Latino respondents agreed to some extent with the statement: "It's OK when pelicans steal fish from commercial fishermen because pelicans have to eat too", only 5 percent disagreed with the statement, 0.3 percent selected neither agree nor disagree, and 0.6 percent refused the question. Seventy-seven percent of respondents agreed with the statement: "Sea lions shouldn't be removed from beaches just to make room for people." Eighteen percent of respondents disagreed to some extent with the statement, while 2.3 percent selected neither agree nor disagree, and 2.3 percent refused the question. The statement: "Although the beach is the seagull's natural habitat, when I'm there I don't want them around me because they are messy", was a reversal question. Though nearly three-quarters of Latino respondents disagreed with this statement, and 20 percent agreed, the data show a positive number for this statement (See Table 4B-19).

Table 4B-19: Latino - Coexistence Attitudes

Coexistence Latino (n=301)	*Strongly Agree*	*Moderately Agree*	*Neither Agree or Disagree*	*Moderately Disagree*	*Strongly Disagree*
It's OK when pelicans steal fish from commercial fishermen because pelicans have to eat too.	79.7%	14%	0.3%	3%	2.3%
Sea lions shouldn't be removed from beaches just to make room for people.	67.8%	9.6%	2.3%	8%	10%
Although the beach is the seagull's natural habitat, when I'm there I don't want them around me because they are messy.	9%	10.6%	5.6%	23.3%	50.2%

Attitude Change

When questioned as to whether the way they think about animals and the environment has changed since they were children, 47% of Latino respondents said "yes". Those who agreed were then asked to describe how their attitudes changed. Ninety-nine percent showed an increase in environmental naturalistic feelings, agreeing that as adults, they now see the ecological importance of animals**.** Ninety-eight percent had a positive change in their attitude about coexistence, agreeing that they now understand the need for humans and animals to live together on earth**.** Ninety-four percent of respondents showed an increase in their aestheticism towards animals and the environment, agreeing that they are able to enjoy the beauty of animals more than when they were children. Nine out of ten displayed increased feelings of utilitarian stewardship, agreeing that they now think about protecting the environment. Eighty-seven percent expressed an increase in utilitarian dominionistic attitudes toward animals, agreeing that they now realize the economic importance of animal products like food and dairy. Two-thirds expressed an increase in feelings of animal rights. Sixty-five percent indicated a decrease in negativistic attitudes, saying they used to be afraid of animals. Forty-one percent expressed an increase in their attitude of environmental stewardship, agreeing that they now realize that the population of some wild animals must be reduced to protect the environment**.** Four out of five exhibited an increase in feelings of animal welfare, agreeing that they now worry about more about how animals feel. Twenty-seven percent had a decrease in supernatural attitudes, explaining their opinions changed because as children they were superstitious (See Table 4B-20).

Table 4B-20: Latino- Attitude Change

Attitude Change Since Childhood	***Latino (n=142)***
I now realize the economic importance of animal products like food and dairy	87.3%
I never used to think about protecting the environment when I was a child, but now I do	91.5%
I never used to think that animal had rights when I was a child	65.5%
I now see how important animals are to our ecology	99.3%
When I was a child, I used to be superstitious about some animals	27.5%
I used to be more afraid of animals when I was a child	64.8%
I never used to worry about how animals felt when I was a child	40.1%
I have a better understanding of the need for humans and animals to live together on earth	98.6%
I now realize that the population of some wild animals must be reduced	41.5%
I am able to enjoy the beauty of animals more than I used to when I was a child	94.4%

When asked why their attitudes had changed since they were children, the number one reason listed by Latino respondents was that they know more about animals than before. Additional reasons included personal experiences; natural change in attitudes; move from farm to city; move to Southern California; move to the United States; and other reasons, in that order.

Tolerance and Stigma

This section measured degree of tolerance of culturally linked animal practices. The Latino group, while supportive of certain cross-cultural practices, was decidedly opposed to others. Nearly half of respondents said it was OK to spend a lot of money on pets. More than 46

percent thought it acceptable to keep animals alive until ready to be eaten, and 45.2% approved of eating factory-farmed beef, pork, or chicken. Ninety-seven percent of respondents disapproved of littering on beaches; 96 percent looked-down on dog fighting; 94 percent were opposed to cock-fighting; 93 percent said it unacceptable to sacrifice animals for religious purposes; and nearly the same percentage were opposed to dog eating. Nine out of ten Latino respondents said it was not OK to hunt and kill whales. Other culturally linked animal practices disapproved by the majority of this subsample were: eating sea turtles (88.7%); cropping dogs' ears and docking their tails (84.7%); raising calves in confinement for veal (82.1%); and attending bullfights (81.4%). At least seven out of ten said it was unacceptable to: donate unwanted pets to research labs (77.4%); participate in horse-tripping events at Mexican-style rodeos (76.4%); collect tidepool animals for food (72.8%); or participate in calf-roping events at rodeos (71.4%) (See Table 4B-21).

Table 4B-21: Latino – Tolerance Toward Controversial Animal Practices

Keeping in mind that various other cultures treat animals differently, Is it OK with you if other people:	***(Latino=301)***
	Yes
Hunt and kill whales	9.3%
Collect tidepool animals for food	27.2%
Keep animals alive until they are ready to be eaten	46.2%
Sacrifice animals for religious purpose	6.6%
Eat sea turtles	11.3%
Eat dogs	7%
Litter on the beach	3%
Donate unwanted pets to research labs	22.6%
Attend bullfights	18.6%
Participate in dog fights	4%
Participate in cock fights	6%
Raise calves in confinement for veal	17.9%
Eat factory-farmed beef, pork, or chicken	45.2%
Spend a lot of money on pets	49.5%
Participate in horse-tripping events at Mexican-style rodeos	23.6%
Participate in calf-roping events at rodeos	28.6%
Crop dogs' ears and dock their tails	15.3%

Though intolerant of some culturally linked animal practices, over half of this group said they never feel they are looked down on for their own attitudes or practices involving animals. Twenty-two percent said they felt looked down upon because they thought animals had rights like people; 7.6 percent for the kinds of animals they ate; 7.3 percent for the amount of money they spent on pets; 4.3 percent for the way they treated or trained their pets; and 3 percent for the sorts of animals they kept at home. Fewer than 3 percent said they felt looked down upon because of the their dislike of animals (2.7%); fact that they fish (1.3%); or fact that they hunt (0.3%). Two percent listed other reasons for feeling looked down upon and 6.3 percent selected "refused/ don't know" (See Table 4B-22).

Table 4B-22: Latino - Perceived Social Stigma

Do you ever feel that people look down on you or think you are strange because of the…	***Latino (n= 301)***
I never feel that way	57.8%
Kinds of animals you eat	7.6%
Sorts of animals you keep at home	3%
Way you treat or train your animals	4.3%
Fact that you don't really like animals	2.7%
Fact that you think animals have rights like people	22.3%
Money you spend on your pets	7.3%
Fact that you hunt	0.3%
Fact that you fish	1.3%
Other reasons	2%
Don't know/Refused	6.3%

4C. African American Group

In general, the African American group may be characterized as US born, monolingual English speakers, long-time residents of Southern California, mostly over the age of 45 with no children living in the home. In terms of income, this group showed a dichotomy between those with household incomes of more than $50,000 a year and those earning less than $20,000. A majority of respondents had at least some post-secondary education, however a considerable number had none. There was an unequal split in gender, with women outnumbering men. In terms of religion, almost all described themselves as Christian.

The vast majority of African American respondents felt they had adequate access to Southern California beaches. A majority said that during their visits to the beach or coastal zone, they sunbathed, swam, walked on the beach, whale-watched, or looked for wildlife. Many respondents noticed marine mammals, sea birds, or other marine animals during visits to the beach and coastal zone. Those respondents who felt their access was limited, cited transportation difficulties as a major constraint. Most had never worked in a marine environment, and the major source of information regarding the beach and ocean related issues was television.

Respondents were somewhat knowledgeable about threatened and endangered species, but uninformed regarding the safety of consuming local fish. A significant number of respondents selected "don't know" for these questions. Regarding local policy issues such as dolphin mortality due to fishing nets, collection of endangered tidepool animals for human consumption, and wetland development, most respondents from this subsample were in favor of taking measures to protect marine animals and the coastal zone. More than half of respondents from this group said their way of thinking about animals and the environment has changed since childhood. The main reason given for this change was increased knowledge.

The African American group was generally supportive of cross-cultural animal practices. The most accepted were Western animal related practices, and those that seemed to revolve

around food. While tolerant of cross-cultural traditions involving animals, many in this group felt looked down upon for their own animal practices.

Demographic, Socio-economic and Locational Characteristics

One hundred and two respondents (12.3%) described themselves as Black or African American. Greater than fifty percent were over the age of forty-five and twenty percent were between eighteen and twenty-nine years of age. Nearly two-thirds did not have children under the age of 18 living at home, and forty-three percent were male.

Over thirty-seven percent of respondents possessed college degrees and only eleven percent were without a high school diploma. Just over one-third of African American survey respondents reported annual household incomes of more than fifty thousand dollars, and nearly one-quarter (24.5%) reported incomes less than twenty thousand dollars annually.

When asked about their religious beliefs, nine out of ten described themselves Christian, and one percent expressed agnostic/atheistic beliefs. The remaining respondents described themselves as Buddhist, Moslem, or "Other".

The majority (97.1%) of these respondents was born in the United States. Many were long time residents, over 70 percent having lived in Southern California for longer than twenty years, and an additional 18 percent elsewhere in the United States for that same duration. Overall, ninety-nine percent lived in the United States longer than two years and only thirteen percent had lived less than ten years in Southern California. Sixty-three percent described their place of residence as a "big city", almost 15 percent as "suburb of a metropolitan area", and almost 16 percent as "small town". Five percent said "rural area" best described their place of residence. A majority was monolingual, and only about 9 percent spoke a language other than English at home.

Relative to 1990 Census data for Blacks in Los Angeles County, respondents were better educated and more financially well off. Of the survey group, 13 percent more had college degrees than were reported in the 1990 Census. Similarly, more respondents had completed high school than reported in the Census (by 15%). A 12 percent increase in household income for African American survey respondents can be seen when compared with that reported for Los Angeles County in 1990, and the number of households earning less than twenty-five thousand dollars decreased by one-half.

Experience/Interaction with Marine Environments and wildlife

Most respondents from this group have never worked in a marine environment, with only eighteen percent saying they either worked near or on the ocean. Of those who had, the greatest percentage (52.6%) was employed in office/restaurant or hotel jobs. Eleven percent worked in a military capacity, and an equal number as life guards/beach workers. The following categories each contained five percent of respondents who had worked near or on the ocean: Marine wildlife education/research/ rescue, fish packing/ dockworker, and commercial divers. The remainder worked in beach cleanup or some other capacity.

Nearly fifteen percent of African American respondents belonged to or donated funds to an environmental or animal rights organization, and a slightly smaller number (13.7%) to an organization devoted to marine wildlife or ocean protection.

Eighty-eight percent of these respondents felt they had adequate access to Southern California beaches. Of those who did not, 46 percent indicated difficulty with transportation as a constraint on their beach access, and more than one-quarter cited time as a limiting factor. At least nine out of ten African American respondents said crowding at local beaches, lack of money, and not knowing where to go, limits their access (See Table 4C-1).

Table 4C-1: African American Access to Southern California Beaches

What specifically limits your access to Southern California beaches?	***African American (n=11)***
Difficulty with transportation	45.5%
Not enough time	27.3%
No money	9.1%
Not enough parking	--
Don't know where to go	9.1%
Beaches are polluted	--
Beaches are crowded	9.1%
No disabled access	--
Private ownership	--
Too far	1%
Don't care	--
Other	17.2%
Don't know/Refused	---

Half of all African American respondents visited the beach at least once during the past two years. When asked about which activities they usually participated in while at the beach or ocean, 85 percent said they sunbathed, swam, or walked on the beach, and 42 percent said whale-watching, or looking for wildlife was included in their usual activities. More than 30 percent fished, and 10 percent collected tidepool animals. Twenty-three percent usually played volleyball, Frisbee, flew kites, or built sand castles, while 12 percent participated in water sports such as boating, surfing, scuba diving, or snorkeling, and the same percentage selected "Other" activities (See Table 4C-2).

Table 4C-2: African American Activity on Beach

Activity on Beach	***African American (n=52)***
Volleyball, Frisbee, build sand castles, fly a kite	23.1%
Sunbathe, swim, walk on the beach	84.6%
Watch whale or look for wildlife	42.3%
Water sports (boating, surfing, scuba diving, snorkeling)	11.5%
Fish	30.8%
Collect tidepool animals	9.6%
Other activities	11.5%
Don't know/Refused	3.8%

Most of these respondents noticed marine mammals, sea birds, or other marine animals during their visits to the beach. Only 12 percent said they didn't notice any animals. Thirty nine percent of African American respondents said they noticed birds while at the beach. Of those, eight out of ten sighted Seagulls, 15 percent Pelicans, and the same percentage said they saw "Other" birds during their visits to the beach.

Thirty-seven percent of these respondents saw marine animals while at the beach. Forty-seven percent saw crabs or lobsters, and 21 percent jellyfish. At least 5 percent of African American respondents noticed clams or mussels, and the same percentage noticed squid, while more than four of ten saw "Other" marine animals at the beach.

Over 31 percent noticed marine mammals while at the beach. More than half of those who saw marine mammals noticed dolphins, and 44 percent saw seals and sea lions. One-quarter of African American respondents saw gray whales, and 12 percent cited "Other" marine mammals (See Table 4C-3).

Table 4C-3: African American- Marine Animals Seen at Beach.

Mammals Seen at the Beach	***African American (n=52)***
Seals and Sea lions	43.8%
Gray whales	25%
Dolphins	56.3%
Other mammals	12.5%
Birds Seen at the Beach	
Seagulls	80%
Pelicans	15%
Least terns	--
Clapper rails	--
Herons	--
Sandpipers	--
Plovers	--
Cormorants	--
Oystercatchers	--
Other birds	15%
Marine Animals Seen at the Beach	
Jellyfish	21.1%
Squid	5.3%
Octopus	--
Shrimp and crayfish	--
Crab and lobsters	47.4%
Clams or mussels	5.3%
Grunions	--
Fish	---
Other marine animals	42.1%

Knowledge about Marine Wildlife

This subsample was somewhat knowledgeable about threatened and endangered species. When asked which animals were either threatened of becoming extinct, or endangered, 60 percent correctly selected the Gray Whale, greater than one-quarter correctly selected the White Abalone and 16 percent the Least Tern. Forty percent incorrectly selected the White-sided dolphin as being threatened or endangered, 15 percent the Pacific Cormorant and more than three in ten selected "don't know" (See Table 4C-4).

Table 4C-4: African American- Threatened or Endangered Species.

Threatened or Endangered Species	***African American (n=102)***
Gray Whale	58.8%
Least Tern	15.7%
White Abalone	26.5%
White-sided Dolphin	40.2%
Pacific Cormorant	15.7%
Other	----
Don't Know	31.4%

When surveyed for their opinions as to why Brown Pelicans had become endangered, 46 percent correctly identified pollution as the cause. Nine percent of African-American respondents incorrectly thought Brown Pelicans became endangered as a result of fishermen shooting them, while 7 percent thought it a result of not enough fish to eat, and 6 percent, some other reason responsible. Nearly one-third selected "don't know" (See Table 4C-5).

Table 4C-5: African American- Reasons For Brown Pelican Becoming Endangered.

Reason for Brown Pelican Endangerment	***African American (n=102)***
Fishermen Shooting them	9.6%
Pollution	61.1%
Not enough fish to eat	4.3%
Other	3.3%
Don't know	21.6%

The African American subsample was uninformed about the safety of consuming local fish. Over 85 percent of these respondents said they were unaware of any local fish that were unsafe to eat. None of the respondents from this group correctly selected White Croaker or King Fish as unsafe for human consumption. Each of the following categories contained one percent of respondents: trout, "all fish", and "any fish in the Santa Monica Bay". Four percent selected "Other", and 7 percent refused the question (See Table 4C-6).

Table 4C-6: African American - Local Fish Not Safe to Eat.

Local Fish Unsafe for Human Consumption	***African American (n=102)***
I do not know of any	85.3%
White Croaker or King fish	---
Rockfish	---
Garibaldi	---
Sheephead	---
Trout	1%
All fish	1%
Any fish in the Santa Monica Bay	1%
None of them	1%
Other	3.8%
Don't know/Refused	6.9%

Attitudes Toward Marine Wildlife Policy Issues

This section probed respondents' opinions on coastal policy issues that have been in the news. The first issue concerned methods of tuna fishing and dolphin mortality resulting from tuna nets. Most respondents from this subsample were in favor of dolphin-safe fishing methods, and over half said dolphin-safe methods should be required by law. Though nineteen percent did not think dolphin-safe methods should be required in this fashion, they were in favor of boycotting tuna that is not dolphin-safe. Over 17 percent thought dolphin-safe fishing methods disagreed with the proposition that dolphin-safe methods should not be required by law, and that fishermen should be trusted to do what is best for them. Ten percent selected either "don't know/refused" (See Table 4C-7).

Table 4C-7: African American- Dolphin-safe Fishing Methods.

Dolphin-safe fishing methods	***African American (n = 102)***
Dolphin-safe methods should be required by law	53.9%
Dolphin-safe methods should not required by law, but we should boycott tuna that is not dolphin-safe	17.6%
Dolphin-safe methods should not required by law, we trust fishermen	18.6%
None of these	1.0%
Don't know/Refused	8.8%

The second question concerned the human collection of endangered tidepool animals for consumption. More than three-quarters of African American respondents thought some action should be taken to prevent the collection of these animals. Fifty-five percent supported the idea of a public education campaign, and 22 percent were in favor of fining people that collect endangered tidepool animals. Nearly 17 percent thought the issue should be ignored either because these animals may be important for people who need food (12.7%) or because the number of animals collected was too small (3.9%; See Table 4C-8).

Table 4C-8: African American- Endangered Animals in Tidepools.

Collection of endangered tidepool animals	***African American (n = 102)***
Fine people that collect endangered tidepool animals	21.6%
Organize a public education campaign	54.9%
Ignore it because the number of animals collected is small	3.9%
Ignore it because it may be important for people who need food	12.7%
None of these	1%
Don't know/Refused	5.9%

The third question pertained to the issue of wetland development and the reduction of coastal animal habitat. Most respondents were in favor of some type of protection for wetlands. More than one third were in favor of protecting wetlands regardless of impact on development, and 11 percent were in favor of protection, but not at the cost of economic development. More than 40 percent thought additional studies should be completed before development decisions were made, while 6 percent favored developing remaining wetlands for housing and business (See Table 4C-9).

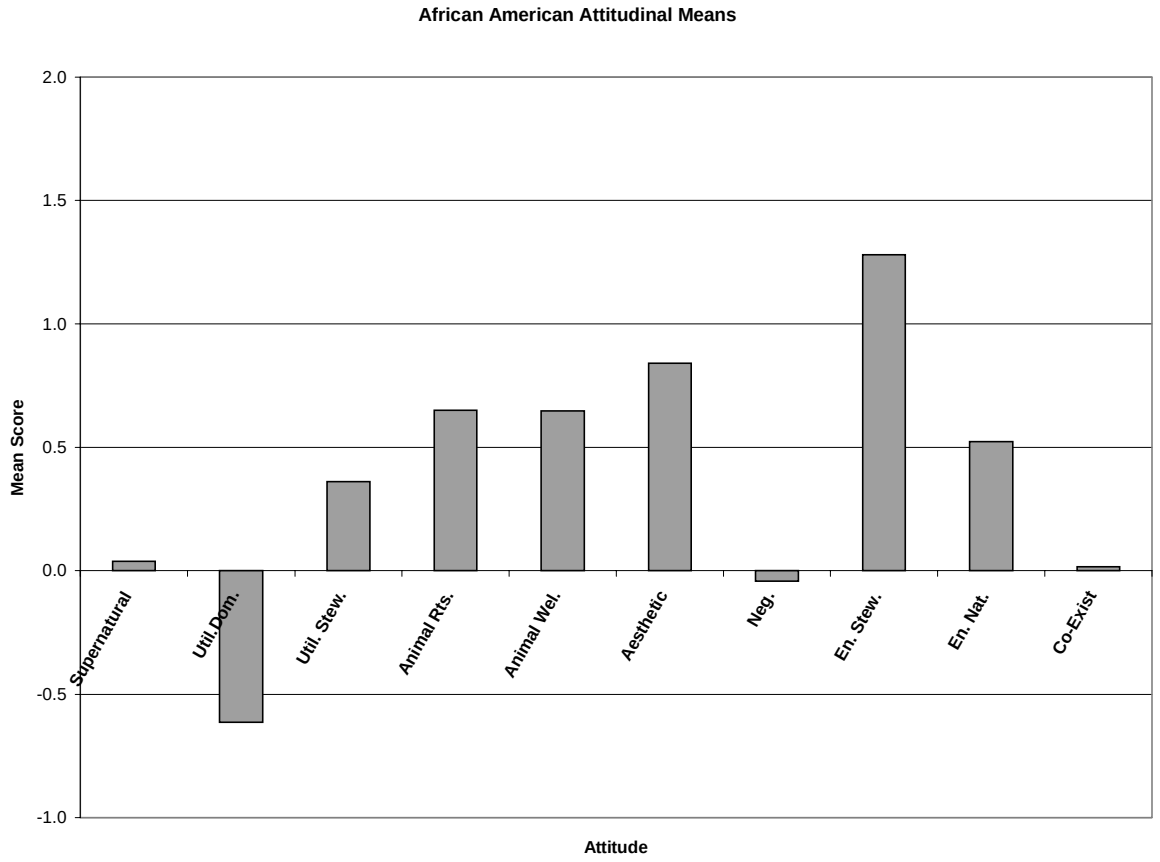
Table 4C-9: African American- Remaining Wetlands.

Remaining wetlands	***African American (n =102)***
Protecting wetlands, regardless of impact on development	34.3%
Protecting, but not at the cost of economic development	10.8%
Studying before making decision	41%
Developing for housing and businesses	5.9%
None of these	1%
Don't know/Refused	6.9%

Attitudes Toward Marine Wildlife

Overall, the African American sub-population showed high (1 to 2) Environmental Stewardship attitudes. They exhibited moderately strong attitudes (0 to + 0.99) for Animal Rights, Animal Welfare, Aesthetic, Environmental Naturalistic, Utilitarian Stewardship, Coexistence, and Supernatural values, with moderately low attitudinal means (0 to-1) for Negativistic, and Utilitarian Dominionistic attitudes (Chart: 4C-1: African American Attitudinal Means).

Chart 4C-1: African American Attitudinal Means



The survey contained three statements to measure utilitarian dominionistic attitudes. More than half of all African American respondents agreed to some extent with the statement regarding sport-fishing: "I think recreational fishing is fine, regardless of whether you eat the fish you catch." Forty-six percent disagreed, 2 percent selected neither agree nor disagree, and 1 percent refused the question. Six out of ten respondents from this group disagreed to some extent with the statement regarding competition for food from sea lions: "Populations of sea lions should be reduced if they eat too many fish that people eat." Thirty-two percent of African American respondents agreed with this statement, 2 percent selected neither agree nor disagree, and 5.9 percent refused the question. More than three-quarters disagreed with the statement regarding the efficiency of mile-wide fishing nets: "Since mile-wide fishing nets are so efficient, they should be used even though they cause ecological damage." Only 14 percent agreed, and 8.8 percent refused the question. (See Table 4C-10).

Table 4C-10: African American- Utilitarian Dominionistic Attitudes

Utilitarian Dominionistic African American (n = 102)	*Strongly Agree*	*Moderately Agree*	*Neither Agree or Disagree*	*Moderately Disagree*	*Strongly Disagree*
I think that recreational fishing is fine, regardless of whether you eat the fish you catch.	25.5%	25.5%	2%	9.8%	36.3%
Populations of sea lions should be reduced if they eat too many fish that people eat.	15.7%	16.7%	2%	10.8%	49%
Since mile-wide fishing nets are so efficient, they should be used even though they cause ecological damage.	4.9%	8.8%	---	18.6%	58.8%

Four statements gauging utilitarian-stewardship attitudes were included in the survey. Greater than eight of every ten respondents agreed to some extent with the statement regarding food and medicinal purposes as appropriate uses of animals: "It is okay for sharks and other marine animals to be used for food and medicines so long as the animals are not endangered." Thirteen percent disagreed with the statement, 1 percent selected neither agree nor disagree, and 3.9 percent refused the question. Sixty-one percent of African American respondents agreed with the statement concerning the harvesting of healthy lobster populations: "As long as the lobster population is healthy, commercial lobster fishing is no different than harvesting apples each year." Twenty-eight percent disagreed with the statement, 2.9 percent selected neither agree nor disagree, and 7.8 percent refused the question.

Greater than three-quarters of respondents from this group agreed to some extent with the statement regarding protection of animal habitat for the sole purpose of ensuring future food supplies for humans: "The most important reason to protect areas where fish mature and reproduce is to insure that people will have enough fish to eat in the future." Fifteen percent disagreed with this statement, 4.9 percent selected neither agree nor disagree, and 3.9 percent refused the question. The statement concerning restaurants serving swordfish despite their declining numbers was a reversal question. Although a majority (77%) of respondents agreed with this statement, the data result in a negative number (See Table 4C-11).

Table 4C-11: African American- Utilitarian Stewardship Attitudes

Utilitarian Stewardship African American (n = 102)	*Strongly Agree*	*Moderately Agree*	*Neither Agree or Disagree*	*Moderately Disagree*	*Strongly Disagree*
It is okay for sharks and other marine animals to be used for food and medicines so long as the animals are not endangered.	52%	30.4%	4.9%	4.9%	7.8%
As long as the lobster population is healthy, commercial lobster fishing is no different than harvesting apples each year.	30.4%	30.4%	2.9%	10.8%	17.6%

The most important reason to protect areas where fish mature and reproduce is to insure that people will have enough fish to eat in the future.	51%	25.5%	4.9%	5.9%	8.8%
Restaurants shouldn't serve swordfish if their numbers are significantly declining.	59.8%	17.6%	9.8%	6.9%	5.9%

This section of survey contains three statements weighing negativistic attitudes. Fifty-six percent of African American respondents disagreed to some extent with the statement: "I find seagulls to be a real nuisance." Just over one-third agreed with this statement, 4.9 percent selected neither agree nor disagree, and 5.9 percent refused the question. While 54 percent of respondents from this group agreed with the statement: "Seaweed and kelp are dangerous to swimmers", only 23 percent disagreed, 2.9 percent selected neither agree nor disagree, and one-fifth refused the question. Forty-seven percent disagreed to some extent (52% strongly disagreed) with the statement: "When I go to the beach, I don't go in the water because there might be unpleasant animals like jellyfish or crabs there." Forty-three percent agreed with the statement, 2.9 percent selected neither agree nor disagree, and 7.9 percent refused the question (See Table 4C-12).

Table 4C-12: African American- Negativistic Attitudes

Negativistic African American (n=102)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
I find seagulls to be a real nuisance.	10.8%	22.5%	4.9%	19.6%	36.3%
Seaweed and kelp are dangerous to swimmers.	24.5%	29.4%	2.9%	6.9%	15.7%
When I go to the beach, I don't go in the water because there might be unpleasant animals like jellyfish or crabs there.	33.3%	8.8%	2.9%	13.7%	33.3%

Four statements measuring aesthetic attitudes were included in the survey. Among African American respondents, 84 percent agreed to some extent (62% strongly agreed) with the statement: "One of the most striking things about whales is their grace and beauty." Only 8 percent disagreed with this statement, 1 percent selected neither agree nor disagree, and 7.8 refused the question. Nearly nine of ten respondents from this group agreed with the statement: "If I were to visit a marsh or wetland, it would be to watch the colorful birds and other wildlife that live there." Six percent disagreed with this statement, 2 percent selected neither agree nor disagree, and 2.9 percent refused the question. The statement regarding fish as wall trophies: "I don't like the idea of mounting fish on the wall as trophies", was a reversal question. Fifty-four percent of these respondents agreed with this statement, and 35 percent disagreed, however, data show a negative number for responses to this particular attitudinal statement. Seventy-two percent of respondents agreed with the statement: "If I had to choose, I'd rather snorkel than surf because snorkeling allows me to see beautiful fish." Ten percent disagreed with this statement,

6.9 percent selected neither agree nor disagree, and 11.8 percent refused the question (See Table 4C-13).

Table 4C-13: African American- Aesthetic Attitudes

Aesthetic African American (n=102)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
One of the most striking things about whales is their grace and beauty.	61.9%	21.6%	1%	3.9%	3.9%
If I were to visit a marsh or wetland, it would be to watch the colorful birds and other wildlife that live there.	64.7%	24.5%	2%	2.9%	2.9%
I don't like the idea of mounting fish on the wall as trophies.	45.1%	8.8%	5.9%	12.7%	21.6%
If I had to choose, I'd rather snorkel than surf because snorkeling allows me to see beautiful fish.	44.1%	27.5%	6.9%	4.9%	4.9%

Three statements gauging animal welfare attitudes were included in the survey. While over half of all African American respondents agreed to some extent with the statement: "Catching fish with barbed hooks is cruel", 30 percent disagreed, 6.9 percent selected neither agree nor disagree, and 9.8 refused the question. Seventy-two percent of respondents agreed with the statement: "Killing whales is a cruel act." Eighteen percent disagreed, 2.9 percent selected neither agree nor disagree, and 7.8 percent refused the question. Fifty-seven percent of African American respondents agreed with the statement: "Keeping smart animals like seals and killer whales in aquariums is cruel", while 38 percent disagreed, 2 percent selected neither agree nor disagree, and 2.9 percent refused the question (See Table 4C-14).

Table 4C-14: African American- Animal Welfare Attitudes

Animal Welfare African American (n=102)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
Catching fish with barbed hooks is cruel.	36%	17%	6.9%	14%	17%
Killing whales is a cruel act.	63.7%	7.8%	2.9%	8.8%	9%
Keeping smart animals like seals and killer whales in aquariums is cruel.	38.2%	18.6%	2%	24.5%	13.7%

The survey contained three statements weighing supernatural attitudes among respondents. Sixty-eight percent of all African American respondents agreed to some extent with the statement: "Seeing wild animals like dolphins in the surf would give me a magical

feeling", 22 percent disagreed, 2.9 percent selected neither agree nor disagree, and 7.9 percent refused the question. Greater than 80 percent of respondents from this group disagreed with the statement concerning the avoidance of certain animals for superstitious reasons: "I avoid some kinds of animals because they bring bad luck." Only 10 percent of respondents agreed with this statement, 1 percent selected neither agree nor disagree, and 7.8 percent refused the question. While 56 percent of respondents agreed with the statement: "It gives your body more energy to eat fish that's just been caught fresh", one in five disagreed, 2.9 percent selected neither agree nor disagree, and 21.6 percent refused the question (See Table 4C-15).

Table 4C-15: African American- Supernatural Attitudes

Supernatural African American (n = 102)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
Seeing wild animals like dolphins in the surf would give me a magical feeling.	50%	17.6%	2.9%	10.8%	10.8%
I avoid some kinds of animals because they bring bad luck.	8.8%	1%	1%	8.8%	72.8%
It gives your body more energy to eat fish that's just been caught fresh.	36.3%	19.6%	2.9%	8.8%	10.8%

Five statements measuring Environmental variants of naturalistic attitudes were included in the survey. Seventy percent of African American respondents disagreed with the statement: "When stranded animals wash up on the beach, we should let nature take its course and not intervene." Twenty-three percent agreed with this statement, 3.9 percent selected neither agree nor disagree, and 3.9 percent refused the question. Surprisingly, 63 percent of respondents agreed with the statement: "It's unfortunate to see whales beach themselves but that's 'nature's way'." Nearly one-quarter disagreed to some extent with this statement, 2 percent selected neither agree nor disagree, and 11.8 percent refused the question. Ninety-four percent of African American respondents agreed with the statement: "If I were to support the protection of coastal marshes or wetlands, it would be to allow seabirds to live in their natural habitat", only 2 percent disagreed, 1 percent selected neither agree nor disagree, and 3 percent refused the question. Nearly 60 percent of respondents from this group agreed to some extent with the statement regarding human interference with animals: "It's never OK for people to interfere with wild animals, who should be free to lead their lives without interference from people." Twenty-seven percent disagreed with this statement, 5.9 percent selected neither agree nor disagree, and 6.9 percent refused the question. The statement concerning the ecological importance of animals: "Creatures like sand worms and marsh mice are not ecologically important", was a reversal question. Fifty-two percent of respondents disagreed with this statement, 24 percent agreed, 1 percent selected neither agree nor disagree, and 23.5 percent refused the question. Despite the higher percentage of 'agree' answers, data show a positive number for this particular attitudinal statement. (See Table 4C-16).

Table 4C-16: African American- Environmental-Naturalistic Attitudes

Environmental-Naturalistic African American (n=102)	*Strongly Agree*	*Moderately Agree*	*Neither Agree or Disagree*	*Moderately Disagree*	*Strongly Disagree*
When stranded animals wash up on the beach, we should let nature take its course and not intervene.	13.7%	8.8%	3.9%	19.6%	50.0%
It's unfortunate to see whales beach themselves but that's 'nature's way'.	42.2%	20.6%	2%	8.8%	14.7%
If I were to support the protection of coastal marshes or wetlands, it would be to allow seabirds to live in their natural habitat.	71.6%	22.5%	1%	2.0%	0
It's never OK for people to interfere with wild animals, who should be free to lead their lives without interference from people.	42.2%	17.6%	5.9%	12.7%	14.7%
Creatures like sand worms and marsh mice are not ecologically important.	12.7%	10.8%	1%	12.7%	39.2%

The survey contained four statements measuring environmental-stewardship attitudes among respondents. Eighty-two percent of respondents agreed to some extent with the statement concerning native species: "It is important for sea lions to exist in Southern California because that's where they've historically lived." Four percent of respondents from this group disagreed with this statement, 2 percent selected neither agree nor disagree, and 11.8 percent refused the question. Seventy-nine percent of African American respondents agreed with the statement: "The most important reason to prevent oil spills is because local populations of sea birds could be wiped out", fourteen percent disagreed, and 7.9 percent refused the question. Eight of ten respondents from this group agreed to some extent with the statement regarding habitat protection for juvenile fish: "If we decide to protect coastal marshes, it should be because that's where many young fish populations grow up." Five percent of respondents disagreed with this statement, 3.9 percent selected neither agree nor disagree, and 11.8 percent refused the question. Eighty-five percent of respondents from this group agreed with the statement concerning the avoidance of over fishing for the exclusive purpose of guaranteeing future food supplies for other animals: "The most important reason to avoid over-fishing is to make sure there's enough food left in the oceans for other animals." Eleven percent of respondents disagreed with this statement, 2 percent selected neither agree nor disagree, and 2 percent refused the question. See Table 62: African American- Environmental-Stewardship Attitudes.

Table 4C-17: African American- Environmental-Stewardship Attitudes

Environmental-Stewardship African American (n=102)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
It is important for sea lions to exist in Southern California because that's where they've historically lived.	54.9%	27.5%	2%	1%	2.9%
The most important reason to prevent oil spills is because local populations of sea birds could be wiped out.	66.7%	11.8%	---	2.9%	10.8%
If we decide to protect coastal marshes, it should be because that's where many young fish populations grow up.	52%	27.5%	3.9%	2%	2.9%
The most important reason to avoid over-fishing is to make sure there's enough food left in the oceans for other animals.	70.6%	14.7%	2%	2.9%	7.8%

Three statements designed to weigh animal rightist attitudes among respondents were included in the survey. Eighty-six percent of African American respondents agreed to some extent with the statement: "The fates of individual animals matter to me, not just what happens to endangered species". Nine percent disagreed with this statement, 1 percent selected neither agree nor disagree, and 4.9 percent refused the question. The statement regarding animals having legal rights: "The idea of marine animals, like whales or dolphins, having legal rights just like people do is absurd", was a reversal question. Therefore, despite the fact that nearly half of respondents disagreed with the statement, and forty-five percent agreed, the data show a positive number for this particular attitudinal statement. While 58 percent of African American respondents agreed with the statement: "We should not keep marine animals in aquariums because they have the right to be free", 30 percent disagreed, 6.9 percent selected neither agree nor disagree, and 5.9 percent refused the question (See Table 4C-18).

Table 4C-18 African American- Animal Rights Attitudes

Animal Rights African American (n=102)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
The fates of individual animals matter to me, not just what happens to endangered species.	65.7%	19.6%	1%	3.9%	4.9%
The idea of marine animals, like whales or dolphins, having legal rights just like people do is absurd.	31.4%	13.7%	1%	16.7%	32.4%
We should not keep marine animals in aquariums because they have the right to be free.	39.2%	18.6%	6.9%	14.7%	14.7%

The survey contained three statements designed to measure coexistence attitudes among respondents. Eighty-five percent of African American respondents agreed to some extent with the statement: "It's OK when pelicans steal fish from commercial fishermen because pelicans have to eat too", only 9 percent disagreed with the statement, and 5.9 refused the question. Nearly three-quarters of respondents agreed with the statement: "Sea lions shouldn't be removed from beaches just to make room for people." Nineteen percent of respondents disagreed to some extent with the statement, while 3.9 percent selected neither agree nor disagree, and 3.9 percent refused the question. The statement: "Although the beach is the seagull's natural habitat, when I'm there I don't want them around me because they are messy.", was a reversal question. Though 59 percent of African American respondents disagreed with this statement, one-third agreed, the data show a positive number for this statement (See Table 4C-19).

Table 4C-19: African American- Coexistence Attitudes

Coexistence African American (n=102)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
It's OK when pelicans steal fish from commercial fishermen because pelicans have to eat too.	62.7%	22.5%	---	6.9%	2%
Sea lions shouldn't be removed from beaches just to make room for people.	55.9%	17.6%	3.9%	4.9%	13.7%
Although the beach is the seagull's natural habitat, when I'm there I don't want them around me because they are messy.	17.4%	15.7%	3.9%	21.6%	37.3%

Attitude Change

When questioned as to whether the way they think about animals and the environment has changed since childhood, more than half (52%) said yes. Those who agreed were then asked to describe how their attitudes changed. Ninety-six percent said that as adults, they have an increased understanding of the ecological importance of animals, and the same percentage had a positive change in their attitude about coexistence, agreeing that they now understand the need for humans and animals to live together on earth. Nearly ninety percent indicated that as adults, they now think about protecting the environment. Seventy percent expressed an increase in their attitude of environmental stewardship, agreeing that they now realize that the population of some wild animals must be reduced to protect the environment. Eighty-one percent expressed an increased awareness in the economic importance of animal products like food and dairy. Three-quarters expressed an increase in feelings of animal rights, and two-thirds in feelings of animal welfare, agreeing that they now worry about more about how animals feel. Forty-five percent had a decrease in supernatural attitudes, explaining their opinions changed because as children, they were more superstitious, and fifty-nine percent indicated a decrease in negativistic attitudes, saying they used to be more afraid of animals. Eight in ten showed an increased appreciation for the beauty of animals and the environment (See Table 4C-20).

Table 4C-20: African American - Attitude Change

Attitude Change Since Childhood	*African American (n=53)*
I now realize the economic importance of animal products like food and dairy	81.1%
I never used to think about protecting the environment when I was a child, but now I do	88.7%
I never used to think that animal had rights when I was a child	75.5%
I now see how important animals are to our ecology	96.2%
When I was a child, I used to be superstitious about some animals	45.3%
I used to be more afraid of animals when I was a child	58.5%
I never used to worry about how animals felt when I was a child	66%
I have a better understanding of the need for humans and animals to live together on earth	96.2%
I now realize that the population of some wild animals must be reduced	69.8%
I am able to enjoy the beauty of animals more than I used to when I was a child	81.1%

When asked why their attitudes had changed since they were children, the largest proportion of African American respondents said that it was due to the fact that they know more about animals than before. Additional reasons included natural change in attitudes; personal experiences; move from farm to city, in that order. Twenty-three percent listed "Other" reasons.

Tolerance and Stigma

This section measured degree of tolerance of culturally linked animal practices. The African American group was generally supportive of controversial, cross-cultural animal practices. The most accepted were Western animal related practices. More than three-quarters of this group said it was OK to eat factory-farmed beef, pork, or chicken, and 72 percent approved of spending a lot of money on pets. Other acceptable practices seemed to revolve around food. Nearly seven of ten African-American respondents thought it acceptable to keep animals alive until ready to be eaten. Half approved of collecting tidepool animals for food, and more than 39 percent said it was OK to eat sea turtles. The exception was dog eating, where over 80 percent of these respondents disapproved. Participation in calf-roping events at rodeos was approved of by 44 percent of African Americans. Littering on the beach was the least tolerated practice, of which 94 percent disapproved. Nine out of ten said it was not OK to participate in cockfights, and 89 percent disapproved of participation in dogfights. More than eight out of ten looked down on sacrificing animals for religious purposes, and slightly less, the hunting and killing of whales. Greater than three-quarters were intolerant of participation in horse-tripping events at Mexican-style rodeos, and seven out of ten said it was unacceptable to donate unwanted pets to research labs. Two-thirds objected to attending bullfights, and the same percentage disapproved of raising calves in confinement. Sixty-three percent said it was not OK to crop dogs' ears and dock their tails (See Table 4C-21).

Table 4C-21: African American- Tolerance Toward Controversial Animal Practices

Keeping in mind that various other cultures treat animals differently, Is it OK with you if other people:	***African American (n=102)***
	Yes
Hunt and kill whales	19.6%
Collect tidepool animals for food	50%
Keep animals alive until they are ready to be eaten	68.6%
Sacrifice animals for religious purpose	16.7%
Eat sea turtles	39.2%
Eat dogs	15.7%
Litter on the beach	3.9%
Donate unwanted pets to research labs	28.4%
Attend bullfights	33.3%
Participate in dog fights	10.8%
Participate in cock fights	9.8%
Raise calves in confinement for veal	34.3%
Eat factory-farmed beef, pork, or chicken	75.5%
Spend a lot of money on pets	72.5%
Participate in horse-tripping events at Mexican-style rodeos	21.6%
Participate in calf-roping events at rodeos	44.1%
Crop dogs' ears and dock their tails	37.3%

While tolerant of cross-cultural traditions involving animals, many in this group felt looked down upon for their own animal practices. Nearly 30 percent felt stigmatized for the fact that they think animals have rights like people. Seventeen percent thought the amount of money they spend on their pets caused others to look down on them, while 15 percent felt other people disapproved of the kinds of animals they eat, and the same number believed the way they treat or train their animals was a cause of objection. Eleven percent perceived they were looked down upon for the sorts of animals they keep at home; 7 percent for their dislike of animals; 5 percent, because they hunt, and 2 percent because they fish (See Table 4C-22).

Table 4C-22: African American- Perceived Social Stigma.

Do you ever feel that people look down on you or think you are strange because of the…	***African American (n=102)***
I never feel that way	50%
Kinds of animals you eat	14.7%
Sorts of animals you keep at home	10.8%
Way you treat or train your animals	14.7%
Fact that you don't really like animals	6.9%
Fact that you think animals have rights like people	29.4%
Money you spend on your pets	16.7%
Fact that you hunt	4.9%
Fact that you fish	2%
Other reasons	--
Don't know/Refused	2%

4D. Asian-Pacific Islanders

In general, members of the Asian-Pacific Islander group were well educated with moderate incomes. The group was predominantly foreign born and bilingual, using a language other than English as their primary language at home. Slightly more than half lived in Southern California for more than ten years, and nearly the same percentage had resided in the US for that same duration. The majority was male, under forty-five years of age, and had no children living in the home. In terms of religion, nearly half described themselves as Christian.

A preponderance of respondents from this group felt they had adequate access to Southern California beaches, and a very small percentage had worked near or on the ocean. Much of their information about the beach or ocean related issues, was obtained via television, newspapers, or magazines respectively. During their visits to the beach or ocean, they sunbathed, swam, walked on the beach, played volleyball, Frisbee, and built sand castles. Most of these respondents noticed marine mammals, sea birds, or other types of marine animals during their visits to the beach. This subsample was somewhat informed about threatened and endangered species, but nearly all were uninformed about the safety of consuming local fish. When queried regarding local policy issues such as dolphin mortality from tuna fishing nets, collection of endangered tidepool animals for human consumption, and wetland development and the reduction of coastal animal habitat, most of these respondents favored taking some kind of action in order to protect marine animals and the coastal zone.

Over half of these respondents said the way they think about animals and the environment has changed since they were children. The most common reason given, was a natural change in attitudes. When questioned about their perspectives on culturally-linked animal practices, the Asian-Pacific Islander subsample was relatively accepting of controversial animal practices and slightly more than one-third of this group felt that they were looked down upon for their own animal practices.

Demographic, Socio-economic and Locational Characteristics

The Asian-Pacific Islander subsample was made up of ninety-seven respondents. Among this group, the majority (57%) were under the age of forty-five, nearly two-thirds were male, and six out of ten did not have children under the age of 18 living at home.

Overall, this was an educated group, with less than 4% lacking a high school diploma and nearly 60% possessing college degrees. Slightly more than one-quarter of these respondents had an annual household income in excess of fifty thousand dollars, and only 4% reported incomes of less than twenty thousand dollars.

When asked about religious beliefs, slightly less than half (46.2 %) described themselves Christian, 12 percent were Buddhist, about 9 percent expressed agnostic/atheistic beliefs, and almost 30 percent described their beliefs as “Other”.

Greater than eight in ten of these respondents were foreign born, with only around 17 percent born in the United States. A third were born in China, almost a fifth in Korea, about 13 percent in the Philippines, and the remainder in Japan, Viet Nam, and "Other" countries. Length of residency varied among this group, with just under a third having lived in Southern California longer than twenty years, and an additional 5 percent in some other location in United States for that same period. Most had lived in the United States and in Southern California longer than two years. Almost two-thirds described their place of residence as a big city, about a fifth as "suburb of metropolitan area", and 16 percent as "small town". More than three-quarters (78%) of respondents from this sample was bilingual, speaking a language other than English at home.

Compared to 1990 Census Data for Los Angeles County, this group was more highly educated and had higher incomes. In 1990, only 13 percent of Asian-Pacific Islanders over the age of twenty-five living in Los Angeles County had not completed high school and three in ten had obtained college degrees. In contrast, only three percent of the Asian-Pacific Islander subsample had not completed high school and six in ten had obtained college degrees. Further, just under a third of the Asian-Pacific Islander subsample had annual household incomes over fifty thousand dollars, and only four percent, less than twenty thousand dollars. This compares to 11 percent making annual household incomes over $50,000 and less than 10 percent making under $25,000 annually, as reported by US Census for Asian-Pacific Islander Los Angeles County residents. This group was similar in age, but had more men than recorded by 1990 US Census for Los Angeles County.

Experience/Interaction with Marine Environments and Wildlife

Fewer than 13 percent of Asian-Pacific Islander respondents had worked near or on the ocean. The greatest percentage (5.5%) of those who had were employed in office/restaurant or hotel jobs, and less than 2 percent worked in a military capacity; 2 percent as life guards/beach workers; 1 percent fish packer/dock worker; and 1 percent as a commercial diver.

Less than one-quarter (17.6%) of this group belonged to or donated funds to an environmental or animal rights organization, and 11 percent to an organization devoted to marine wildlife or ocean protection. According to respondents, much of their information about the beach or ocean related issues was obtained via television, newspapers, and magazines respectively. Only about one in ten (9%) said they received the majority of their information from personal experiences and observations.

A majority (70%) felt they had adequate access to Southern California beaches. Of those who did not, 44 percent indicated difficulty with transportation as a limit to their access, 40 percent said that a lack of time prevented them from visiting the beach, and 12 percent said they didn't know where to go, and 8 percent said cost was a factor (Table 4D-1).

Table 4D-1. Asian-Pacific Islander- Access to Southern California Beaches

What specifically limits your access to Southern California beaches?	*Asian-Pacific Islander (n=25)*
Difficulty with transportation	44%
Not enough time	40%
No money	8%
Not enough parking	4%
Don't know where to go	12%
Beaches are polluted	4%
Beaches are crowded	4%
No disabled access	4%
Don't care	4%

Nearly three-quarters of all Asian-Pacific Islander respondents had visited the beach at least once during the past two years. When asked in which activities they usually participated while at the beach or ocean, more than half said they sunbathed, swam, or walked on the beach. One in five of the respondents played volleyball, Frisbee, flew kites, or built sand castles; 19 percent fished; 16 percent participated in water sports such as boating, surfing, scuba diving, or snorkeling; and 12 percent Whale watched or looked for wildlife (Table 4D-2).

Table 4D-2: Asian-Pacific Islander- Activity on Beach

Activity on Beach	*Asian-Pacific Islander (n= 72)*
Volleyball, Frisbee, build sand castles, fly a kite	20.8%
Sunbathe, swim, walk on the beach	58.3%
Watch whale or look for wildlife	12.5%
Water sports (boating, surfing, scuba diving, snorkeling)	18.1%
Fish	18.1%
Collect tidepool animals	2.8%
Other activities	4.2%
Don't know/Refused	6.9%

Most Asian-Pacific Islander respondents noticed marine mammals, sea birds, or other types of marine animals during their visits to the beach. Fewer than 3 percent said they didn't notice any animals. Sixty percent said they noticed birds while at the beach. Of those, greater than nine of ten observed Seagulls, 13 percent saw Pelicans, and 7 percent Sandpipers.

Nearly one-quarter noticed mammals while at the beach. Seven in ten of those who saw mammals, noticed seals and sea lions, the same percentage saw gray whales, and greater than one-third observed dolphins.

Less than 10 percent of respondents observed other marine animals during their beach visits. Of these, 42 percent saw crabs or lobsters; 14.3 percent noticed clams or mussels, and more than half saw "Other" marine animals (Table 4D-3).

Table 4D-3: Asian- Pacific Islander- Marine Animals Seen at Beach

Mammals Seen at the Beach	***Asian-Pacific Islander (n=72)***
Seals and Sea lions	72.2%
Gray whales	72.2%
Dolphins	38.9%
Other mammals	---
Birds Seen at the Beach	
Seagulls	95.5%
Pelicans	13.6 %
Least terns	2.3 %
Clapper rails	2.3%
Herons	2.3 %
Sandpipers	6.8 %
Plovers	2.3 %
Cormorants	2.3 %
Oystercatchers	---
Other birds	2.3 %
Marine Animals Seen at the Beach	
Jellyfish	---
Squid	---
Octopus	---
Shrimp and crayfish	---
Crab and lobsters	42.9 %
Clams or mussels	14.3 %
Grunions	---
Fish	---
Other marine animals	57.1 %

Knowledge about Marine Wildlife

This subsample was relatively knowledgeable about threatened and endangered species. When asked which animals were either threatened with extinction, or endangered, 70 percent correctly selected the Gray Whale, 15.5 percent the White Abalone, and 11.3 percent the Least Tern. Greater than one-third incorrectly selected the White-sided dolphin, 13.4 percent the Pacific Cormorant, and one-quarter selected “don’t know” (Table 4D-4).

Table 4D-4: Asian-Pacific Islander- Threatened or Endangered Species

Threatened or Endangered Species	***Asian-Pacific Islander (n=97)***
Gray Whale	70.1%
Least Tern	11.3%
White Abalone	15.5%

White-sided Dolphin	38.1%
Pacific Cormorant	13.4%
Other	----
Don't Know	24.7%

When surveyed for their opinions as to why Brown Pelicans had become endangered, 44 percent correctly identified pollution as the cause; greater than one-quarter selected "don't know"; 15.5 percent thought it was a result of fishermen shooting them; 6 percent a consequence of not enough fish to eat; and 7 percent thought some other reason responsible (Table 4D-5).

Table 4D-5: Asian-Pacific Islander- Reasons For Brown Pelican Becoming Endangered.

Why do you think Brown pelicans might have become endangered?	***Asian-Pacific Islander (n=97)***
Fishermen shooting them	15.5%
Pollution	44.3%
Not enough fish to eat	6.2%
Other	7.2%
Don t Know	26.8%

Though the Asian-Pacific Islander subsample was somewhat knowledgeable about threatened and endangered species, they were very uninformed about the safety of consuming local fish. Nearly seven in ten said they did not know of any local fish that were unsafe to eat, and only 3 percent correctly selected White Croaker or King Fish as unsafe for human consumption, while 5 percent said "Other" and one in five refused the question (Table 4D-6).

Table 4D-6: Asian-Pacific Islander- Local Fish Unsafe for Human Consumption

Local Fish Unsafe for Human Consumption	***Asian-Pacific Islander (n=97)***
1) No, I don't know of any	%
2) White Croaker/ King Fish	3.1%
3) Rockfish	2.1%
4) Garibaldi	---
5) Sheephead	---
6) Other	5.2%
7) Don't know	20.6%
8) Refused	---

Attitudes Toward Marine Wildlife Policy Issues

This section probed respondents' opinions on coastal policy issues that have been in the news. When presented with the issue of dolphin mortality from tuna fishing nets, the majority of this subsample was in favor of dolphin-safe fishing methods, nearly seven in ten saying they should be required by law. While 16 percent did not think dolphin-safe methods should be required, they were in favor of boycotting tuna that is not dolphin-safe. Less than one in ten

(8%) thought dolphin-safe fishing methods should not be required by law, preferring to trust fishermen to use methods that work best for them (Table 4D-7).

Table 4D-7: Asian-Pacific Islander- Dolphin-safe Fishing Methods

Dolphin-safe fishing methods	***Asian- Pacific Islander (n = 97)***
Dolphin-safe methods should be required by law	69.1 %
Dolphin-safe methods should not be required by law, but we should boycott tuna that is not dolphin-safe	16.5 %
Dolphin-safe methods should not required by law, we trust fishermen	8.2 %
None of these	----
Don't know/Refused	6.2 %

Regarding the issue of collection of endangered tidepool animals for human consumption, most respondents thought some action should be taken to prevent this activity. Nearly half supported the idea of a public education campaign, while 40 percent were in favor of fining people that collect endangered tidepool animals, less than 5 percent thought the issue should be ignored because the number of animals collected was too small, and 1 percent because these animals may be important for people who need food (Table 4D-8).

Table 4D-8: Asian-Pacific Islander- Collection of Endangered Tidepool Animals

Collection of Endangered Tidepool Animals	***Asian-Pacific Islander (n = 97)***
Fine people that collect endangered tidepool animals	40.2%
Organize a public education campaign	48.5%
Ignore it because the number of animals collected is small	4.1%
Ignore it because it may be important for people who need food	1%
None of these	--
Don't know/Refused	6.2%

Concerning the issue of wetland development and the reduction of coastal animal habitat, more than one-third of respondents were in favor of protecting wetlands regardless of impact on development, 35 percent thought additional studies should be completed before development decisions were made, and more than one in five thought wetlands should be protected, but not at the cost of development (Table 4D-9).

Table 4D-9: Asian-Pacific Islander- Remaining Wetlands

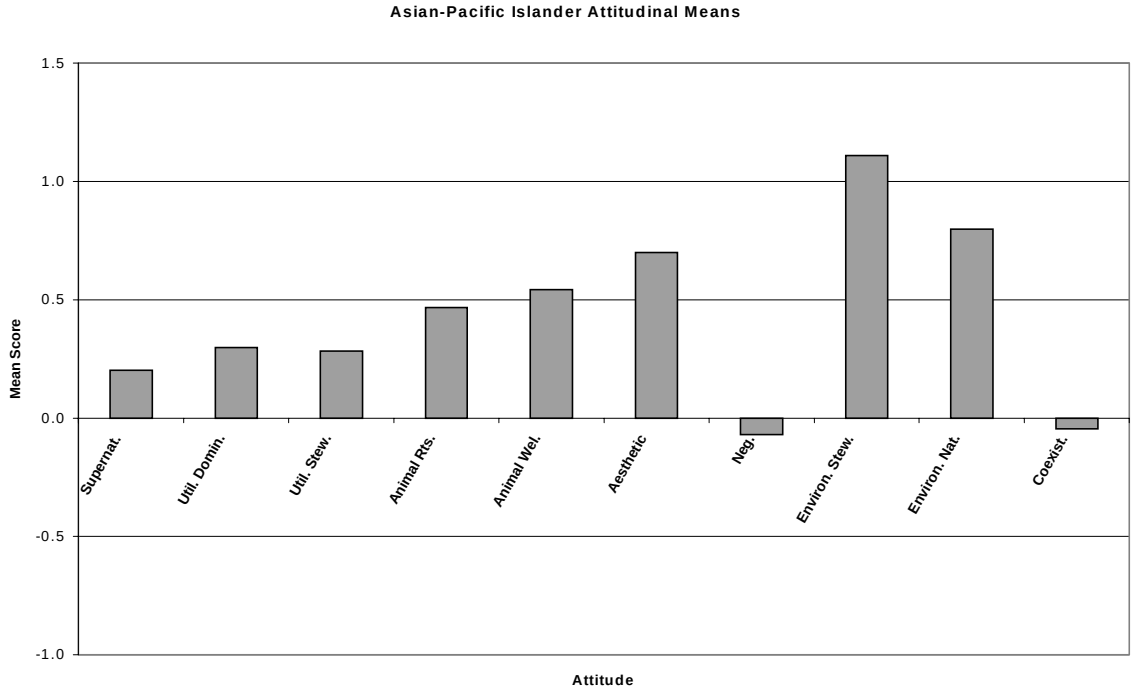
Remaining wetlands	***Asian-Pacific Islander (n = 97)***
Protecting wetlands, regardless of impact on development	38.1 %
Protecting, but not at the cost of economic development	19.6 %
Studying before making decision	35.1 %
Developing for housing and businesses	---
None of these	---
Don't know/Refused	7.2 %

Attitudes Toward Marine Wildlife

This section consisted of thirty-five attitudinal statements designed to gauge respondents' attitudes toward the marine environment and wildlife. The statements were classified into two broad categories, and ten attitudinal subcategories, as described above in Section 2B. Recall that attitudinal questions, posed as agree/disagree along a five-point Likert scale, were coded as +2 for "strongly agree" and -2 "strongly disagree". Twenty percent of these questions were reversed to prevent the appearance of a bias, and then converted back to their original format for purposes of tabulation.

As a whole, the Asian-Pacific Islander sample showed high (1 to 2) attitudinal means for Environmental Stewardship values. They showed moderately strong attitudes (0 to + 0.99) for Environmental Naturalistic, Aesthetic, and Animal Welfare, Animal Rights, Utilitarian Stewardship, Utilitarian Dominionistic, and Supernatural values, with moderately low attitudinal means (0 to-1) for Negativistic and Coexistence attitudes (Chart 4D-1).

Chart 4D-1: Asian-Pacific Islander Mean Attitudes



The survey contained three statements to measure utilitarian dominionistic attitudes. Nearly three-quarters of all Asian-Pacific Islander respondents agreed to some extent with the statement regarding sport-fishing: "I think recreational fishing is fine, regardless of whether you eat the fish you catch." One-quarter disagreed, and 2 percent selected neither agree nor disagree. Nearly half of respondents from this group agreed to some extent with the statement regarding competition for food from sea lions: "Populations of sea lions should be reduced if they eat too many fish that people eat." The remaining 37 percent of Asian-Pacific Islander respondents disagreed with this statement, and 13 percent selected neither agree nor disagree. Nearly six in

ten agreed with the statement regarding the efficiency of mile-wide fishing nets: "Since mile-wide fishing nets are so efficient, they should be used even though they cause ecological damage." Three in ten disagreed, and 11 percent selected neither agree nor disagree (Table 4D-10).

Table 4D-10: Asian-Pacific Islander- Utilitarian Dominionistic Attitudes.

Utilitarian Dominionistic Asian-Pacific Islander (n = 97)	*Strongly Agree*	*Moderately Agree*	*Neither Agree nor Disagree*	*Moderately Disagree*	*Strongly Disagree*
I think that recreational fishing is fine, regardless of whether you eat the fish you catch.	29.9%	40.2%	2.1%	14.4%	13.4%
Populations of sea lions should be reduced if they eat too many fish that people eat.	18.6%	29.9%	14.4%	18.6%	18.6%
Since mile-wide fishing nets are so efficient, they should be used even though they cause ecological damage.	18.6%	36.1%	10.3%	16.5%	18.6%

Four statements gauging utilitarian-stewardship attitudes were included in the survey. Greater than eight of every ten respondents in this group agreed to some extent with the statement regarding food and medicinal purposes as appropriate uses of animals: "It is okay for sharks and other marine animals to be used for food and medicines so long as the animals are not endangered." Slightly more than one of ten disagreed with the statement, and 5.2 percent selected neither agree nor disagree. Seven of ten Asian-Pacific Islander respondents agreed with the statement concerning the harvesting of healthy lobster populations: "As long as the lobster population is healthy, commercial lobster fishing is no different than harvesting apples each year." Nearly 13.4 percent disagreed with the statement, 10.3 percent selected neither agree nor disagree.

Seven of ten respondents from this group agreed to some extent with the statement regarding protection of animal habitat for the sole purpose of ensuring future food supplies for humans: "The most important reason to protect areas where fish mature and reproduce is to insure that people will have enough fish to eat in the future." One in five disagreed with this statement, and 10.3 percent selected neither agree nor disagree. The statement concerning restaurants serving swordfish despite their declining numbers was a reversal question. Although a majority (83.5%) of respondents agreed with this statement, the data result in a negative number for this statement (Table 4D-11).

Table 4D-11: Asian-Pacific Islander - Utilitarian Stewardship Attitudes

Utilitarian Stewardship Asian-Pacific Islander (n =97)	*Strongly Agree*	*Moderately Agree*	*Neither Agree nor Disagree*	*Moderately Disagree*	*Strongly Disagree*
It is okay for sharks and other marine animals to be used for food and medicines so long as the animals are not endangered.	38.1%	43.3%	5.2%	2.1%	11.3%
As long as the lobster population is healthy, commercial lobster fishing	27.8%	41.2%	10.3%	12.4%	8.2%

is no different than harvesting apples each year.					
The most important reason to protect areas where fish mature and reproduce is to insure that people will have enough fish to eat in the future.	34%	35.1%	10.3%	13.4%	7.2%
Restaurants shouldn't serve swordfish if their numbers are significantly declining.	50.5%	33%	9.3%	5.2%	2.1%

Three statements weighing negativistic attitudes were included in the survey. Greater than one-half of Asian-Pacific Islander respondents disagreed to some extent with the statement: "I find seagulls to be a real nuisance." One-third agreed with this statement, and 8 percent selected neither agree nor disagree. More than one-half of respondents from this group agreed with the statement: "Seaweed and kelp are dangerous to swimmers", less than one in three disagreed, and 14.4 percent selected neither agree nor disagree. Nearly one half agreed to some extent with the statement: "When I go to the beach, I don't go in the water because there might be unpleasant animals like jellyfish or crabs there." More than four in ten disagreed with the statement, and 9.3 percent selected neither agree nor disagree (Table 4D-12).

Table 4D-12: Asian-Pacific Islander- Negativistic Attitudes

Negativistic Asian-Pacific Islander (n=97)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
I find seagulls to be a real nuisance.	12.4%	21.6%	8.2%	25.8%	32%
Seaweed and kelp are dangerous to swimmers.	28.9%	24.7%	14.4%	16.5%	15.5%
When I go to the beach, I don't go in the water because there might be unpleasant animals like jellyfish or crabs there.	16.5%	28.9%	9.3%	16.5%	28.9%

Four statements measuring aesthetic attitudes were included in the survey. Among Asian-Pacific Islander respondents, more than 80 percent agreed to some extent with the statement: "One of the most striking things about whales is their grace and beauty." Only 11 percent disagreed with this statement, and 8.2 percent selected neither agree nor disagree. Eight of ten respondents from this group agreed with the statement: "If I were to visit a marsh or wetland, it would be to watch the colorful birds and other wildlife that live there." Only 8 percent disagreed to any extent with this statement, and 9.3 percent selected neither agree nor disagree. The statement regarding fish as wall trophies: "I don't like the idea of mounting fish on the wall as trophies" was a reversal question. While nearly 60 percent of respondents from this group agreed with this statement, and 24.7 percent disagreed, data show a negative number for responses to this statement. Almost three-quarters of respondents agreed with the statement: "If I had to choose, I'd rather snorkel than surf because snorkeling allows me to see beautiful fish." One in ten disagreed with this statement, and 16.5 percent selected neither agree nor disagree (Table 4D-13).

Table 4D-13: Asian-Pacific Islander- Aesthetic Attitudes

Aesthetic Asian-Pacific Islander (n=97)	*Strongly Agree*	*Moderately Agree*	*Neither Agree or Disagree*	*Moderately Disagree*	*Strongly Disagree*
One of the most striking things about whales is their grace and beauty.	60.8%	20.6%	8.2%	10.3%	---
If I were to visit a marsh or wetland, it would be to watch the colorful birds and other wildlife that live there.	39.2%	43.3%	9.3%	5.2%	3.1%
I don't like the idea of mounting fish on the wall as trophies.	43.3%	15.5%	16.5%	14.4%	10.3%
If I had to choose, I'd rather snorkel than surf because snorkeling allows me to see beautiful fish.	46.4%	25.8%	16.5%	8.2%	3.1%

Three statements gauging animal welfare attitudes were included in the survey. Nearly one-half of all Asian-Pacific Islander respondents agreed to some extent with the statement: "Catching fish with barbed hooks is cruel", 38.2 percent disagreed, and 14.4 percent selected neither agree nor disagree. Nearly eight of ten respondents agreed with the statement: "Killing whales is a cruel act", one of five disagreed and 3.1 percent selected neither agree nor disagree. While more than half of Asian-Pacific Islander respondents agreed with the statement: "Keeping smart animals like seals and killer whales in aquariums is cruel", nearly 40 percent disagreed, and 6.2 percent selected neither agree nor disagree (Table 4D- 14).

Table 4D-14: Asian-Pacific Islander- Animal Welfare Attitudes

Animal Welfare Asian-Pacific Islander (n=97)	*Strongly Agree*	*Moderately Agree*	*Neither Agree or Disagree*	*Moderately Disagree*	*Strongly Disagree*
Catching fish with barbed hooks is cruel.	20.6%	26.8%	14.4%	25.8%	12.4%
Killing whales is a cruel act.	53.6%	23.7%	3.1%	10.3%	9.3%
Keeping smart animals like seals and killer whales in aquariums is cruel.	32%	23.7%	6.2%	32%	6.2%

The survey contained three statements weighing supernatural attitudes among respondents. Eighty-seven percent of all respondents from this subsample agreed to some extent with the statement: "Seeing wild animals like dolphins in the surf would give me a magical feeling", 10.3 percent disagreed, and 3.1 percent selected neither agree nor disagree. More than eight of ten respondents from this group disagreed with the statement concerning the avoidance of certain animals for superstitious reasons: "I avoid some kinds of animals because they bring bad luck", 15.5 percent agreed with this statement, and 2.1 percent selected neither agree nor disagree. While 60.8 percent of respondents agreed with the statement: "It gives your body more

energy to eat fish that's just been caught fresh", 22.7 percent disagreed, and 16.5 percent selected neither agree nor disagree (Table 4D- 15).

Table 4D-15: Asian-Pacific Islander- Supernatural Attitudes

Supernatural Asian-Pacific Islander (n = 97)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
Seeing wild animals like dolphins in the surf would give me a magical feeling.	48.5%	38.1%	3.1%	7.2%	3.1%
I avoid some kinds of animals because they bring bad luck.	6.2%	9.3%	2.1%	13.4%	69.1%
It gives your body more energy to eat fish that's just been caught fresh.	40.2%	20.6%	16.5%	13.4%	9.3%

Five statements measuring environmental variants of naturalistic attitudes were included in the survey. Over half of Asian-Pacific Islander respondents agreed with the statement: "When stranded animals wash up on the beach, we should let nature take its course and not intervene", three of ten disagreed with this statement, and 12.4 percent selected neither agree nor disagree. Nearly three-quarters of respondents agreed with the statement: "It's unfortunate to see whales beach themselves but that's 'nature's way'", only 7 percent disagreed to some extent with this statement, 18.6 percent selected neither agree nor disagree. Greater than nine of ten respondents agreed with the statement: "If I were to support the protection of coastal marshes or wetlands, it would be to allow seabirds to live in their natural habitat", only 2 percent disagreed, and 7 percent selected neither agree nor disagree. Nearly two-thirds of these respondents agreed to some extent with the statement regarding human interference with animals: "It's never OK for people to interfere with wild animals, who should be free to lead their lives without interference from people", 24.7 percent disagreed with this statement, and 14.4 percent selected neither nor disagree. The statement concerning the ecological importance of animals: "Creatures like sand worms and marsh mice are not ecologically important", was a reversal question. More than half of respondents disagreed with this statement, 29.9 percent agreed, and 12.4 percent selected neither agree nor disagree. Despite the high percentage of disagreements, the, data show a positive number for this particular attitudinal statement (Table 4D-16).

Table 4D-16: Asian-Pacific Islander Environmental-Naturalistic Attitudes

Environmental-Naturalistic Asian-Pacific Islander (n=97)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
When stranded animals wash up on the beach, we should let nature take its course and not intervene.	27.8%	26.8%	12.4%	19.6%	13.4%
It's unfortunate to see whales beach themselves but that's 'nature's way'.	39.2%	35.1%	18.6%	4.1%	3.1%
If I were to support the protection of coastal marshes or wetlands, it would be to allow seabirds to live	60.8%	29.9%	7.2%	2.1%	0

in their natural habitat.					
It's never OK for people to interfere with wild animals, who should be free to lead their lives without interference from people.	34%	27.8%	14.4%	14.4%	9.3%
Creatures like sand worms and marsh mice are not ecologically important.	17.5%	12.4%	12.4%	20.6%	37.1%

The survey contained four statements measuring environmental-stewardship attitudes among respondents. Eighty-five percent of respondents agreed to some extent with the statement concerning native species: "It is important for sea lions to exist in Southern California because that's where they've historically lived", 6 percent of respondents from this group disagreed with this statement, and 8.2 percent selected neither agree nor disagree. Greater than three-quarters of Asian-Pacific Islander respondents agreed with the statement: "The most important reason to prevent oil spills is because local populations of sea birds could be wiped out", 16.5 percent disagreed, and 7.2 percent selected neither agree nor disagree. Nearly eight of ten respondents from this group agreed to some extent with the statement regarding habitat protection for juvenile fish: "If we decide to protect coastal marshes, it should be because that's where many young fish populations grow up", 9.2 percent of respondents disagreed with this statement, and 13.4 selected neither agree nor disagree. More than eight in ten respondents agreed with the statement concerning the avoidance of over-fishing for the sole purpose of guaranteeing future food supplies for other animals: "The most important reason to avoid over-fishing is to make sure there's enough food left in the oceans for other animals." Eight percent of respondents disagreed with this statement, and 9.3 percent selected neither agree nor disagree (Table 4D-17).

Table 4D-17 Asian-Pacific Islander Environmental Stewardship Attitudes

Environmental-Stewardship Asian-Pacific Islander (n=97)	***Strongly Agree***	***Moderately Agree***	***Neither Agree nor Disagree***	***Moderately Disagree***	***Strongly Disagree***
It is important for sea lions to exist in Southern California because that's where they've historically lived.	50.5%	35.1%	8.2%	4.1%	2.1%
The most important reason to prevent oil spills is because local populations of sea birds could be wiped out.	43.3%	33%	7.2%	11.3%	5.2%
If we decide to protect coastal marshes, it should be because that's where many young fish populations grow up.	38.1%	39.2%	13.4%	8.2%	1%
The most important reason to avoid over-fishing is to make sure there's enough food left in the oceans for other animals.	39.2%	43.3%	9.3%	7.2%	1%

Three statements designed to weigh animal rightist attitudes among respondents were included in the survey. Almost eight of ten Asian-Pacific Islander respondents agreed to some extent with the statement: "The fates of individual animals matter to me, not just what happens to endangered species", 10 percent disagreed with this statement, and 11.3 percent selected neither agree nor disagree. The statement regarding animals having legal rights: "The idea of marine animals, like whales or dolphins, having legal rights just like people do is absurd.", was a reversal question. Though 52.6 percent of respondents agreed with the statement, and 40.2 percent disagreed, the data show a negative number for this statement. While 56.7 percent of Asian-Pacific Islander respondents agreed with the statement: "We should not keep marine animals in aquariums because they have the right to be free", 28.8 percent disagreed, and 14.4 percent selected neither agree nor disagree (Table 4D-18).

Table 4D-18 Asian-Pacific Islander- Animal Rights Attitudes

Animal Rights Asian-Pacific Islander (n=97)	***Strongly Agree***	***Moderately Agree***	***Neither Agree or Disagree***	***Moderately Disagree***	***Strongly Disagree***
The fates of individual animals matter to me, not just what happens to endangered species.	43.3%	35.1%	11.3%	9.3%	1%
The idea of marine animals, like whales or dolphins, having legal rights just like people do is absurd.	28.9%	23.7%	7.2%	20.6%	19.6%
We should not keep marine animals in aquariums because they have the right to be free.	32%	24.7%	14.4%	20.6%	8.2%

The survey contained three statements designed to measure coexistence attitudes among respondents. More than three-quarters of Asian-Pacific Islander respondents agreed to some extent with the statement: "It's OK when pelicans steal fish from commercial fishermen because pelicans have to eat too", only 11.4 percent disagreed with the statement, and 10.3 percent selected neither agree nor disagree. Seventy percent of respondents agreed with the statement: "Sea lions shouldn't be removed from beaches just to make room for people." Greater than one-fifth of respondents disagreed to some extent with the statement, and 9.3 percent selected neither agree nor disagree. The statement: "Although the beach is the seagull's natural habitat, when I'm there I don't want them around me because they are messy.", was a reversal question. While 44.3 percent of Asian-Pacific Islanderrespondents agreed with this statement, 48.4 percent disagreed, thus the data show a negative number for this statement (Table 4D- 19).

Table 4D- 19: Asian-Pacific Islander Coexistence Attitudes

Coexistence Asian-Pacific Islander (n=97)	*Strongly Agree*	*Moderately Agree*	*Neither Agree or Disagree*	*Moderately Disagree*	*Strongly Disagree*
It's OK when pelicans steal fish from commercial fishermen because pelicans have to eat too.	33%	45.4%	10.3%	9.3%	2.1%
Sea lions shouldn't be removed from beaches just to make room for people.	39.2%	29.9%	9.3%	8.2%	13.4%
Although the beach is the seagull's natural habitat, when I'm there I don't want them around me because they are messy.	19.6%	24.7%	7.2%	21.6%	26.8%

Attitude Change

When questioned as to whether the way they think about animals and the environment has changed since they were children, 62.6 percent said yes. Those who agreed were then asked to describe how their attitudes changed. Greater than half of this group (55.7%) had a positive change in their attitude about coexistence, agreeing that they now understand the need for humans and animals to live together on earth. A slightly smaller percentage, (53.6%) agreed that they now see the importance of animals to our ecology, and 51.5% indicated that as adults, they are more able to enjoy the beauty of animals and the environment than when they were children. Nearly half indicated increased feelings of stewardship, agreeing that they now think about protecting the environment, 46.4 percent expressed positive changes in feelings toward animal rights, and a slightly smaller percentage (44.3%) expressed increased awareness of the economic importance of animal products like food and dairy. Nearly the same percentage (43.3%) said they now realize that the populations of some animals must be reduced to protect the environment. More than one third (34%) exhibited an increase in feelings of animal welfare, 32 percent had a decrease in supernatural attitudes, explaining that as children they were more superstitious, and three in ten (29.9%) indicated a decrease in negativistic attitudes, saying they used to be more afraid of animals (Table 4D-20).

Table 4D-20: Asian-Pacific Islander - Attitude Change

Attitude Change Since Childhood	*Asian-Pacific Islander (n=60)*
I now realize the economic importance of animal products like food and dairy	44.3%
I never used to think about protecting the environment when I was a child, but now I do	48.5%
I never used to think that animal had rights when I was a child	46.4%
I now see how important animals are to our ecology	53.6%
When I was a child, I used to be superstitious about some animals	32%
I used to be more afraid of animals when I was a child	29.9%
I never used to worry about how animals felt when I was a child	34%
I have a better understanding of the need for humans and animals to	55.7%

live together on earth	
I now realize that the population of some wild animals must be reduced	43.3%
I am able to enjoy the beauty of animals more than I used to when I was a child	51.5%

When asked why their attitudes had changed since childhood, the number one response of Asian-Pacific Islanders was that "everybody's attitudes have changed, naturally mine have too". Additional reasons given included increased knowledge about animals since childhood; move to the United States (where people think differently); personal experiences; move from farm to city; move to Southern California; and "Other" reasons.

Tolerance and Stigma

When questioned about their perspectives on culturally linked animal practices, responses of the Asian-Pacific Islander subsample reflected their utilitarian attitudes toward animals. This group was generally accepting of animal practices that pertained to food. Nearly eight of ten respondents said it was OK to eat factory farmed beef, pork, or chicken. More than half (53.8%) advocated keeping animals alive until they are ready to be eaten, and 43 percent condoned the collection of tidepool animals for food. One-third of respondents approved of eating dogs, and one in three approved of eating sea turtles. More than one-quarter (25.8%) thought it OK to hunt and kill whales, and greater than one fifth (22%) approved of raising calves in confinement for veal. This group was also accepting of recreational activities involving human-animal interactions such as calf-roping (32%), horse-tripping (27.8%), and bull fighting (24.7%). The Asian-Pacific Islander subsample overwhelmingly (61.5%) approved of spending a lot of money on their pets but only 17.6 percent approved of cropping dogs' ears or docking their tails. Interestingly, greater than one-third (36%) said it was OK to donate unwanted pets to research labs. Greater than nine of ten respondents said it was <u>not</u> OK to litter on the beach, 12 percent approved of participating in dog fights, 15.4 percent in cockfights, and 17.6 percent objected to sacrificing animals for religious purposes (Table 4D-21).

Table 4D-21: Asian-Pacific Islander- Tolerance Toward Controversial Animal Practices

Keeping in mind that various other cultures treat animals differently, Is it OK with you if other people:	***Asian-Pacific Islander (n=97)***
	Yes
Hunt and kill whales	25.8%
Collect tidepool animals for food	41.2%
Keep animals alive until they are ready to be eaten	53.6%
Sacrifice animals for religious purpose	19.6%
Eat sea turtles	32%
Eat dogs	32%
Litter on the beach	5.2%
Donate unwanted pets to research labs	36.1%
Attend bullfights	24.7%
Participate in dog fights	11.3%
Participate in cock fights	14.4%

Raise calves in confinement for veal	22.7%
Eat factory-farmed beef, pork, or chicken	78.4%
Spend a lot of money on pets	58.8%
Participate in horse-tripping events at Mexican-style rodeos	27.8%
Participate in calf-roping events at rodeos	32%
Crop dogs' ears and dock their tails	16.5%

Nearly one-third of Asian-Pacific Islander respondents felt looked down upon for their animal practices. Reasons selected for feelings of stigmatization surrounded: the kinds of animals they ate; their belief that animals have rights like people; the sorts of animals they kept at home; the fact that they hunt; the amount of money they spent on their pets; the way they treat or train their pets; the fact that they fish; and other reasons, in that order (Table 4D-22: Asian-Pacific Islander Perceived Social Stigma)

Table 4D-22: Asian-Pacific Islander- Perceived Social Stigma.

Do you ever feel that people look down on you or think you are strange because of the…	***Asian-Pacific Islander (n=97)***
I never feel that way	63.9%
Kinds of animals you eat	14.4%
Sorts of animals you keep at home	5.2%
Way you treat or train your animals	3.1%
Fact that you don't really like animals	1%
Fact that you think animals have rights like people	7.2%
Money you spend on your pets	3.1%
Fact that you hunt	5.2%
Fact that you fish	3.1%
Other reasons	--
Don't know/Refused	9.3%

5. EXPLAINING ATTITUDES: MULTIVARIATE ANALYSIS

An extensive series of exploratory multivariate analyses were conducted, in order to better understand the structure of attitudes toward marine wildlife, and in particular how they relate to population diversity and other characteristics of respondents. Several analysis tools were utilized, include regression tree analysis (CART), ordinary least squares regression (OLS), logistic regression, and ordered logistic regression. For a variety of analytic and statistical reasons, we relied upon three types of OLS regressions – ENTER and backwards stepwise; these are the results we report on here. ENTER models contain all variables, regardless of significance, and are useful for scanning across many models and several subsamples, to detect overarching patterns, particularly coefficient signs. Here, we only report general findings of our ENTER models. Backwards stepwise models, in contrast, can provide the best models for specific subgroups; the backwards models selected (and shown in the tables that follow), show the best tradeoff between high model fit and fewest regressors.

In the subsections that follow, we consider three basic sets of models in turn. The first two sets seek to explain basic attitudes. The third and fourth sets of models, respectively, consider the explanatory structure of tolerance toward animal practices, and stigma linked to animal practices (Table 5-1).

Table 5-1: Basic Model Groups

Independent Variable	***Regression Method***	***Number of Models***	***Variants***
Biocentric/Anthropocentric Index Variables	Enter & Stepwise OLS	4	By Race/Ethnicity
Attitude Index Variables	Enter & Stepwise OLS	20	By Race/Ethnicity
Tolerance Index Variable	Enter & Stepwise OLS	2	By Race/Ethnicity
Stigma Index Variable	Enter & Stepwise OLS	2	By Race/Ethnicity

A common set of independent variables was utilized in these models, as shown in Table 5-2 below; attitude change variables were only utilized in tolerance and stigma models.

Table 5-2

Variable Name [Label]	***Values***
Demographic Variables	
Race/Ethnicity [RACE]	White = 1
	African American = 2
	Latino = 3
	Asian-Pacific Islander= 4
	Other = 5
Gender [GENDER]	Male = 1
	Female = 2
Age [AGE]	Numeric Index Variable (Range = 1-99)
Residence [RESIDE]	Big City = 1
	Suburb of Metro Area = 2
	Small City/Town = 3
	Rural Area = 4
Religious Affiliation [RELIGION]	Christian = 1
	Non-Christian = 2
Nation of Birth [NATIONALITY]	Other = 0
	USA = 1
Duration of Residence in US [LIVE IN US]	5 Years or Less = 1
	6-20 Years = 2
	Over 20 Years = 3
Language Not English Spoken at Home [2nd LANGUAGE]	Yes = 1
	No = 2
Educational Attainment [EDUCATION]	High School or Less = 1
	Some College = 2
	College Degree Plus = 3

Household Income [INCOME]	Under $20,000 = 1
	$20,000-$49,000 = 2
	$50,000-$99,999 = 3
	$100,000 and Above = 4
Activity Variables	
Have Work at/near the Beach [WORK BEACH]	Do Not Work at Beach = 0
	Have Worked at Beach = 1
Frequency of Beach Use [GO BEACH]	Numeric
Number of Sources of Marine Information [INFO]	Numeric Index 0-12 (max. number of sources used)
Policy Attitudes Variables	
Protection of Tidepool Animals [TIDEPOOL]	Not Necessary = 0
	Protect = 1
Dolphin Protection [DOLPHIN]	Not Necessary = 0
	Protect = 1
Wetland Development [WETLAND]	Protect = 1
	Protect, But Not at Cost of Economic Development = 2
	More Study = 3
	Develop as Needed = 4
Knowledge Variables	
Endangered Species [ENDANGERMENT]	Numeric Index Variable (percent correct)
Reasons for Pelican Endangerment [PELICAN]	Don't Know Pelican Endangered = 0
	Know Pelican Endangered = 1
Fish Unsafe to Eat [UNSAFE FISH]	Numeric Index Variable (percent correct)
Attitude Change Index	Numeric Index Variable (number of changes)
Attitude Change: Farm-to-City	No = 0; Yes = 1
Attitude Change: Know More	No = 0; Yes = 1
Attitude Change: Moved to US	No = 0; Yes = 1
Attitude Change: Moved to So Cal	No = 0; Yes = 1
Attitude Change: Everyone Changed	No = 0; Yes = 1
Attitude Change: Personal Experience	No = 0; Yes = 1

5A. Modeling Attitudes toward Marine Wildlife

5A-1. *Anthropocentrism versus Biocentrism*

A series of models was also run, aggregating attitude variables into two distinct aggregate indices reflecting anthropocentrism and biocentrism. Both ENTER and backwards stepwise OLS regression were utilized to model Biocentric and Anthropocentric as dependent variables, with demographic, activity, policy and knowledge variables treated as regressors.

Considering the broad similarities in factors associated with anthrocentrism and biocentrism, the ENTER models indicate that overall, anthropocentrism is stronger among older people, the foreign born, those not speaking English at home, and those with lower educational attainment. Although not apt to be beach workers, those with stronger anthropocentric attitudes were apt to use the beach more frequently and have more sources of coastal/marine information. Such attitudes were also associated with low environmental knowledge and being in favor of wetland development. And although also included among those characteristics associated with stronger biocentric attitudes were being foreign born and not speaking English at home, different

features distinguished those with stronger biocentric attitudes, such as tending to live in bigger cities, having lower income, and being non-Christian. Having more sources of beach information, more knowledge of endangerment, and favoring wetland protections were also signs of stronger Biocentrism.

Turning to the backwards stepwise models reveals the race/ethnic group-specific nature of the attitude distribution. In both Biocentric and Anthropocentric models, p-values were statistically significant ($p<0.01$). The independent variables together account for under 20% of variance (Table 5A1-1).

Table 5A1-1: Backwards Stepwise Models: Biocentric and Anthropocentric

	Biocentrism	***Anthropocentrism***
Variable	***Parameter estimates (* indicates significance at p<0.1; ** for p<0.05)***	
Intercept	0.625**	0.297**
Education	-0.046**	-0.095**
Income	-0.083**	-0.043**
Age	--	0.002**
Nationality	--	-0.056*
2nd Language	0.099**	0.062*
Religion	-0.111**	--
Endangerment	0.267**	--
Pelicans	0.119**	0.047
Unsafe Fish	0.030**	-0.12
Work Beach	-0.105**	-.036
Info	0.591**	
Go Beach	--	--
Dolphin	--	--
Tidepool	0.187*	--
Wetland Development	-0.046**	0.043**
R2	*.17*	*.13*

In the Biocentrism model, stronger biocentric attitudes were associated with less education, less income, non-Christian religion, and not speaking English at home. More knowledge was also associated with stronger biocentrism, as was having more sources of beach information. Favoring tidepool and wetland protections, were also significant predictors ($p<0.05$) for biocentrism. Stronger anthropocentrism was associated with lower income and education, not speaking English at home, and being foreign-born, but stronger anthropocentrism was also linked to favoring wetland development. The race/ethnicity variable was not significant in either of these models.

Results were quite different, however, when race/ethnic subsamples were analyzed separately (Table 5A1-2). Turning to the Anthropocentrism models, the models were all statistically significant. However, the predictive power of the models ranged widely, being low (under 0.15) for whites and Latinos, but explaining around a third of the variance for African Americans and Asian-Pacific Islanders. The variables achieving significance varied across subgroups also, an important finding underscoring the race/ethnic differences in factors underlying attitudes. Most models conformed to general expectations, however. For example,

past research findings generally lead us to expect that older, less educated people, and those against strong environmental protections, are apt to be more anthropocentric. Thus, for the white submodel, being native-born, lower income and education, against tidepool protections, and favoring wetland development were associated with greater anthropocentrism. For the African-American submodel, having fewer sources of beach information, and being in favor of tidepool protections but also favoring wetland development, were associated stronger anthropocentric attitudes. In the Latino submodel, older and less educated people were more anthropocentric, and in the Asian-Pacific Islander submodel, older people, those more apt to live in bigger cities, non-Christians, and those against dolphin protections were linked to stronger anthropocentric attitudes.

Table 5A1-2: Race/Ethnic Comparisons: Anthropocentrism

Variables	***Parameter estimates (* indicates significance at p<0.1; ** for p<0.05)***			
	White	***African American***	***Latino***	***Asian-Pacific***
Intercept	0.356**	-0.280*	0.059	0.572*
Gender	--	-0.130*	-0.041	--
Education	-0.063**	-.061	-0.160**	--
Income	-0.068**	--	--	-0.086
Age	--	--	0.003**	0.006**
Nationality	0.140*	--	-0.080*	-0.158
2nd Language	0.094	--	0.048	0.126
Religion	--	--	--	-0.175*
Reside	--	--	0.033	-0.113*
Endangerment	--	--	--	-0.190
Pelicans	--	-0.065	--	--
Unsafe Fish	--	--	-0.287	--
Work Beach	--	--	--	-0.175
Go Beach	--	0.001	0.368	--
Information	--	-1.095**	0.368*	--
Dolphin	--	0.203	0.163	-0.312
Tidepool	-0.277**	0.391*	--	--
Wetland Development	0.065**	0.109**	--	0.084*
R-Square	*0.12*	*0.29*	*0.14*	*0.34*

Turning to the suite of models developed to explain variations in Biocentrism by race/ethnicity, again the model performance is quite uneven across subgroups, ranging from 16% of variation explained for the Asian-Pacific Islander submodel, to 20-24% for other groups (Table 5A3-3). Here too some aspects these model results conform to expectations, but race/ethnic differences are clear in terms of the variables that are the most powerful explanatory constructs. All things being equal, whites who were foreign-born, had low-income and education, were not beach workers or frequent beach goers were more biocentric, as were those had more marine/coastal knowledge and who favored dolphin and wetland protections. Very few variables were significant in the African-American model. However, favoring pelican protection was significantly related to stronger biocentric attitudes, and although not significant, so were having more environmental knowledge, being in favor of dolphin and wetlands protections, being younger, foreign born, lower income, and from a smaller place. Latinos were more biocentric if they were non-Christian, foreign born, more frequent beach users, had low knowledge of endangerment, and favored dolphin protection, but not tidepool or wetland

protection. Lastly, results for the subsample suggest that higher biocentrism is connected to being non-Christian, foreign born, speaking English at home, and being against wetland development.

Table 5A1-3: Race/Ethnic Comparisons: Biocentrism

Variable	***Parameter estimates (* indicates significance at p<0.1; ** for p<0.05)***			
	White	***African American***	***Latino***	***Asian-Pacific***
Intercept	0.836**	0.683*	0.979**	1.117**
Gender	--	--	--	--
Education	-0.070*	--	--	--
Income	-0.084**	-.076	--	--
Age	--	-0.004	--	--
Nationality	-0.247**	0.181	---0.136**	-.231*
2nd Language	--	--	--	-0.28*
Religion	--	--	-0.229**	-0.213**
Reside	--	-0.056	--	--
Endangerment	--	0.232	-0.065*	--
Pelicans	0.272**	0.216*	--	-1.21
Unsafe Fish	1.027**	1.216	--	--
Work Beach	-0.182**	--	0.003**	--
Go Beach	0.001*	0.002	--	--
Information	--	--	--	--
Dolphin	0.255**	0.258	0.53**	--
Tidepool	--	--	-0.491**	--
Wetland Development	--	-.066	0.431**	-0.09*
R-Square Adjusted	*0.28*	*0.33*	*0.24*	*0.52*

5A-2. *Attitude Indices*

Both ENTER and backwards stepwise regression models were undertaken to explain the ten attitude index variables. The ENTER models produced some fascinating pattern results. With regard to Anthropocentric attitude models, in each set of models several variables had the same pattern across all race/ethnic subgroups. In those cases in which three of the four groups were similar with regard to a particular variable, the Asian-Pacific Islander submodel was different most often. Strong Supernatural scores were associated with those who were older, did not speak English at home, had more sources of marine information, and went to the beach more often. Excluding Asian-Pacific Islanders, in all other groups strong Supernatural scores were linked to less education, not being Christian, more endangered species knowledge, and being in favor of wildlife/coastal protections. This suggests, perhaps, a mix of respondent types – older less educated immigrants, as well as those with more general environmental knowledge and those favoring coastal wildlife protections. This also suggests that a belief in the magical or mystical powers of animals to affect human well being may be anthropocentric, but not necessarily at odds with values favoring environmental protection.

Across the board, those with stronger Utilitarian-Dominionistic scores were men, without knowledge of fish safety. Here, the African American pattern diverged most often from the other groups. For these other groups, dominionism was linked to not speaking English at home, low

income, low environmental knowledge, and being against tidepool protections. Utilitarian-Stewardship models were similar, with factors including low education, low environmental knowledge, favoring wetland development, and (except for African Americans) being male associated with stronger attitudes. These model results support other work indicating that men with less education and income, and not supportive of environmental protection, are more utilitarian. Utilitarian-Stewardship models were similar in many respects. Here, stronger attitudes related to being older, male, Christian, lower education, being foreign born, having more sources of marine environmental education but low levels of environmental knowledge, having beach-related work experience, and being against marine wildlife protections. Patterns for the Asian-Pacific Islander subsample varied most often from these patterns.

Animal welfare attitudes were, across the board, positively associated with women, those with low education but more environmental knowledge, and low probability of working at the beach. Here, Asian-Pacific Islander model patterns were most distinctive; among all other groups, animal welfare was positively linked with low income, more knowledge of Pelican endangerment, being in favor of dolphin and wetland protection, and going to the beach more frequently.

Aesthetic attitudes, across all groups, were linked to being older, low income, and having greater environmental knowledge. The African American model variable signs were most often at odds with those of other groups. That group aside, aesthetic attitudes were positively related to low education, speaking English at home, big city living, more environmental knowledge, and more frequent beach use. This suggests, overall, native-born people, low socioeconomic status, and more knowledge of environmental issues associated with the coastal zone, but no overall consistency with respect to coastal wildlife protection.

Negativism was linked to low levels of education, and fewer sources of marine information, as well as being native born, favoring wetland development, and having less environmental knowledge. Here, both white and African American patterns were often divergent from other groups. Discounting instances where on a particular variable one group or another was out of conformity, negativism also seems linked to being female, older, Christian, having higher income, and being against coastal protection.

Biocentric models tended to have fewer common coefficient sign patterns across all subgroups. Animal rights attitudes were, across the board, linked to being female and have more environmental knowledge. Asian-Pacific Islander coefficient signs were often different than for other groups; discounting them reinforces the picture of younger, non-English speaking at home, and having more environmental knowledge. Except for Latinos, higher animal rights scores were also linked to being against wetland development.

Environmental Stewardship was positively associated across all groups with being older, having more environmental knowledge, and being in favor of dolphin protections. Discounting instances in which one group varied from the rest, such attitudes were also positively linked to low education and education, big city living, being foreign-form, favoring coastal/marine wildlife protection, having more information sources and going to the beach more often. This pattern was similar for Environmental Naturalistic attitudes, where patterns emphasized being

foreign born, low income, having more environmental knowledge, and favoring wildlife protections. This attitude type was also positively related to being male and younger.

Lastly, Coexistence scores were positively related to higher education, being female, younger, having more environmental knowledge and more marine information sources, and favoring coastal/marine wildlife protections. Here, Latinos were most distinctive, with stronger attitudes linked to being male, and anti-dolphin and wetland protection.

Turning to the backwards stepwise models, performance varied widely, with R2 ranging from a negligible 0.05 to 0.53. Overall, almost all models were significant, but 50 percent of them had R2 values of less than 0.15. Latino and white submodels did not perform as well, in general, as African American and Asian-Pacific Islander submodels. Here, we summarize those models that exceeded that performance criterion (r2=0.15), moving from the anthropocentric indices (Table 5A2-1) to the biocentric measures (Table 5A2-2).

Table 5A2-1: Anthropocentric Attitude Index Stepwise Regression Results (for models with R2 >0.15)

Attitude Index	***Race/Ethnic Group***	***Higher Index Scores Associated with These Explanatory Factors (0.1 level)***	***R2***
Utilitarian-Dominionistic	African American	Lower education, English at home, more endangered species knowledge, pro-wetland development	0.24
	Asian-Pacific	Foreign-born, English not spoke at home, non-Christian, less endangered species knowledge, more marine info sources	0.53
Utilitarian-Stewardship	White	Men, older, less endangered species knowledge, pro-wetland development	0.21
	African American	Less endangered species knowledge, pro-tidepool protection but anti-wetland protection	0.24
	Asian-Pacific	Men, older, pro-wetland development	0.26
Animal Welfare	White	Women, younger, English not spoken at home, lower income, knowledge of Pelican endangerment, anti-wetland development, less apt to have beach-related work experience	0.23
	Latino	Women, foreign-born, less education, more sources of beach information, knowledge of Pelican endangerment, less knowledge of unsafe fish	0.15
	Asian-Pacific	Younger, non-Christian	0.19
Aesthetic	African American	Pro-dolphin protection, less frequent beach user	0.19
	Asian-Pacific	Older, lower income, English spoken at home, more knowledge of endangered species and unsafe fish	0.2
Negativistic	African American	Women, Christian, fewer sources of marine information, pro-wetland development	0.44
	Asian-Pacific	Men, residing in larger places, pro-wetland development	0.28
Supernatural	Latino	Older, less education, fewer sources of marine information, less knowledge of unsafe fish	0.18
	Asian-Pacific	Lower income, less endangered species knowledge, anti-tidepool protection	0.25

The Utilitarian index models often made intuitive sense, with signs in expected directions. Older people and men are expected to be more utilitarian, born out in several of these models, as in several cases, was less endangerment knowledge, which might be expected too. All of these models indicate that utilitarian attitudes are linked with a policy stance that favors wetland development if needed for economic development purposes – a clear sign of anthropocentric attitudes. However, native-born African Americans were most apt to be Utilitarian-Dominionistic, while among the Asian-Pacific Islander subsample, being an immigrant was associated with stronger dominionism. Thus race/ethnic differences emerge as important.

Stronger animal welfare attitudes, as expected, were associated with very different factors among whites and Latinos: being female and having more knowledge of high-profile endangerment issues. The foreign-born – both whites and Latinos – were more apt to have strong animal welfare attitudes than the native born, again revealing how assimilation over one or more generations may influence attitudinal structure.

Aesthetic index models performed marginally. The African American model suggests that less beach use and being in favor of dolphin protection was linked to stronger aesthetic attitudes. Among the Asian-Pacific Islander subsample, being older, native-born, low income and living in larger places was linked to aesthetic attitudes, as were more environmental knowledge.

The African American model for the negativistic index was strong, and revealed that women, Christians, those with fewer sources of beach information, and favoring wetland development if needed for economic development purposes, were more negativistic. The Asian-Pacific Islander model suggests that men, those living in larger urban places, and being in favor of wetland development were linked to negativism. The pro-development stance is consistent with expectations for this anthropocentric attitude, and women have been found in other studies to be more negativistic than men.

Supernatural attitudes were stronger amongst older less educated Latinos with less environmental knowledge, and among lower income Asian-Pacific Islanders with less environmental knowledge and not supporting tidepool protections. These results mesh with literature-based expectations that superstition about animals declines with greater education and environmental knowledge. Interestingly, however, immigrant status did not connect with stronger beliefs in the supernatural qualities of animals. This is despite an expectation that immigrants – especially those moving from rural-to-urban places as they move from other countries to the US – would be more apt to be superstitious.

Table 5A2-2: Biocentric Attitude Index Stepwise Regression Results (for models with R2 >0.15)

Attitude Index	*Race/Ethnic Group*	*Higher Index Scores Associated with These Explanatory Factors (0.1 level)*	*R2*
Animal Rights	White	Lower education, foreign-born, English not spoken at home, more knowledge of endangered Pelicans and unsafe fish, anti-wetland development, pro-dolphin protection, less apt to have beach work experience	0.21
	Latino	Women, non-Christian, more endangered species knowledge, more marine info sources, less apt to have beach work experience, pro-tidepool protections	0.16
	Asian-Pacific	Higher income, older, English spoken at home, pro-tidepool protection, low knowledge of unsafe fish	0.31
Environmental Stewardship	White	Women, less education, English not spoken at home, more endangered species and Pelican knowledge, pro-wetland development, less apt to have beach work experience	0.25
	African American	Lower income, more knowledge of endangered Pelicans, pro-wetland development	0.21
	Asian-Pacific	Older, English spoken at home, non-Christian, resident of larger places, pro-wetland development, less apt to have beach work experience, fewer sources of marine information	0.30
Environmental Naturalistic	African American	Men, younger, less education, non-Christian, more endangered species and unsafe fish knowledge	0.22
	Asian-Pacific	Foreign-born, English spoken at home, non-Christian, resident of larger places, anti-tidepool protection	0.25
Coexistence	African American	More knowledge of endangered Pelicans, anti-wetland development	0.21
	Asian-Pacific	More education	0.20

Turning to the biocentric attitude index regressions, in the case of animal rights index models we found that three performed about the threshold R2 value of 0.15: the white, Latino, and Asian-Pacific Islander models. Gender was signficant in two of the three models, with women being associated with stronger animal rights attitudes. Stronger animal rights sentiments were also linked to more marine environmental knowledge and stronger preferences for marine wildlife and coastal protection. Among whites, being foreign-born and less educated were also related to stronger animal rights attitudes. Among Asian-Pacific Islanders, however, older and higher income, and speaking English at home were associated with stronger animal rights attitudes. The nativity variable was negative but insignificant in this last submodel, suggesting that stronger animal rights views are more common among immigrants who have been living the US for a long time.

Environmental Stewardship models are reported for white, African American and Asian-Pacific Islander submodels. Here, there were relatively few commonalties across groups, except for having more environmental knowledge and in two cases, being less apt to have worked at the

beach. Among whites, stronger attitudes were associated with being female, having less education and income, not speaking English at home; African Americans with stronger Environmental Stewardship attitudes were more apt to be low income also, and in favor of wetland development if needed for economic development. Among Asian-Pacific Islanders, however stronger attitudes were linked to demographic and residence characteristics (being older, not speaking English at home, being non-Christian, living in big cities), not having beach work experience, and having few sources of marine information.

Environmental Naturalistic models were quite different. Only those for African Americans and Asian-Pacific Islanders were above the R2 performance threshold. Among African Americans, men, younger people, those with less education, and non-Christians were associated with stronger attitude index scores, as were those with more environmental knowledge. Among Asian-Pacific Islanders, immigrants, non-Christians, those more apt to be big city dwellers, and those against tidepool protections had strong attitudes.

Lastly, Coexistence attitude index models performed quite poorly. Among African Americans, only being against wetland development and having more knowledge of endangered Pelicans were linked to stronger coexistence attitudes. In the Asian-Pacific Islander model, only having more education was significantly related to stronger attitudes.

5A-3: *Tolerance Indices*

To understand more about the reasons for tolerance toward animal practices, many of them associated with particular cultural groups, we undertook a series of regression analyses. First, both ENTER and backwards OLS models were run using an aggregate 'tolerance index' variable as a dependent variable, and second, dichotomous responses to individual tolerance questions were used in a logistic regression framework. In addition to the independent variables tested in the previous models, we used measures of attitude change to determine if shifts in thinking were linked to tolerance. We also ran these models including our attitude index variables to see if/how attitudes were related to tolerance. Each model was run for both the aggregate sample (with the RACE variable), and for race/ethnic subsamples. Models generally performed quite well.

Results of the tolerance index models were assessed in two ways. First, ENTER models were run, and an analysis of coefficient signs was performed in order to understand which factors appear to be consistently related to tolerance across all or most groups. In this exploratory phase, coefficient significance was not considered, simply directionality, in order to understand cross-group patterns. This analysis revealed that a variety of variable coefficients shared signs across groups. Specifically, greater tolerance was associated with men, non-Christians, those having been in the US for few years, those speaking a language other than English at home, and those with higher educational attainment and income. Greater tolerance was also associated with those going to the beach more often, being in favor of dolphin protection in tuna fishing, and having more environmental knowledge. Higher tolerance scores were also linked to those who expressed having several reasons for changing their attitudes toward animals, but everything else constant, were less apt to report attitude change because of a move to southern California, a personal experience, or because everyone's attitudes had changed. Finally greater tolerance was

associated with those with stronger Utilitarian-Stewardship, Aesthetic, and Negativistic attitudes; and weaker Animal Welfare, Environmental Naturalistic attitudes.

A second set of regressions was performed using a backwards stepwise approach. Results are presented in Table 5A4-1. Overall performance of these models ranged widely, with adjusted R-Square values from 0.32 (Latino subsample) to 0.51 (Asian-Pacific Islander submodel), and 0.35 for the aggregate sample. With respect to the aggregate sample, women tend to be less tolerant of controversial animal practices than men, and the race was significant – with nonwhites being less tolerant – indicating the importance of racial variation in predicting tolerance levels. Those with more education and income were more tolerant, as were younger people and the native born. All things being equal those that went to the beach more often. With respect to attitudes, as expected two anthropocentric index variables (Utilitarian Stewardship and Aesthetic) was positively related to tolerance, whereas one biocentric measures – Animal Rights – was negatively related to tolerance. So was the Animal Welfare index, which although *a priori* defined as an anthropocentric measure, behaved in this as in other areas, more like a biocentric attitude indicator.

The race/ethnic submodels produced fascinating results. The white submodel explained 50 percent of all variance in the data. Here, women were again less tolerant than men, as were older people, those who had beach work experience, and fewer sources of marine information. Those who were more tolerant were also more apt to support dolphin protection. Higher tolerance index values were linked to fewer reasons for attitude change; lower tolerance was associated with attitude change due to a personal experience. Coefficients for attitude indices revealed higher tolerance scores were related to stronger Utilitarian-Stewardship and Aesthetic attitudes; and weaker Animal Rights, Animal Welfare, Negativistic, and Environmental-Stewardship attitudes. The African American submodel, which explained over 40% of model variance, was similar with respect to gender, but was otherwise quite different. Higher education and incomes, Christian affiliation, more knowledge of endangerment, and being in favor of wetland development and against tidepool protections were associated with higher tolerance scores. So was having more sources of marine information, and having attitudes that had changed because of a rural-to-urban move.

With respect to attitude index variables, in the African American subsample only the Aesthetic variable was significant; those with stronger Aesthetic attitudes were more tolerant. Although not significant, stronger Animal Welfare attitudes were associated with lower tolerance scores, while stronger Environmental Stewardship was linked to higher tolerance scores. The Latino model was a weaker adjusted R-Square (0.32). Besides being male, having more education and being native-born were associated with higher tolerance scores, as was reporting more frequent beach use but having fewer sources of marine information. Higher tolerance was related to reporting more sources of attitude change, and making a rural-to-urban move. With respect to attitude indices, having stronger Utilitarian-Stewardship but weaker Animal Rights and Environmental Stewardship attitudes were associated with higher tolerance scores. Lastly, the Asian-Pacific Islander submodel performed on a par with the white submodel. Here, being more educated, a more frequent visitor to the beach, having more knowledge of fish consumption safety, and having attitudes change because of a rural-to-urban move or a move to southern California, were associated with higher tolerance scores. Those who were weaker Utilitarian-

Dominionistic, Animal Welfare, Environmental Stewardship, and Coexistence attitudes were more tolerant, while those with stronger Supernatural scores were more tolerant. These last findings are not entirely unexpected, except for the behavior of the Utilitarian-Dominionistic variable (See table 5A3-1).

Table 5A3-1: Aggregate and Race/Ethnic Comparisons: Tolerance Index

Variable	***Parameter estimates (* indicates significance at p<0.1; ** for p<0.05)***				
	Aggregate	***White***	***African American***	***Latino***	***Asian-Pacific***
Intercept	0.181**	0.377**	-0.147	0.135	-0.03
Race	-0.011*	NA	NA-	NA	NA
Gender	0.048**	0.063**	-0.117**	0.04**	--
Education	0.037**	--	0.057**	0.062**	0.53*
Income	0.016**	--	0.043**	--	--
Age	-0.001**	-0.002**	--	--	--
Nationality	-0.068**	--	--	-0.086**	--
2nd Language	--	--	--	--	0.1
Religion	--	--	0.073	--	-0.068
Reside	--	--	--	--	0.041
Endangerment	--	--	0.133**	--	0.111
Pelicans	--	--	--	--	--
Unsafe Fish	--	--	--	--	1.185**
Work Beach	--	-0.062**	--	--	--
Go Beach	0.0003*	0.259**	0.001	0.001**	0.003**
Information	--	--	0.413*	-0.26**	--
Dolphin	--	0.061*	--	--	--
Tidepool	--	--	-0.174*	--	--
Wetland	--	--	-0.06**	--	-0.017
Attitude Change Index	--	---0.053*	--	0.052**	--
Attitude Change: Farm-to-City	--	--	-0.18*	-0.144*	0.273**
Attitude Change: Know More	--	--	--	--	-0.102
Attitude Change: Moved to US	--	--	--	--	--
Attitude Change: Moved to So Cal		--	--	--	0.308**
Attitude Change: Everyone Changed	--	--	--	--	0.188*
Attitude Change: Personal Experience	--	-0.05*	--	--	--
Utilitarian-Dominionistic	--	--	--	--	-0.09**
Utilitarian Stewardship	0.050**	0.054**	0.037	0.049**	0.07*
Animal Welfare	-0.051**	-0.064**	-0.016	--	-0.101**
Aesthetic	0.032**	0.057**	0.083**	--	-0.026
Supernatural	--	--	--	--	0.06*
Negativistic	--	-0.023**	--	--	--
Environmental Naturalistic	--	-.032*	--	--	--
Environmental Stewardship	--	-0.045*	--	-0.031*	0.07*
Animal Rights	-0.029**	-0.062**	--	-0.022*	0.042
Coexistence	--	--	--	--	-0.066*
R-Square Adjusted	*0.35*	*0.50*	*0.42*	*0.32*	*0.51*

5A-4: Stigma Indices

Again using both ENTER model and backwards stepwise OLS modeling approaches, we estimated regression equations designed to determine whether or not respondents felt stigmatized

by their interactions with animals. Attitude change and attitude index variables were included. Model performance was variable, with best results for African American and Asian-Pacific Islander submodels.

An analysis of coefficient signs was performed on the ENTER models in order to understand which factors appear to be consistently related to stigma across all or most groups. In this exploratory phase, coefficient significance was not considered, simply directionality, in order to understand cross-group patterns. All else remaining constant, higher stigma index scores were associated with older people, those more apt to live in cities, not speaking English at home, having a non-Christian religious affiliation, and low educational attainment but higher incomes. Stigma was also linked to working or having worked at the beach, going to the beach more frequently, and knowing more about endangerment in general but not about Pelicans. In terms of policy, higher stigma index scores were linked to being for tidepool protection and but against strong wetlands protection. Higher stigma scores were also associated with changes in attitudes toward animals associated with attitude change in society generally, and personal experiences. Lastly, greater stigma was associated with weaker Environmental Naturalistic attitudes, and stronger Supernatural, Animal Rights, Animal Welfare, Aesthetic, Negativistic, and Coexistence attitudes, although a small number of attitude index variables were significant in any one model.

Overall results make some intuitive sense but others are more challenging to interpret. This may be because several very different sources of stigma, apt to be felt by different types of respondents (especially men versus women) were collapsed to form the stigma index; also for some sources of stigma, very few respondents indicated any negative feelings.

With respect to the backwards stepwise models, goodness of fit statistics again ranged widely, with adjusted R-squares ranging from only 0.1 for the aggregate model, to 0.52 for the Asian-Pacific Islander submodel (Table 5A4-1). The aggregate model explained a low share of the variance, but suggests that higher stigma scores are related to being US-born, having more knowledge of endangered species (but not knowledge about Pelican endangerment), having beach work experience, and more sources of coastal/marine information. Higher stigma was also linked to being in favor of wetland development, and having experience attitude change due to gaining additional knowledge. Having stronger Negativistic, Animal Rights, Aesthetic and Supernatural attitudes, but weaker Utilitarian-Dominionistic and Environmental-Naturalistic attitudes, were also associated with stronger stigma scores.

The white submodel (R2=0.21) indicated that women, those not speaking English at home, and non-Christians were more apt to have higher stigma scores. Also, favoring dolphin protection but not wetland protection, having beach work experience, and fewer marine information sources, were associated with greater perceived stigma. Stronger Supernatural and Negativistic attitudes and weaker Utilitarian-Dominionistic and Environmental-Naturalistic attitudes were also linked to higher stigma scores. And having attitudes that had changed due to having more knowledge, and personal experience was associated with higher stigma scores. In the African American submodel, which produced a somewhat stronger fit (R2=0.31), greater levels of stigma were linked to living in larger places (e.g. cities), and being lower income, older, and foreign-born. So were having greater endangered species knowledge, and being in favor of wetland development; and having stronger Animal Welfare and Aesthetic attitudes. The Latino

submodel (R2=0.2) revealed that stigma was positively linked to being younger, not speaking English at home, and having higher income. Stigma was also positively related to being in favor of wetland development, beach work experience and frequent beach use, and stronger Aesthetic and Negativistic attitudes. The Asian-Pacific Islander submodel (R2=0.52) indicated that higher stigma scores were associated with speaking English at home, being Christian, and living in a large urban place. It was also linked to more endangered species knowledge but less knowledge about unsafe fish, and infrequent beach use. Finally, reporting that attitudes had changed due to a rural-to-urban move, and because everyone's attitudes toward animals had changed, was linked to higher stigma scores, as was having weaker Animal Welfare attitudes and stronger Supernatural attitudes.

The complexity of these models makes them challenging to interpret, and there is little in the literature to guide our understanding. Gender, language and nativity consistently played a role in these stigma models, as did attitudes of various kinds, although not always in the same direction. In some instances the entry of variables into the models makes sense: immigrants, for instance, may feel stigmatized because their practices (eating, pet keeping, etc.) may vary from the cultural norm. And having beliefs that one sees as outside either the within-group or society-wide norm may lead to feeling stigmatized (recall, for example, almost 30 percent of the African American sample reported feeling stigmatized because they thought animals had rights). But because the reasons for stigma are so varied, the index may hide the complex dynamics at work, and thus results primarily point to the fact that there are important variations across race/ethnic groups that warrant greater exploration and analysis (See table 5A4-1).

Table 5A4-1: Aggregate and Race/Ethnic Comparisons: Stigma Index

Variables	***Parameter estimates (* indicates significance at p<0.1; ** for p<0.05)***				
	Aggregate	***White***	***African American***	***Latino***	***Asian-Pacific***
Intercept	-0.47	0.056	0.265	-0.021	0.132**
Gender	--	-0.031*	--	--	--
Education	0.005	--	--	-	--
Income	--	--	-0.058**	0.015*	--
Age	--	--	0.002*	-0.001*	--
Nationality	0.034**	--	-0.205*	0.023	--
2nd Language	0.016	0.043*	--	0.021*	-0.101**
Religion	--	-0.052**	--	--	0.047*
Reside	-0.008*	--	-0.044**	--	-0.027*
Endangerment	0.043**	--	0.163**	0.028	0.124**
Pelicans	-0.02*	--	--	-0.018	--
Unsafe Fish	--	0.147	--	--	-0.408*
Work Beach	0.037**	0.062**	--	-0.029*	0.039
Go Beach	0.0001	--	--	0.001**	-0.001*
Information	-0.181**	-0.297**	--	-0.099	--
Dolphin	0.033	0.054*	--	--	--
Tidepool	0.047	--	--	--	--
Wetland	0.014**	0.02**	0.033*	0.016**	--
Attitude Change Index	--	--	--	--	--
Attitude Change: Farm-to-City	0.028	--	--	--	0.157**
Attitude Change: Know More	0.023**	0.045**	--	0.019	--
Attitude Change: Moved to US	0.034	--	--	--	--

Attitude Change: Moved to So Cal	--	0.109	--	0.063	0.122*
Attitude Change: Everyone Changed	--	--	--		0.1**
Attitude Change: Personal Experience	--	0.043*	--	-0.021	--
Utilitarian-Dominionistic	-0.011**	-0.035**	--	--	--
Utilitarian Stewardship	--	--	--	-0.01	--
Animal Welfare	--	--	0.033*	--	-0.042**
Aesthetic	0.015*	--	0.051*	0.025**	--
Supernatural	0.013*	0.029**	--	--	-0.034*
Negativistic	0.017**	0.027**	0.026*	0.015**	--
Environmental Naturalistic	-0.017**	-0.027*	--	--	-0.028
Environmental Stewardship	--	--	--	0.01	--
Animal Rights	0.011*	--	--	--	--
Coexistence	0.01	--	--	0.011	--
R-Square Adjusted	*0.10*	*0.21*	*0.31*	*0.2*	*0.52*

6. CONCLUSIONS

6.1 Summary of Results

The Southern California coastal zone is one of the most heavily populated and culturally diverse metropolitan areas in the United States. Moreover, the coastal region is one of California's most vital economic engines and environmental resources. Increasingly, however, this portion of the state's coast is threatened, as development and human settlement degrade the remaining coastal wildlife habitat. In addition, conflicts over population-marine wildlife interactions and philosophies are becoming more frequent.

This project was undertaken to improve our understanding of relationships between urban population diversity – especially cultural difference – and attitudes toward marine animals in coastal urban settings. Almost no prior research has investigated culture-based attitudes toward marine wildlife and habitats, for example. Further, there is little information on how various race/ethnic groups utilize coastal resources in Los Angeles, and how their practices and perceptions might impact the coastal zone and marine wildlife in the long run. Such lack of knowledge and understanding, hampers efforts to develop appropriate public policies, management strategies, and marine education and outreach efforts.

The study, consisting of a telephone survey of Los Angeles county residents, was based on previous attitudinal research. Its goal was to determine how demographic characteristics, socio-economic status, personal history and experience, and past or present geographic location and cultural context might shape attitudes toward marine wildlife and the coastal zone in southern California. Specifically, we attempted to explore how population groups with culturally distinct traditions of nature/society relationships, might differ in their attitudes toward marine wildlife and the coastal environment. The total survey population was divided into the following categories: White, Black, Hispanic, and Asian-Pacific Islander, a grouping designed to correspond with 1990 U.S. census categories. Sample sizes were targeted to reflect the basic race/ethnic composition of population in Los Angeles, with some oversampling to insure ability to conduct valid statistical tests.

Responsive Management's survey administration team worked hard to obtain the desired numbers of surveys according to race/ethnic breakdown, but ultimately it proved extremely hard to obtain respondents from Asian-Pacific Islander population subgroups, particularly Filipinos. This led to a smaller than desired sample and one that necessarily blended respondents from different cultural backgrounds (e.g., Filipinos, Koreans, and Chinese). It must be kept in mind that the attitudes of these subgroups may be heterogeneous. One hypothesis offered to explain the difficulty in obtaining adequate sample sizes for these subgroups is that especially among Asian immigrants, there may be culturally based resistance to telephone interviews; there may also be some gender bias in willingness to respond, which could help to explain the disproportionate number of male Asian-Pacific Islander respondents in our sample. Another possibility is that human-animal relations are a sensitive issue because of past racialization (e.g., around dog eating, etc.), reducing unwillingness to participate. This suggests the need to develop alternative sampling strategies that can overcome this dilemma.

The survey instrument included questions and statements about respondents' demographics; beach utilization and activities; knowledge about marine wildlife and the coastal zone; positions on policy issues; attitudes toward marine wildlife and appropriate human interactions with marine animals; and attitudinal change and reasons for change. Attitudinal responses were grouped as either anthropocentric or biocentric, and further classified into ten attitudinal categories. Anthropocentric attitudes included: Utilitarian-Dominionistic; Utilitarian-Stewardship; Negativistic; Aesthetic; Animal Welfare; and Supernatural. Biocentric attitudes included: Environmental-Naturalistic; Environmental-Stewardship; Animal Rightist; and Coexistence. In order to determine respondents' attitudes toward controversial, cross-cultural practices – or tolerance toward what are often considered controversial interactions with animals – statements regarding culturally sensitive practices involving animals were included in the survey. Respondents were also asked if they felt looked down upon – or stigmatized – on the basis of their own animal practices.

Data analysis was performed using Statistical Package for Social Sciences (SPSS) 10.0.5 software, Microsoft Excel 2000, and S-plus. Methods of analysis included boxplots, descriptive statistics, comparative bivariate statistics such as Chi-square, and regression analysis. Cross tables and Chi-square tests were relied upon to investigate differences between ethnic groups. Following a variety of exploratory multivariate analyses, regression analysis was employed to explain the distribution of attitudes across respondents both in the aggregate, and by subgroup.

The overall sample was divided between those who were relatively well educated and affluent, and those who had less education and far lower incomes. Whites and Latinos comprised 70 percent of the sample and were represented in almost equal numbers. African American and Asian-Pacific Islanders constituted 12 and 10 percent of the sample, respectively. The remainder of the sample fell into the "other" category. A majority of respondents identified themselves as being affiliated with the Christian faith, and more than half were U.S. born. Mexico was the most common country of origin among non-U.S. born respondents, followed by China. The vast majority of all respondents had lived in the U.S. for more than two years.

Beach access was adequate, according to most respondents, and most had visited the region's coastal zone within the past couple of years. While at the boast, respondents engaged in

activities such as sunbathing, swimming, walking on the beach, whale watching or looking for wildlife, playing volleyball or Frisbee, or building sandcastles, and most noticed marine wildlife. While more than half of the sample knew that pollution was the root cause of Brown Pelican endangerment, fewer were aware of the status of other threatened and endangered marine species. Moreover, a large majority was ignorant about health risks associated with eating certain local fish – even among subgroups, such as African Americans, who were most apt to go fishing. With respect to local policy issues most respondents favored some environmental protections for marine wildlife and coastal areas.

In general, respondents exhibited strong Environmental-Stewardship and Aesthetic attitudes, as well as fairly strong Animal Welfare, Animal Rights, and Environmental-Naturalistic attitudes. Other types of attitudes were much more weakly exhibited. Changes in attitudes were common, with half the sample indicating some type of shift in attitudes. Overall, negativistic and supernatural attitudes had declined, whereas environmental stewardship, coexistence, and environmental naturalistic attitudes had become much stronger; so had utilitarian attitudes and animal rights and welfare attitudes, although to a lesser extent. Attitudinal change since childhood was often being attributed to greater knowledge about animals, especially heightened awareness of their ecological significance. When asked about their reactions to controversial animal practices, respondents were relatively intolerant of many such practices. More tolerance was expressed toward certain Western practices, such as eating factory farmed meats and spending a lot of money on pets, which tend to be condoned by the general U.S. population. Over 40 percent felt that at some point they had been looked down upon because their own ways of interacting with or thinking about animals.

Differences in attitudes across race/ethnic groupings were sharp. Contrasts were most marked between Latinos and Asian-Pacific Islanders; Latinos were far less anthropocentric. Asian-Pacific Islander respondents expressed a more utilitarian attitude than did those from other groups and were much less likely to support animal welfare statements. It should be noted that this pattern could be more pronounced because of the disproportionate number of males (found to be more utilitarian in past research) in the Asian-Pacific Islander subsample. Latinos, in contrast, were far more biocentric than other groups, and had the highest mean Environmental Stewardship score. They were also typically the most aesthetically oriented, and more likely to favor human-animal co-existence. Whites and African Americans tended to fall in the middle of the range of response scores. Asian-Pacific Islanders and African Americans had the most strongly negativistic responses to marine animals. About half of African Americans, whites, and Latinos, felt that their thinking had shifted since growing up, with large shares reporting dramatic shifts in thinking about stewardship, coexistence, and animal rights views, as well as increased appreciation for the utilitarian value of animals. Over 60 percent of Asian-Pacific Islanders reported that their attitudes toward animals had changed since childhood; however, the share reporting specific changes in attitude (toward coexistence or animal rights, for example) was much lower than among other subgroups.

Tolerance toward culture-specific animal practices was fairly low among all groups. The least tolerant group was Latinos, while whites tended to be the most tolerant. Asian-Pacific Islanders and African Americans, though in general less tolerant than whites, were more tolerant of certain sorts of practices. Littering the beach and donating unwanted pets to research labs were

the least tolerated practices across all groups. Most respondents in all groups were intolerant of whale hunting, animal sacrifices, eating turtles or dogs, bullfights, dogfights, cockfights, veal crates, horse tripping, calf roping and ear cropping/tail docking. Asian-Pacific Islanders were most tolerant of eating turtles and dogs, dog fighting and cockfighting, practices associated with some Asian-Pacific Islander cultures. They were also relatively tolerant of the Western factory farming practices, a view consistent with their strong utilitarian dominionistic attitudes. Strikingly, Latinos were less tolerant of those practices often associated with Latino culture, including as bullfights, dog and cockfighting, and horse tripping, a common event at Mexican-style rodeos.

Many respondents felt stigmatized – in other words, that people looked down on them or thought they were strange – because of their animal practices and attitudes. This pattern did not vary significantly by race/ethnicity, but certain animal practices were linked to higher rates of feeling stigmatized than others, including which animals were eaten, and believing that animals have rights. African Americans had higher rates of stigma on questions related to these practices.

An extensive series of exploratory multivariate analyses was conducted, in order to better grasp the structure of attitudes toward marine wildlife, and especially how they relate to population diversity and other respondent characteristics. We ultimately relied upon two types of OLS regressions – ENTER and backwards stepwise regression – to developed three basic sets of models. The first two sets sought to explain basic attitudes, while the third and fourth sets of models, respectively, consider the explanatory structure of tolerance toward animal practices, and stigma linked to animal practices.

In the first set of models, aggregated attitude variables into two distinct aggregate indices reflecting anthropocentrism and biocentrism. Both ENTER and backwards stepwise OLS regressions were utilized with Biocentric and Anthropocentric indices as dependent variables, with demographic, activity, policy and knowledge variables treated as regressors. Results of anthropocentric and biocentric models indicate that, across all groups, stronger anthropocentrism is generally linked to being older, foreign-born, having lower income and education; using the beach more frequently and having a greater variety of marine/coastal information sources; having minimal marine environmental knowledge; and being against marine wildlife protection. In contrast, stronger biocentrism, while also be associated with being foreign-born and having lower income and educational attainment, was related to having a non-Christian religious affiliation, living in a larger urban place, having more varied information sources as well as greater knowledge of marine wildlife, and being in favor of marine wildlife protections. Differences across race/ethnic groups were marked, however. Although some of these variables appeared in individual subsample models, there was variation in terms of which were most important. The exception to race/ethnic difference related to policy attitudes, with anthropocentrism across all subgroups being linked to being against marine wildlife protection, and biocentrism in all subgroups being related to favoring such protection.

Turning to attitude index models, our results revealed many similar patterns of explanation across groups, although on any given model one subgroup or another tended to stray from the overall pattern. And many results conformed to expectations based on prior research; for example stronger Utilitarian-Dominionistic attitudes were linked to being male, having less income, education, and knowledge of marine wildlife, and not supporting environmental

protection. Similarly, women, those with more marine environmental knowledge, and those favoring marine wildlife protection were more apt to have stronger Animal Welfare attitudes. Findings on more innovative indices suggested that higher Supernatural attitude scores were linked to being older, foreign born, having less education but more varied marine information sources, and favoring environmental protections – findings that suggest that, along with Animal Welfare attitudes, having Supernatural (and hence anthropocentric) sentiments does not preclude support for environmental protections for marine wildlife. Animal Rights and Coexistence attitudes were as expected, associated with being female, younger, having more environmental knowledge, and favoring marine wildlife protection.

Backwards stepwise models, however, revealed that significant explanatory factors varied across groups, demonstrating again race/ethnic differences in attitude patterns. Some expected variables were significant (for example, gender and age for Utilitarian-Dominionistic attitudes, Animal Welfare, and Animal Rights; Animal Welfare and Rights attitudes linked to being in favor of marine wildlife protection). But the behavior of many variables differed across groups, with foreign-born status or stance on environmental protection, for example, being positively associated with a certain attitude index variable for one group but not another. Moreover, some backwards stepwise index models did not perform well, suggesting the need for further analysis.

Tolerance models performed quite well. Results were fascinating and demonstrate that this is a rich area for further research. In addition to the independent variables tested in the previous models, attitude change measures were incorporated to see if shifts in thinking were associated with tolerance, and attitude index measures were added to see if/how attitudes related to tolerance. Results suggest that higher levels of tolerance toward controversial animal practices were linked to being male, Christian, an immigrant, having more education and income, being a frequent beach-goer, having more environmental knowledge, and favoring marine wildlife protection. In addition tolerance was associated with stronger Utilitarian-Stewardship, Aesthetic, and Negativistic scores, and lower Animal Welfare and Animal Rights scores. Backwards stepwise models revealed race/ethnic contrasts. Results of the full sample model showed that gender and race were significantly related to tolerance (with women and nonwhites less tolerant), as were education income, age, and nativity (those with higher socioeconomic status and born in the U.S. more tolerant). Stronger scores on attitude change were like to higher tolerance, as were stronger anthropocentric, and weaker biocentric attitudes toward marine wildlife. Individual race/ethnic models reinforced the importance of cultural background. Specifically, the group of demographic, environmental knowledge, beach experience, and attitudinal variables that gained statistical significance varied across subgroups.

Finally, stigma models suggested that higher likelihood of feeling stigmatized was linked to being older, non-English speaking and non-Christian, and lower education but higher income; more beach-related experience, more endangered species knowledge, and a mixed set of attitudes toward marine wildlife protection. Stigma was also linked to stronger biocentric attitudes, as well as Animal Rights, Aesthetic and Supernatural attitudes. In backwards stepwise models, performance was mixed, but results suggest again that for different race/ethnic groups, different variables are significantly linked to greater feelings of stigma.

In general, the stigma models were challenging to interpret. Gender, language and nativity consistently played a role in these stigma models, as did certain attitudes, although not always in the same direction. Some results make intuitive sense, e.g., immigrants with different cultural outlooks may feel more stigmatized. However, because the reasons for stigma are so varied, the index may hide the complex dynamics at work, indicating the need for additional research in this area.

6.2 Implications for Policy and Future Research

The results of this survey have several fundamental implications for marine environmental policy and education programs.

1. Policy makers need to be aware of cultural differences in attitudes toward marine wildlife when designing new policy initiatives.

The fact that attitudes vary substantially according to cultural background should be explicitly taken into account in the design and implementation of marine/coastal zone environmental policy. Not only do general attitudes differ but also attitudes toward specific policy options in such areas as wetland development, dolphin protection, and tidepool animal collecting vary by cultural background. For policy development, efforts should be made to conduct group-specific analysis of attitudes toward prospective policy goals and implementation tools. Outreach efforts should be geared not to some 'general public' but instead to subgroups within the population whose members can be expected to have substantially different attitudes, knowledge, and experience with marine wildlife and coastal issues.

2. Attitudinal change appears to be extensive, and varies by cultural background, suggesting the need for ongoing monitoring.

Environmental attitudes are often seen as fixed, yet our results indicate that attitude change is extensive and varies by cultural background (and other factors). For policy makers, marine educators, and coastal resource managers, this implies the need for ongoing assessments of attitudes among southern California's dynamic population. Findings also suggest that attitudes can in fact be altered, although additional research is required to better understand the drivers of attitudinal shifts.

3. Access to the coastal zone is not uniform across groups, suggesting the need for targeted programs to reduce barriers.

Access to coastal ocean resources was generally not seen as a problem by most of this sample, but Latinos and Asian-Pacific Islanders were twice as apt to report barriers than the other two respondent groups. It should not be the purpose of public policy to promote beach-going, fishing, or any other recreational pursuit if such activities go against individual preferences. However, to the extent that differences reflect differential barriers to access (related to transportation, beach pollution, crowding, and parking, etc.), policy makers should attempt to resolve such barriers through targeted programs, such as providing better public transportation from inland to coastal zone sites such as beaches. In particular, the fact that almost half of Latino respondents indicated that their perceptions of beach pollution kept them from using the coastal zone, suggests the need

for greater public education efforts within the Latino community about the extent and location of pollution problems.

4. Different preferences for coastal zone activities indicate the wisdom of taking such culturally based preferences into account in the design of recreation/parks facilities and programs.

The design of facilities and programs is often a top-down process. Results revealing the differences in patterns of coastal zone use and preferred past-times suggest the importance of explicitly considering the likely users/participants of planned facilities and programs. In particular, whale watching and wildlife watching were prevalent coastal/beach activities, indicating that the development of wildlife-oriented programs and activities could appeal both across the board, but to some groups in particular.

5. Knowledge of marine/coastal wildlife is uneven, and sources of information vary across groups according to cultural background, indicating the need for stepped-up and media-specific educational programs.

Despite some knowledge about endangerment, many respondents were uninformed about the status of specific species. Popular, charismatic species, such as dolphin, were widely mistaken as endangered, while knowledge of other species that were endangered, especially the least Tern, was minimal. Moreover, most respondents – especially African Americans, who were most apt to be fishers – were unaware that some fish were unsafe to eat due to bioaccumulation of toxic pollutants. This finding suggests that public health officials should intensify efforts to inform the public about fish pollution problems. Furthermore, respondents of different backgrounds rely on distinctive mixes of information sources; for example Latinos are much more apt to get marine/coastal information from TV than are other groups. This reveals that public education campaigns need to understand how subgroups within the population obtain information, and utilize those media in designing their education and outreach efforts.

6. Tolerance toward controversial practices varies by cultural background, with major implications for both policy makers, marine educators, and the advocacy community.

Certain animal practices associated both within the dominant culture and within specific race/ethnic groups, regularly generate widespread controversy as well as protective legislation and ongoing advocacy efforts on the part of the environmental and animal welfare/rights communities. Tolerance toward certain practices was extremely low across all groups in our sample, but for some practices of key importance to marine wildlife, a sizable share of respondents indicated tolerance (e.g., of collecting/eating tidepool animals, eating sea turtles). Tolerance to controversial practices varies across groups, however, with Latinos far less tolerant of certain marine practices than other groups, for example collecting tidepool animals to eat, whale hunting/killing, or eating sea turtles. This suggests that environmental and animal welfare organizations as well as concerned policy-makers and marine educators may usefully target subpopulations for education and outreach efforts. The uniformly low tolerance of regulated practices such as cock fighting and dog fighting indicates that enforcement efforts are apt to be widely supported even in those communities where such practices are apt to be more prevalent.

In addition, the veterinary medical profession should be aware that tail and ear cropping is unacceptable to many, especially among those from Latino and Asian-Pacific Islander cultural backgrounds.

7. Marine educational programs need to directly assess the cultural backgrounds of their client base, and develop culturally sensitive programming as well as programs to enhance cross-cultural knowledge and understanding, and reduce feelings of stigma.

A wide variety of marine educational programs exist in southern California, provided by aquaria, museums of natural history, state and local recreation and parks departments, universities, and nonprofit organizations. The fact that attitudes differ across race/ethnic groups in the region suggests the importance of considering cultural difference in the activities of such organizations. Knowing about the demographic composition of current program users and participants, as well as subgroups of the population that may be infrequent participants, could help in marketing and attracting diverse people to educational offerings. Such knowledge could also be a vital input in designing exhibits and programming that more closely relates to the experiences, perceptions, and practices of different subgroups within the urban population. And greater insight into cultural differences in attitudes and tolerance toward animal practices could assist marine educators to improve cross-cultural understanding, helping to minimize feelings of stigma that affect a certain portion of the population due to culturally-linked animal practices.

The results of this survey also suggest a variety of new research directions that could be usefully explored in the future.

1. Findings reveal that there is a great deal more to be learned about how cultural diversity is linked to marine/coastal zone activity patterns, knowledge about marine wildlife, policy issues, and general wildlife attitudes.

In-depth surveys of beach going, barriers to access, and preferences for coastal zone activities could help guide planning, programming and outreach efforts, for example. Similarly, additional exploratory research on policy attitudes would be useful for developing public support for – and insuring adequate public input into – the design of new policy approaches to coastal zone management.

2. The structure of attitudes toward wildlife is complex and requires additional research attention.

Despite the use of pilot testing and focus groups to design our survey instrument's attitude measures, the attitude index variables did not uniformly correlate with larger theoretical constructs such as anthropocentrism and biocentrism. Similarly, exploratory factor analysis suggested that respondents are inconsistent in their adherence to attitudes. Some may respond positively to an animal rights question because they have certain animals in mind when answering, but may reveal utilitarian tendencies in response to other questions relating to animals they customarily eat. This suggests the extraordinary complexity, inconsistency, and ambivalence in ideas about animals, and the deep-seated mental divisions that people make between different types of animals (e.g., pets, wildlife,

livestock). And it means that in future, researchers should develop more nuanced and species-specific attitudinal measures to better capture such complexity.

3. Trajectories of attitude change appear to be dynamic, multifaceted, and vary by race/ethnic background and other social/environmental variables, but are poorly understood and deserve deeper analysis.

Reported attitudinal change was extensive. Although clearly some such change is expected over the life course, rates of change on some attitudinal dimensions was particularly striking. Very little research has explored attitudinal change toward animals in general, much less according to cultural background. But differences in patterns of attitudinal change by race/ethnicity – some of can be expected due to immigrant assimilation processes – are marked and intriguing. New research could develop group-specific models for attitude change, and tease out the relative role of cultural background, immigrant status, other social and background variables, and especially educational or policy-related factors that influence the rate and direction of attitudinal change.

4. Results of multivariate models designed to explain attitudes revealed that not only did race/ethnic background play a significant role in explaining differences in attitudes toward marine wildlife, but that certain other variables were key and warrant further exploration.

Gender was expected to be important, and this expectation was confirmed by this research. But this variable did not perform uniformly across groups, indicating that gender differences interact with cultural background, leading to gendered attitude formations that vary by race/ethnicity and cultural background. Various measures reflecting immigrant status also were important, suggesting that future research investigate attitudes and attitudinal change among immigrant populations in much more depth. In addition, the models incorporated measures of attitude change and much more diverse measures of experience, knowledge, and policy attitudes than earlier research attempted. Many of these variables were in fact significant, although not uniformly so. Nonetheless, results suggest that future multivariate models should consider a wide range of contextual and experiential variables that appear to be linked to attitudes toward wildlife. Lastly our models did not perform as well for some subsamples as they did for others. This could indicate that some subgroups such as whites are much more heterogeneous with respect to attitudes than are others. But it could also mean that model specifications or functional forms were not sufficiently tailored to particular subgroups of the population. Either way, additional culture-specific research, of both qualitative and quantitative nature, will be required to advance our understanding of attitudes toward marine wildlife.

5. Analyses of tolerance toward controversial animal practices, and feelings of stigmatization related to animal practices, were striking but leave many questions unanswered.

In particular, the stigma models were difficult to clearly interpret, and did not perform well across all groups. Further research could usefully investigate, perhaps through in-depth interviews, how such feelings develop and why, and how important they are in the formation of identity and self-esteem. The finding that African Americans were more apt

to feel stigmatized on account of certain animal-related practices is particularly noteworthy and suggests a fruitful line of research on African-Americans, racialization, and human-animals relations.

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